

EXECUTIVE SUMMARY
ANNUAL REPORT
2003

PROJECT SN-3

**PARTICIPATORY RESEARCH APPROACHES
FOR REDUCING POVERTY AND NATURAL
RESOURCE DEGRADATION**



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SN-3 PROJECT

Title: PARTICIPATORY RESEARCH APPROACHES FOR REDUCING POVERTY AND NATURAL RESOURCE DEGRADATION

1. Project description

Objective: To develop and disseminate participatory research (PR) principles, approaches, analytical tools, indigenous knowledge, and organizational principles that strengthen the capacity of R&D institutions to respond to the demands of stakeholder groups for improved levels of human well-being and agro ecosystem health.

Outputs:

1. PR approaches, analytical tools, and indigenous knowledge that lead to the incorporation of farmers and other users' priorities in R&D agendas developed for interested institutions.
2. Organizational strategies and procedures for PR.
3. Professionals and others trained as facilitators of PR.
4. Material and information on PR approaches, analytical tools, indigenous knowledge, and organizational principles developed.
5. Impact of SN-3 activities documented.
6. CIAT projects and other institutions supported and strengthened in conducting PR.
7. Capacity of the SN-3 team strengthened.

Gains:

There is a marked increase in self-management and decision-making capacity due to strengthening of CIALs groups. Based on their abilities to conduct local research they have developed technologies that are appealing for access to self-financing mechanisms. Such mechanisms allow for a resource base to continue the research activities. In 5 countries in Latin America, at least 290 CIALs, whose benefits affect at least 22,000 rural farm families. Second order associations of CIALs have been consolidated and grown to sustain and strengthen CIALs established in three countries in Latin America. In many second order CIAL organizations there is already a managerial structure and are now able to exercise leadership among associated groups. Involvement of end users at earlier stages in technology design continues to grow with the support of national research institutions.

Community-based participatory monitoring and evaluation (PM&E) systems, are being established to promote self-reflection and learning, and to monitor change in their communities, in 3 countries in LAC. Adjustments to participatory methodologies are underway in order to make them relevant to new local users. The methodologies being developed in Latin America and the lessons learned from their early application are being adapted and tested in four African countries.

Institutional capacities to be able to apply participatory methodologies and follow-up application processes with farmer groups have also been strengthened through training. Farmer's and technical personnel capacity to develop and support rural agro enterprise projects has been strengthened. A new sharing of experiences with 19 community based NGOs and 12

governmental institutions working with youth, in three Central America countries was also accomplished.

The *Fomentando Cambios* (FoCam for its Spanish acronym) project located in Bolivia has grown to link its objectives to the Bolivian SIBTA Partnerships have been established at different decision making levels, training conducted for a large number of technical personnel linked to Innovative Technological Agricultural Projects (PITAs for its Spanish acronym) and the local team established in two of the agro-ecological regions of this country. An impact assessment methodology to evaluate the effectiveness of the CIAL methodology in making research more pro-poor and the extent to which the needs and priorities of the poor are specifically targeted in the research process and research results has also been designed. This methodology has been tested in the pilot zone in Cauca, Colombia.

In Africa, important gains this year include the development, refining and empirical testing of a novel approach for integrating farmer participatory research and participatory market research in eight pilot sites in eastern and southern countries. The approach called “Enabling Rural Innovation” (ERI), is a mutual learning process for empowering rural communities and facilitating an enabling environment to access and generate technical and market information for improving decision-making and capacity to innovate, experiment, access market opportunities and better manage their resources. Highlights of this approach include (a) building and managing effective partnerships with national agricultural research systems and non governmental organizations as well as community-based organizations; (b) development of criteria and processes for identifying and selecting communities and farmer research groups; (c) development of a methodology for conducting participatory diagnostics and community planning, (d) building on community assets and opportunities rather than constraints and opportunities; (e) building farmers and local communities capacity to identify, evaluate market opportunities and develop agro enterprises; and (f) building farmers capacity to design, plan and implement experiments on crop, livestock and integrated soil fertility management

Lessons from a participatory learning and action research project for improving policies in natural resources management in Uganda suggest important mechanisms for influencing local policies and strengthening local level processes for initiating, formulating and implementing bye-laws and local policies to accelerate the adoption and scaling of NRM technologies, and for managing conflicts over the use and management of natural resources in decentralized structures.

Milestones

2002. A community-based participatory monitoring and evaluation system (PM&E) developed, tested and evaluated, in at least three countries in Latin America. Second-order associations of CIALs formed in at least two countries. Lessons from CIAL methodology extended to Africa. Methods for participatory agro enterprise development systematized and available for users. A model for the participatory evaluation of forages for multipurpose use in hillsides of Central America. A framework for Evaluating the institutionalization of participatory approaches within R&D Institutions
2003. Associations of community-based farmer research groups providing services and supporting the CIALs .Strategic alliances with R&D institutions established. Impact Assessment analysis to derive lessons and impacts of PR methods on livelihoods, conducted in at least two countries in Latin America. A method for testing and evaluating technologies in a resource to consumption (R-to-C) framework developed and tested in two countries in Africa. A method to institutionalize participatory monitoring

- and evaluation systems within research and development (R&D) systems, developed and tested in one country in Latin America and at least one country in East Africa.
- 2004
- ❖ Capacity of national partners to implement and support PM&E and PR processes established within R&D institutions in at least two countries in Latin America and at least two countries in East Africa.
 - ❖ Lessons from resource to consumption (R-to-C) framework tested and validated in at least two countries in Latin America.
 - ❖ A methodology for conducting Impact Assessment of PR methods developed and tested in at least two countries in Latin America
 - ❖ Impact assessment analysis to derive lessons and impacts of PR methods on livelihoods, conducted in at least three countries in Latin America.
- 2005
- ❖ Capacity of national partners to implement and support PM&E and PR processes established within R&D institutions in at least 2 countries in Latin America and at least two country in East Africa.
 - ❖ Lessons from resource to consumption (R-to-C) framework tested and validated in at least two countries in Latin America.
- 2006
- ❖ National team of trainers/facilitators capacitated and scaling up PM&E and PR processes at national level
 - ❖ Local capacity to identify demands and develop projects that respond to these demands, that feeds into Bolivian national agricultural research and technology transfer systems
 - ❖ Results of impact assessment studies to derive lessons and impacts of PR methods on livelihoods, disseminated widely and applied to scale PR activities in other countries
 - ❖ PM&E systems evaluated and lessons applied to develop guidelines and principles appropriate for Africa

Users

This work will benefit small scale resource-poor farmers, processors, traders and consumers in rural areas, especially in fragile environments IPRA has a strong focus on supporting rural women and the poor build their capacity to generate and use agricultural technologies to their own advantage. Research and development service providers will receive more accurate and timely feedback from users about acceptability of production technologies and conservation practices. Researchers and development planners will profit from methods for conducting adaptive research and implementing policies on natural resource conservation at the micro level. Sounds good. The national agricultural innovation systems are in focus of the Project's activities. Strengthening their capacity to link local demands with service providers is a task being undertaken by our project in Bolivia.

2. Researchers and support staff: position and time fraction

Carlos Arturo Quirós	Acting Project Manager	100%
Boru Douthwaite	Senior staff	100%
Susan Kaaria	Senior Research Fellow	100%
Vicente Zapata	Senior Research Fellow	50%
Pascal Sanginga	Senior Research Fellow	100%
Colletha Chitsike	Senior Research Fellow	100%
Luis Alfredo Hernández	Research Associate I	100%
José Ignacio Roa	Professional Specialist	100%
Elias Claros	Research Assistant	100%
Fernando Hincapié	Research Assistant	100%
Viviana Sandoval	Research Assistant	100%
Freddy Escobar	Technician	70%
Jorge Cabrera	Technician	100%
Fanory Cobo	Thesis Student	50%
Robert Muzira	Research Assistant	100%
Elly Kaganzia	Research Assistant	40%
Pamela Pali	Research Assistant	50%
Peace Kankwatse	Research Assistant	50%
Noel Sangole	Community Development Facilitator	100%

3. Collaborators:

Within CIAT: Inputs to, PE-3; PE-4, IP-1, IP-2, IP-3, IP-5, SN-1, SN-2, SB-2, SB-3 BP-1; Outputs from, IP-2, IP-5, PE-3, BP-1, SN-1, SB-3, Information Services, TSBF.

Outside CIAT: *In Latin America* **Honduras:** Escuela Agrícola Panamericana-El Zamorano (EAP-Zamorano), Fundación para la Investigación Participativa con Agricultores en Honduras (FIPAH), Programa de Reconstrucción Rural (PRR), Centro Universitario del Atlántico (CURLA), **Nicaragua:** Instituto Nacional de Investigaciones (INIA), Universidad Campesina (UNICAM) **Ecuador:** Instituto Internacional para la Reconstrucción Rural (IIRR), Instituto Nacional de Investigaciones Agropecuarias (INIAP), Programa FAO. Fundación Antisana, Proyecto MANRECUR. **Venezuela:** Fondo Nacional de Investigaciones Agropecuarias (FONAIAP). **Bolivia:** Ministerio de Asuntos Campesinos, Indígenas y Agropecuarios (MACIA), Universidad Mayor de San Simón (UMSS), Fundación PROINPA, Sistema Boliviano de Tecnología Agropecuaria (SIBTA), FDTA Valles, FDTA Altiplano, Proyecto INNOVA, Agua y Tierra Campesina (ATICA). **Colombia:** Corporación Colombiana de Investigación Agropecuaria (CORPOICA), Organizaciones Campesina, Universidad Nacional de Colombia. *In Africa:* **Uganda:** National Agricultural Research Organization (NARO), Africare; National Agricultural Advisory Services (NAADS); Action Aid; African Highlands Initiative (AHI); Africa2000 Network, Vision for Rural Development Initiative (VIRUDI); Cash Farm. **Malawi:** Department of Agricultural Research Services (DARS); Lilongwe Agricultural Development Division (LADD); Plan International Malawi. **Tanzania:** District Agricultural and Livestock Department Office (DALDO), Traditional Irrigation and Environment Protection Programme (TIP), World Vision Sanya Agricultural Development Programme, Africa Highlands Initiative (AHI). **Kenya:** Kenya Agricultural Research Institute; Community Against Desertification (CMAD); Environmental Action Team (EAT).

Regional Networks in Africa: Participatory Ecological Land Use Management (PELUM); East and Central Africa Program Agricultural Policy Analysis (ECAPAPA) of the Association for Strengthening Agricultural Research in East and Central Africa (ASARECA); African Soil Fertility Network.

4. Financial Resources

Source of Funds	Amount (\$US)	Proportion (%)
Unrestricted core	138,983	13 %
Carry over from 2000	100,578	10%
Subtotal	239,561	23%
Special Projects	818,250	77%
Totals	1057,812	100%

5. Research Highlights in 2002-2003

Highlights in the Project's current research portfolio:

a. Strengthening community-based farmer experimentation

In April 1990 the IPRA project - CIAT formed the first five Comités de Investigación Agrícola Local (CIAL), a community based agricultural research service staffed by farmer volunteers, in the Province of Cauca, Colombia. The CIAL approach was conceived as a response to the failure of public research systems to reach poor, smallholder farmers. One hallmark of the approach is the link it establishes between the formal and local research systems. This link enables farmers to express their technology needs and to help shape the technology developed through formal research. The first CIALs established in Colombia's Cauca Department diversified and accelerated the delivery of agricultural technologies to rural communities at a fraction of the cost of conventional on-farm research. They promoted the adoption of technologies, the multiplication of seed, the use of conservation farming techniques and contributed to the creation of social solidarity in a region marked by poverty and violence.

The lessons from these initial experiences have been applied in various countries in Latin America. The number of CIALs has continued to grow exponentially; today there are 290 CIALs, whose benefits affect at least 22,000 rural farm families in 5 countries in Latin America. At present the largest number of CIALs are found in Colombia (80 CIALs), the country of origin, followed very closely by Honduras (70 CIALs). A key to scaling up these experiences has been the institutionalization of the CIAL methodology in Colombia's and Ecuadorian's National Agricultural Research Systems. In Colombia, CORPOICA the national agricultural corporation is applying this methodology as a part of its farmer experimentation strategy. In 2002-2003, the National agricultural institute in Ecuador, *Instituto Nacional de Investigaciones Agropecuarias* (INIAP), initiated a similar process to institutionalize CIAL methodology nationally.

CIALs have played a critical role in accelerating the delivery of agricultural technologies to rural communities. Our experiences indicate that once CIAL groups are mature and have gained skills in farmer experimentation, they are able to manage more than one experiment during the same season. More than 50% of the 290 CIALs, are currently conducting experimentation on at least two research themes. This implies that the number of technology options being developed by CIALs increase the possibilities of impact. CIALs are now involved in experimentation that ranges from food security topics to agro-enterprise development. The highest percentage of topics (about 60%) is related to food security (potatoes, broad beans, maize, cassava, common beans and plantains). As CIALs meet their basic food security needs, they begin to do research on innovative crops and/or products that have better market opportunities. Reports indicate that 17%

of CIAL research involves “new research topics” (soybeans, quinoa, rice, “*chayote*”, sweet potatoes, tobacco, sweet bell peppers, wheat and aromatic herbs).

A new area of achievement has been in the growing participation of women in the CIALs. This transformation has been important, and has led to a growing recognition of their research and leadership capabilities. The number of women-only-CIALs has grown from three in 1996 to 35 in 2003. In the majority of cases, women-only-CIALs conduct research on topics related to improving their family nutrition, with products such as soybeans, vegetables and minor species. These CIALs are also involved in income-generating projects, such as processing and marketing soybean products, and in building the capacity of other women in the community. An additional gain has been a gradual awareness of the importance of women participation in other community organizations.

b. Gains in Second order Associations

In search of a more stable institutional framework for the CIALs, CIAT’s IPRA Project has facilitated the establishment of an association of the CIALs as a means of stimulating a higher degree of self-management and autonomy. To date there are eight second-order associations: Two second order associations in Colombia, CORFOCIAL and UNICIAL, there are five associations of CIALs in Honduras that are distributed across four regions: ASOCIALAGO¹, ASOCIAL Yorito², ASOCIAGUARE³, ASOCIAL Vallecillos⁴ and CIADRO⁵ and there is one association in Nicaragua, COFOCIC.

The objectives of CIAL associations are to establish regional alliances with governmental entities or other local organizations, thereby linking CIALs to sources of credit, input and output markets, and seed systems, to represent CIALs before other organizations and institutions, and to ensure that their “voices” are more readily heard at policy-making levels. They also support and strengthen the social capital already existing in the different committees. Besides, they help in finding self-supporting financial mechanisms that allow CIALs to continue doing research that leads to income generating projects. Finally, to strengthen and sustain a two-way flow of information between the CIALs, the communities, and the formal research sites, at the regional and national levels.

In Bolivia, we are testing an alternative organizational model by which a group of CIALs will be integrated within the local management systems in the community: the *sindicatos*. The objective is to strengthen the R&D restructuring process by developing strong linkages between the municipal government and the local community. This model could become part of the new Bolivian research and development (R&D) system, in which all institutions, including municipalities, operate from the basis of articulated farmers’ demands.

¹ The Association of CIALs of the Yojoa Lake Region

² The Association of CIALs of Yorito

³ The Association of CIALs of the Yeguaré Region

⁴ The Association of CIALs of the Vallecillos Region

⁵ The Association of CIAL of the Jesús de Otoro

c. Establishing Community-based Participatory Monitoring and Evaluation, (PM&E) Systems in Latin America

CIAT started developing and testing the PM&E systems in collaboration with one of its partner institutions: *Fundación para la Investigación Participativa con agricultores en Honduras* (FIPAH) based in Yorito, Honduras. Kirsten Probst, as her Ph.D. dissertation research work, developed the PM&E system as a part of an action-research process. The study involved a field research period in Honduras from March 1999 to September 2000. The testing and evaluation phase of the PM&E approach started from 1999 with the establishment of PM&E processes in 10 local Agricultural Research Committees (CIALs)⁶, in Yorito, Honduras.

To monitor and evaluate the PM&E process, IPRA initiated an annual evaluation aimed at developing a systematic process for analyzing and documenting the lessons from the PM&E systems. This was a critical element in ensuring that IPRA could derive lessons and learn from the process, so as to continue adapting and evolving. The results from these evaluations showed that: CIAL members found the PM&E useful because it provided information feedback and more communication within the group, thereby promoting transparency and accountability. This was especially important in terms of the management of funds because the treasurer now has to publicly present the financial records. Other benefits identified were that the PM&E enhanced group members' responsibility to the CIAL because it clearly showed who was actively participating in group meetings and who was paying off their loans. Additionally, it was evident that a majority of CIAL members understood the functioning of the PM&E system, which data was being collected and why it is useful to collect the data. Almost all the CIAL members indicated that the PM&E system was beneficial to them. It is interesting to find that women were getting empowered, as "*managers of information*", because a majority of the CIALs women members were in charge of the PM&E data.

Preliminary results also indicate that PM&E systems can be complex and difficult to apply especially when some members of the CIAL cannot read or write. Additionally, PM&E systems are resource intensive (in terms of time and material) due to the need to organize and document the information. Limiting factors are the short time farmers can dedicate to this activity. This would mean an additional task for the CIAL committee who already have other responsibilities. Finally, all CIALs emphasized the need for continued capacity building and technical support in PM&E processes.

Finally, initial results indicate that the establishment of a community-based PM&E system is a slow process that involves a lot of learning and research to identify what works and what does not work in each specific context. However, our experiences demonstrate that rural communities can be supported to manage their own PM&E systems and are able use these systems for self-reflection and learning, and for monitoring change in their communities.

d. Developing a methodology for Evaluating the Impacts of Local Agricultural Research Committees (CIALs)

For the last 13 years, the IPRA Project at CIAT has promoted the formation of community-based research services called Local Agricultural Research Committees (CIALs). Therefore, it was opportune to start asking questions related to what has been the impact of CIAL methodology.

⁶ A CIAL is a community-based research group of farmer volunteers that is selected by the community and conduct research on their behalf. CIALs conduct research on priority themes identified by the community.

Questions related to the impact of CIAL methodology on livelihoods and its effectiveness in making research more pro-poor and the extent to which the needs and priorities of the poor are specifically targeted in the research process and research results are relevant to the community. The methodology involved both a qualitative and quantitative impact assessment. The qualitative study was used to understand impact from the perspectives of the communities. Impact was evaluated using the sustainable livelihoods framework as the basis for understanding change. The study found four major areas of impact: technology, food security, income generation, and social and human capital. Better planning and organization of the farm as a result of new knowledge in the management of crop production, or new techniques in hillside land and crop management impacted on food security by the reduction in periods of food scarcity for grains, beans and maize. A majority of CIALs have a seed enterprise that ensures communities have access to improved seed locally. Secondly, CIAL membership has resulted in development of leaders and empowerment of the communities where they are located and were able to influence local policy, in certain instances. For example, in the community of Tres Cruces, quinoa has put the CIAL at the forefront of a major project by the local indigenous authority on the implementation of quinoa plants in the gardens, already 80 families out of 175 are including quinoa in their diets and also learning about its medicinal use. In other instances, the development in some communities of this do-it-yourself mentality is a major impact; manifested by the five CIALs visited preparing proposals for local projects, which shows a vision, a plan or strategy to improve the well being of the village. Finally, human capital is another major area of impact: The CIAL has become a school for creating leaders and its members will work with other organizations in the communities, such as Cabildos, JAC, water boards, etc. The community often consults CIAL members on agricultural issues.

Building on the results from the qualitative study, a quantitative study was developed to quantify the results from this earlier work. The following specific questions are being addressed by the study: (1) How effective is Local Agricultural Research Committees (CIALs) methodology? (2) What are the benefits of being a Local Agricultural Research Committees (CIALs) member? (3) How have Local Agricultural Research Committees (CIALs) benefited their communities? (3) What are the costs associated with CIALs? (5) How can the results and lessons be used for institutional learning and change? In response, to these issues CIAT developed methodology for conducting Impact Assessment of PR methods on livelihoods. With this study the IPRA Project seeks to evaluate the changes in the livelihoods of the farmers and their communities attributed to the CIAL methodology. The study will assess the effectiveness of the CIAL methodology, the extent to which the problems addressed by CIAL are relevant to the community. The costs and benefits of the CIAL to its membership as well as the members of the community, in terms of the development of appropriate technologies and who benefits from the innovations. The extent to which CIALs affect the rate and level of adoption of agricultural technologies among socially differentiated user groups and the costs associated with forming and supporting a CIAL. It will also examine how farmer participation in the agricultural research process affects the process itself, and the specific communities and individuals involved. Particular attention will be paid to how CIALs as institutional innovations affect the human, social and other capital assets available to individuals and communities, and what implications these impacts have for livelihood outcomes. This study involved 13 CIALs and 6 communities with CIALs in which both formal and informal interviews, and focus group discussions were conducted. Additionally, four rural communities without CIALs were also surveyed as the counterfactual communities.

e. Enabling rural innovation in Africa: Integrating farmer participatory research and participatory market research

One of the key shortcomings of FPR as well as agricultural research in general is the failure to link farmers to markets and increasing incomes for marketing agricultural products. A key challenge today is to create an entrepreneur culture in rural communities, where farmers produce for markets rather than trying to market what they produce. Enhancing the ability of smallholder, resource-poor farmers to access market opportunities and actively engaging in them is one of the most pressing development challenges facing both governments and nongovernmental organizations. In Africa, we have refined and are testing a novel approach to farmer participatory research (PR) termed “Enabling Rural Innovation” (ERI). ERI is a mutual learning process approach for empowering rural communities to access and generate technical and market information for improving decision-making and capacity to innovate, experiment, access market opportunities and better manage their resources. More specifically, it links FPR, market-opportunity identification and development of technologies for integrated soil and nutrient management, with a focus on women and the poor.

- ⇒ Promoting gender equity and empowerment of women Gender and equity are of central concern in all the stages of the ERI process—from selecting communities and groups, forming committees, conducting PD and community planning, identifying and selecting market opportunities, farmer experimentation and capacity building. ERI has a strong focus on supporting women to identify specific agroenterprises that enable them to use available agricultural technology to their own advantage. Proactive strategies are an integral part of the ERI process for promoting gender and equity, and empowering farmers. Some of the gender outcomes include:
 - ⇒ Women have gained confidence as expressed in the following statement: *“We women participate in the work just as the men do. Although I was a little shy at first, I am now supremely confident in my ability to accurately document the work of our group.”* Women constitute the majority of community and group members. At all the sites, representation and participation of both men and women in the committee are clearly important criteria when selecting farmers. They are equally well represented on all the committees and some in leadership positions. In Uganda, it was reported that male members of the group are actively taking part in farming activities, compared to non-group members. Although considerable progress is being made in promoting gender equity and women’s empowerment, it is important to recognize that addressing gender relations is a long process that requires commitment, effective facilitation skills, and enabling environment. There is still a need for a better understanding of the likely implications of market-oriented production to assess the distributional effects and equity of benefits, especially gender dynamics, which we need to consider in developing enterprises and to determine when farmers will actually capture significant market opportunities.
 - ⇒ Strengthening human and social capital: Creating a critical mass of scientists and development partners is crucial for both enabling rural innovation and scaling up the ERI process. Over the last 2 years, we have conducted over 10 workshops, reaching more than 200 R&D partners to enhance their skills of our partners to implement an ERI process effectively. At the community level, we are strengthening the organizational capacity and social capital of local communities through training and facilitation of leadership skills, group dynamics, consensus building and negotiation skills for managing conflicts, with attention to NRM. ERI also facilitates horizontal and vertical linkages among communities, and between

pilot communities and rural service providers. Farmers in pilot communities have improved their analytical skills and participation in mutually beneficial collective action as well as in local policy formulation and implementation. They have been instrumental in initiating community bylaws for soil and water conservation, and have established strong links between farmer research and market groups and the rest of the community. Nevertheless, it is possible that with the new market orientation, conflicts may emerge between farmer market groups and the rest of the community over distribution of benefits and participation in research or market groups.

f. The Resource-to-Consumption Framework as a Strategy for “*Enabling Rural Innovation (ERI)*”

Soil improvement through strengthening biological processes, optimizing nutrient cycling, minimizing external inputs and maximizing the efficiency is an important part of asset building for the poor, and especially for poor women producers who rely on the intensification of subsistence and cash cropping for their livelihoods. Growing evidence indicates that the identification of market opportunities and application of innovative participatory market research approaches will be critical to reorienting technology development and creating new opportunities for making women’s production and processing time more competitive. In addition, integrating farmer experimentation and learning will be crucial to empower communities and to create a sustained, collective capacity for innovation focused on improving livelihoods and the management of natural resources. The resource to consumption (R-to-C) approach offers a conceptual framework to link these three related paradigms. This is a new approach, which aims to meet food security needs in tandem with the production of new crops and/or products that have a well-identified market opportunity. Farmer experimentation, participatory market research, development of new technologies and capacity building drive the linkages in the system so that producing a competitive mix of food staples and new products generates the additional income and the need to invest in improving the resource base upon which increased production and income depend.

In 2001 CIAT and national partners started testing elements of the “Resource to Consumption” framework in a cluster of projects in East and Southern Africa, to achieve *Rural Innovation* results in several parts of Africa: Uganda, Malawi, and Tanzania. Some of the key successes with this work have been: (1) Promoting gender equity and empowerment of women and some of the gender outcomes include: Women have gained confidence as expressed in the following statement: “*We women participate in the work just as the men do. Although I was a little shy at first, I am now supremely confident in my ability to accurately document the work of our group.*” In addition, women constitute the majority of community and group members. At all the sites, representation and participation of both men and women in the committee are clearly important criteria when selecting farmers. They are equally well represented on all the committees and some in leadership positions. (2) *Strengthening human and social capital*. Creating a critical mass of scientists and development partners is crucial for both enabling rural innovation and scaling up the ERI process. Over the last 2 years, we have conducted over 10 workshops, reaching more than 200 R&D partners to enhance their skills of our partners to implement an ERI process effectively. We anticipate considerable expansion in the demand for training of partners and other NGO staff in ERI process (several requests have been already received and are increasing). We are pursuing a learning-alliance type of partnership with Participatory Ecological Land Use Management (PELUM), a consortium of over 150 NGOs in eastern and southern Africa to build the capacity of some selected members who can then take on training responsibilities of other NGO members in the region. At the community level, we are strengthening the organizational capacity and social capital of local communities through training and facilitation of leadership skills, group dynamics, consensus building and negotiation skills for managing conflicts, with

attention to NRM. Enabling Rural Innovation (ERI) also facilitates horizontal and vertical linkages among communities, and between pilot communities and rural service providers. Farmers in pilot communities have improved their analytical skills and participation in mutually beneficial collective action as well as in local policy formulation and implementation. They have been instrumental in initiating community bylaws for soil and water conservation, and have established strong links between farmer research and market groups and the rest of the community. Nevertheless, it is possible that with the new market orientation, conflicts may emerge between farmer market groups and the rest of the community over distribution of benefits and participation in research or market groups. (3) The process of developing integrated agroenterprises around potatoes started in Kabale, where farmers were linked to a major fast food firm in the capital city. This phase required a much more detailed analysis of the chain of actions and actors involved from production through marketing. The process of designing integrated agroenterprise projects is being expanded in a market facilitator manual which is being developed on the basis of the collective experience of all project partners and stakeholders.

g. Linking Participatory Research to Policy for Improving Natural Resource Management:

For more than two decades, participatory methodologies have proved effective in enabling people to take greater control of the development process. However, with few exceptions, efforts have not focused on increasing local participation in policy review and formulation. There is concern that NRM research and technology development have not been reflected in policy change, nor have they affected decision-making processes of wider communities. Many problems of natural resource management (NRM) require wider perspective involving community organizations, local government, policy makers and multiple stakeholders. The need to broaden NRM research from simple technology solutions to include socio-economic and policy dimensions is increasingly being recognized in the NRM research and development community. This integrated natural resource management (INRM) paradigm emphasises a focus on participatory approaches that redefine the role of scientist and farmers and other stakeholders, and specifically recognizes that policy support is an essential ingredient for widespread adoption of NRM technologies, and for scaling up NRM innovations. IPRA scientists are facilitating a participatory policy learning and action research project aimed at strengthening local-level processes and capacity for developing, implementing and enforcing bye-laws and other local policies to improve natural resources management. Based on the results of a participatory policy learning and action research in Uganda, some mechanisms that researchers could use to influence and support policy actions to accelerate the adoption of NRM technologies are suggested. These include building effective networks of influence, information and communication; facilitating tailor-made policy learning events targeting people who make, influence or implement policy; opportunistic timing to identify key points of leverage, recognize short-term opportunities, identify and support leaders to champion NRM policies; building capacity of local leaders and strengthening social capital of local communities; identifying and promoting policy incentives. Influencing policy in NRM is, however, a long process that needs perseverance, and a sustained programme of interventions by different institutions.

6. Problems encountered and their solution

Challenges

- Because a major part of our work is implemented with partners, one of the challenges encountered has been that we have to work according to pace of our partners, which may imply making progress at a much slower pace. This is because most of our partners are NGOs and GO organisms that are influenced by and subject to local political influence and financial constraints.
- In Bolivia, the current social turmoil and the political adjustments made by the present government has curtailed the possibility to accomplish the programmed activities and the achievement of proposed results for the present period in regards to the PM&E Project.
- Another challenge encountered has been with institutionalizing community-based PM&E systems. There are several reasons for this: First, initial benefits of PM&E systems accrue directly to the CBO itself, rather than the institutions. Therefore, they may sometimes lack the incentives to establish and support these systems. This is especially so for organizations solely interested in "functional type" of participatory research. Secondly, although PM&E systems can empower community based organizations to improve their self-management and execution of their projects, these systems are also highly resource intensive, in terms of finances and time.
- The identification of methods for supporting CIALs experimentation processes and increasing their sustainability has been and continues to be one of our biggest challenges.
- Because of the diversity of activities involved in the project, the success of this work is highly dependent on the development of effective partnerships with research and extensions systems, and NGOs. However, once established, we have found it increasingly difficult to manage these partnerships in several aspects: (a) Ensuring that the partners fulfill their commitments; (b) Reducing the high turnover of well trained staff; (c) How to manage the process of sharing responsibilities and conflicting instructions between project and NGO boss; (d) How to link with different levels of service providers to provide information and backstopping on enterprises; and (e) Temptation for some partners to move too fast and not plan properly for scaling up activities.

Proposed Solutions

- Several strategies can be used for strengthening partnerships, such as greater clarity in the institutional agreements to ensure clear understanding of roles and expectations. In addition, even in areas where CIAT has an memoranda of understanding (MOU) with institutions it is important to develop specific letters of agreement (LOA) based on outputs, activities and budget responsibilities.
- Conducting constant analysis and evaluations of these initial experiences with PM&E and documenting the lessons learned, has been very useful during the learning process. Secondly, providing several opportunities for sharing these experiences across the different countries so as to promote cross-learning and information exchange.
- Providing regular capacity building and follow-up activities with our partners on the new topics is one solution we are applying. This will include building skills in establishing and supporting participatory monitoring and evaluation systems and in establishing and strengthening second order associations of CIALs.
- The establishment of second-order associations of CIALs is one strategy we are proposing to provide technical support and sustain the CIALs experimentation process. The premise is that these associations would establish regional alliances with governmental entities or other local

organizations, thereby linking CIALs to sources of information and technology, sources of credit, input and output markets, and seed systems, based on CIALs identified priorities.

- A search for alternative financial sources has been initiated. Once analyzed, these alternative sources will be shared with CIALs and ASOCIALs to evaluate their feasibility of implementation in each case.

7. Proposed Future Plans

- a. Develop and strengthen second order associations, and identify and evaluate alternative models for institutionalizing and sustaining CIALs, with the following activities:
 - Work closely with emerging second-order associations in Honduras and Nicaragua and alternative models in Bolivia to develop an understanding of the key elements in the design of these associations and to establish guidelines for "best practices" in planning, implementing, strengthening, and building the capacity.
 - Strengthen the capabilities of the CIAL associations in supporting and sustaining this process, according to the action plans developed.
 - Apply the lessons learned from these initial experiences to Nicaragua and Ecuador, to enable the CIALs in these countries to develop appropriate models to support and sustain the CIALs.
- b. Validate self-financing mechanisms for CIALs and second-order associations by testing and evaluating the successful mechanisms identified in other contexts, countries and regions.
- c. Establish processes of participatory monitoring and evaluation within CIALs and their second-order associations.
 - In LAC this will involve :
 - Building capacity of community members and technical personnel to establish and support PME processes:
 - Evaluate the robustness of the PM&E approach in other countries and contexts
 - Continue conducting research to refine and evolve the PM&E approach
 - In Africa this will involve:
 - Adapting the lessons from LAC to Africa
 - Lessons from existing PM&E systems analyzed and systematized
 - Potential sites for initial "pilot" cases, identified and selected
 - Capacity of partners to establish and support PM&E systems, strengthened
 - Development of an applicable PM&E system at project and community-based levels
 - Scaling up to other projects within the centers
- d. To open access of information about CIALs to a data-base users in the IPRA-CIAT web page to provide an additional source of information in decision making.
- e. Develop a database management system that guarantees information feedback (information flow linkages between the communities and research and development institutions).
 - Finalize the installation of the database in all countries that have CIALs and build skills of technical personnel and institutions responsible for the maintenance and input of the database, and on how to maximize its usefulness for potential users.
- f. Conduct impact assessment to evaluate the impact of the CIALs and second order associations on food security, decision-making capacity and innovative capacity on rural communities.
- g. Develop a major capacity for small agro enterprise development in the area of impact of the second order organizations and CIALs.
- h. To continue the PM&E project activities:
 - To continue supporting the implementation of PM&E systems and CIALs in the project pilot zones.

- To follow up the trained technical personnel in participatory methods in the expansion areas of the project.
 - To strengthen linkages with FDTAs and SIBTA .
 - To analyze the contribution of PR methods to the improvement of the SIBTA.
 - To identify farmer organizations to initiate joint activities and evaluate the contribution of participatory methods in the articulation of their demands within the SIBTA.
- i. Consolidate lessons and scaling up the “Enabling Rural Innovation” framework. This will include the following strategy:
- Creating new partnerships: We are pursuing a learning-alliance type of partnership with Participatory Ecological Land Use Management (PELUM), a consortium of over 150 NGOs in eastern and southern Africa to build the capacity of some selected members who can then take on training responsibilities of other NGO members in the region.
 - The development of a scaling a scaling up strategy for scaling up at different levels: within the community, across to other communities, within the district, within the country (nationally) and across countries (internationally).

8. Performance indicators

i) Technologies, Methods & Tools

- A community-based participatory monitoring and evaluation (PM&E) system designed and adjusted to a wide range of L.A. situations.
- A strategy for practical application of M&E systems.
- A model to build capacity in establishing and supporting participatory monitoring and evaluation (PM&E) processes.
- An impact assessment methodology to evaluate the impact of CIALs in pro-poor environments developed.
- Facilitating Participatory Diagnostics and Community Planning: Building on Assets and Opportunities, CIAT Africa
- Enabling Rural Innovation in Africa: A training Guide for Integrating Farmer Participatory Research and Rural Agro-enterprise development

ii) Publications

- a. Scientific meeting presentations & proceedings
- Research-supported community-based solutions: Engaging the stakeholders
 - Outcomes of farmer participatory research processes
 - From Resources to Consumption – towards sustainable Utilization of under-utilized plant species
 - Linking Participatory Research to Policy for Improving Natural Resources Management. Paper presented at the Participatory Action Research 10th World Congress and Action Learning, Action Research and Process Management 6th World Congress (Pretoria)
 - Bridging Research and Policy for Improving Natural Resource Management: Lessons and Challenges in the Highlands of Southwestern Uganda. Book Chapter
 - Extension through farmer research: Local Agricultural Research Committees (CIALs) in Latin America. World Bank, 2003
 - Impact pathway evaluation: an approach for achieving and attributing impact in complex systems. Agricultural Systems 78 (2003) 243-265

- b. Working papers, presentations, bulletins:
 - Sustaining development oriented civil society organizations in the rural South: resource mobilization options, strategies, success factors and research issues. 2002. IPRA Working Paper.
 - An institutional and local capacity development strategy for the application of participatory methodologies.
 - Scaling up and out: A note on definitions. 2002. CIAT Internal Discussion Paper.
 - Facilitating Participatory Diagnostics and Community Planning: Building on Assets and Opportunities. Working Document, CIAT Africa
 - Enabling Rural Innovation : A partnership that links small farmers with markets, food security, income and natural resources. Poster presented at the Global Forum for Agricultural Research 2003, Dakar, Senegal
 - Social Capital, Policy and Conflict Management in Multiple Common Pool Resources Regimes: Lessons from Uganda. Final Technical Report to the East and Central Africa Programme on Agricultural Policy Analysis
 - The Resource-to-Consumption Framework as a Strategy for “Enabling Rural Innovation (ERI)”. 2003. Agroecology Highlight, CIAT Africa
 - The Resource to Consumption approach: A new look at women, technological change and development. IPRA Working Paper.
 - From Resources to Consumption – towards sustainable Utilization of under-utilized plant species. Paper presented at the International Workshop on Under-utilised Plant species, Leipzig/ Germany.
 - Production and Marketing patterns of Ziziphus Mauritiana fruits in Malawi. Poster presented at 25th International Conference of IAAE, Durban, South Africa 16-22 August 2003
- iii) **Strengthening NARS**
 - a. Training courses
 - Workshop on Participatory Monitoring & Evaluation (PME) in Bolivia, Colombia and Honduras
 - Training workshop on management of CIAL database, La Ceiba, Honduras
 - Workshop on PR, Cali, Colombia
 - Exchange workshop on interaction between participatory methods and community based organizations
 - Several Workshops on integrating farmer participatory research (FPR) and participatory market research in Africa
 - First and second modules for a workshop on PM&E for farmer-technicians, Colombia
 - Training course: CIAL methodology for Agricultural Research in Bolivia
 - Training workshop on farmer participatory research and scaling up strategies for African Soil fertility Network of the Tropical Soil Biology Fertility Institute
 - Facilitation skills workshop
 - Market Facilitating Workshop
 - b. Supervision of students
 - Master of Science Students 2
 - Bachelor of Science Students 3
 - c. Participation in workshops & meetings
 - Workshop for the presentation of the “Participatory Monitoring and Evaluation Project (PM&E) for Rural Innovation in Bolivia”, Cochabamba, Bolivia
 - Meeting on Social and Environmental Monitoring and Evaluation Systems, Policy, Programs and Projects. Santa Fe de Bogotá D.C., Colombia November 7, 8 y 9 2002

- First meeting of projects supported by the Kellogg Foundation. Seminar for creating Training Centers, Oaxaca, Mexico, Nov. 26, 2002
 - Dealing with data from participatory studies: Bridging the gap between qualitative and quantitative methods. University of Reading, Statistical Services Centre, Reading, UK
 - International workshop on underutilized plant species, Leipzig, Germany
- iv) **Resource mobilization**
- a. Proposals funded
- Exchange and Comparative Study on Community Hillside Resource Management Between Andean Countries and Yunnan, Southwest China Exchange and Comparative Study on Community Hillside Resource Management Between Andean Countries and Yunnan, Southwest China. Project -BID
 - Strengthening the Institutional Change Process by intensifying the Participation of Farmers in R&D process. USD 327,000
 - Building the agricultural assets and marketing opportunities of rural women and the poor through participatory research in a resource-to-consumption framework USD 897,840
 - Enabling Rural Innovation in Malawi: A Partnership between Plan International, Department of Agricultural Research Services and CIAT, (USD 143,000)
 - Enhancing rainwater and nutrient use efficiency for improved crop productivity , farm income and rural livelihoods in the Volta Basin (Proposal accepted for funding by the Water and Food Challenge Programme—IPRA has a Principal Investigator on this project) USD 1,998,891 (335,683 to CIAT: TSBF-IPRA)
 - Nomination for Equator Initiative: The Innovative Partnership Awards for Sustainable Development in Tropical Ecosystems
 - Strengthening Livelihood Resilience in Upper Catchments of Dry Areas by Integrated Natural Resources Management. (Project Proposal to the Water-For-Food Challenge Program USD 1,135,509 (127, 720 to CIAT-IPRA)
- b. Proposals Submitted
- Participatory Research: A process to improving the production and processing of Tropical Fruits in Andean Countries.
 - Conflict and collaboration in the management of natural resources in LAC. Establishing an Irrigation system in Cinco días Community, Timbio Municipality, Cauca, Colombia.
 - Strengthening Social Capital and Building Local Capacities for Managing NRM Conflicts in the Highlands of Uganda and Tanzania, Submitted to IDRC
 - Developing a Communication Strategy for Improving Policies and Decision-making to Enhance the Developmental Impact of NRM Research in Uganda (Submitted to DFID, NRSP)
 - Enabling Rural Innovation in East and Southern Africa: A Collaboration between CIAT and PELUM
 - Improved livelihoods for smallholder bean farmers in East and Southern Africa: Seeking competitiveness and added value through strengthened farmer-market linkages (to be submitted to the Rockefeller Foundation)
 - Facilitating Innovation and Scaling-Up of Farmer Participatory Research Approaches in Latin America, Asia and Africa
 - Project MEP for PRONADERS, Honduras

v)

Impact Monitored

a. Use of technologies, methods & tools measured

- CIAL methodology in 5 countries in Latin America
- Methods for participatory evaluation of technology in 4 National institutes of agricultural research
- Methods for community-based participatory monitoring and evaluation system in 3 countries in Latin America.
- FoCam project staffed, established in Bolivia and underway.
- Africa Projects: Belgium and Rockefeller
- Contribution to rural social and human capital measured
- Three hundred CIALs in 8 countries in Latin America
- Six second order associations of CIALs in three countries of Latin America

Narrative Summary	Measurable Indicators	Means of Verification	Important Assumptions
<p>Goal: Develop and apply knowledge, tools, technologies, skills and organizational principles that contribute to improving the IAM⁷ and the levels of well being</p>	<ul style="list-style-type: none"> • Application of participatory methods, analytical tools and organizational principles by R&D organizations that lead to the incorporation of the farmers' and others end-users' IAM-related needs • Use of Project products at additional reference sites in two agro ecosystems (hillsides and forest margins) of CIAT's mandate in 5 years • Use of Project products by a minimum of 3 institutions outside the LAC region by the end of the 5th year • Improvement in the well being of the end-users at the respective reference sites 	<ul style="list-style-type: none"> • Projects, plans and reports of public sector entities, donors, the NGOs, grassroots organizations, second-order organizations at the reference sites and in the agro ecosystems of CIAT's mandate, which refer to the use of the Project's products 	<ul style="list-style-type: none"> • Institutions committed to the principles of PR • Stable institutional leadership • Committed communities • Favorable environmental and agrarian policies • Absence of social conflict at the reference sites • Data available from the reference sites • Availability of information from partners
<p>Project purpose: Develop and disseminate participatory methodological approaches, analytical tools, autochthonous knowledge and organizational principles that strengthen the capacity of the R&D institutions to respond to the demands of stakeholder groups that contribute to improving the levels of well being and IAM</p>	<ul style="list-style-type: none"> • No. of R&D organizations applying participatory methods, analytical tools and organizational principles • No. of entities in the LAC region teaching participatory methods • No. of meetings held among stakeholder groups • No. of participatory projects implemented by the R&D institutions 	<ul style="list-style-type: none"> • Impact study • Institutional reports • Publications • Proceedings 	<ul style="list-style-type: none"> • Economic stability of institutions • Financing for training activities and publication/dissemination of materials • Institutions willing to prepare and support facilitators and to share information • End-users-above all the producers-willing to participate

⁷ IAM = Integrated Agroecosystem Management

Narrative Summary	Measurable Indicators	Means of Verification	Important Assumptions
Outcomes:			
1. Participatory methodological approaches, analytical tools and autochthonous knowledge that lead to the incorporation of the farmers' and others end-users' IAM-related needs, developed for interested R&D institutions	<ul style="list-style-type: none"> • No. of methodological approaches developed or adapted and of analytical tools developed for the IAM 	<ul style="list-style-type: none"> • Project reports • Publications • Proposals presented 	<ul style="list-style-type: none"> • Good coordination and integration among the collaborators • Minimal conflicts in meeting demands • Full participation of stakeholder groups • Field staff fulfilling their role as facilitators • Data available from the reference sites • Internet system functioning well
2. Organizational strategies and procedures for PR, developed	<ul style="list-style-type: none"> • Submit and approve Project log frame • No. of strategies and organizational procedures for PR adopted and adapted 	<ul style="list-style-type: none"> • Project reports • Publications 	
3. Professionals and others trained as facilitators of FPR	<ul style="list-style-type: none"> • No. of professionals, technicians and farmer-researchers trained in the PR methodology 	<ul style="list-style-type: none"> • Project reports 	
4. Material and information on participatory methodological approaches, analytical tools, autochthonous knowledge and organizational principles, developed	<ul style="list-style-type: none"> • No. of visits to the Web sites • No. of requests for materials and information • No. of materials published 	<ul style="list-style-type: none"> • Project reports • Publications • Case studies written 	

Narrative Summary	Measurable Indicators	Means of Verification	Important Assumptions
Outcomes	•		
5. Impact of the SN-3 Project activities, documented	<ul style="list-style-type: none"> • Depending on the nature of the study; e.g., in CIALs, no. of host countries, total no. of CIALs (active, inactive, mature), research capacity, self-management capacity, institutions participating, gender breakdown, diversity of research topics, no. of people benefited, no. of small agro enterprises benefited, no. of community-service actions, no. of facilitators and trainers prepared, no. of second-order organizations formed, no. of requests for publications and no. of training materials 	<ul style="list-style-type: none"> • Case studies, PME reports and databases, impact studies 	
6. Internal projects and other institutions supported and strengthened in doing PR	<ul style="list-style-type: none"> • No. of internal projects supported • No. of external organizations strengthened • No. of participatory projects implemented by internal projects and other institutions 	<ul style="list-style-type: none"> • Project reports • Publications of internal projects and other institutions 	
7. Capacity of the SN-3 Project team, strengthened	<ul style="list-style-type: none"> • No. of team meetings • No. of seminars and workshops organized and/or received by the team or its members 	<ul style="list-style-type: none"> • Project reports 	