RII

Rural Innovation Institute

Rural Entrepeneurs Working
To Compete for a Better Future

The Rural Innovation Institute

Executive Summary

2003

CIAT
Centro Internacional de Agricultura Tropical
International Center for Tropical Agriculture

Table of Contents

The Rural Innovation Institute

1. Objectives

The Rural Innovation Institute endeavors to improve rural livelihoods by working with clients and associates to improve their innovativeness, defined as their competitiveness, capacity to innovate and access to information including the best resulting blends of scientific and local knowledge. The Institute works primarily on behalf of small-scale, farm producers, agro-enterprises and the agencies that serve them, including private, public and not-for-profit organizations. Box 1 gives examples of expected results.

Four important objectives discussed belowcut across all the work of the Institute and integrate research and development carried out in three internal projects—agroenterprise development; participatory methods (IPRA) and information for development (INFOCOM). The Institute also hosts the CGIAR Program on Participatory research and Gender Analysis (PRGA). Each internal project has a project manager, logframe and work plan and all fundraising and new initiatives are done through the projects. These complement each other and carry out numerous research and development activities in close coordination with other projects of CIAT as well as with outside stakeholders. The common objectives are described in detail below.

Box 1 Roadmap to Developing Capacity to Innovate

Source: Rural Innovation Working Group December 2002

Producer organizations and rural communities with capacity to innovate will have:

1. An assessment of their asset base to identify market opportunities, entry points for technical innovation and leverage for organizational change.
2. An action plan for experimenting with novel ways to develop the combination of products and services needed to establish a food-secure and competitive market position beneficial for all members
3. A plan for experimentation with innovations for improving their assets (human, financial, social, natural and physical) to support and sustain the desired food and income generation.
4. A Learning Alliance with key partners to support the interaction of local experimentation and knowledge sharing with outside resources
5. Experimentation in a resource-to-consumption framework to test proposed innovations
6. A monitoring and evaluation process
7. A collective organization platform (e.g. integrated production project, agro-enterprise, telecentre, farmer research committee, watershed association, cooperative etc) to run the innovation process.
8. A plan for scaling up

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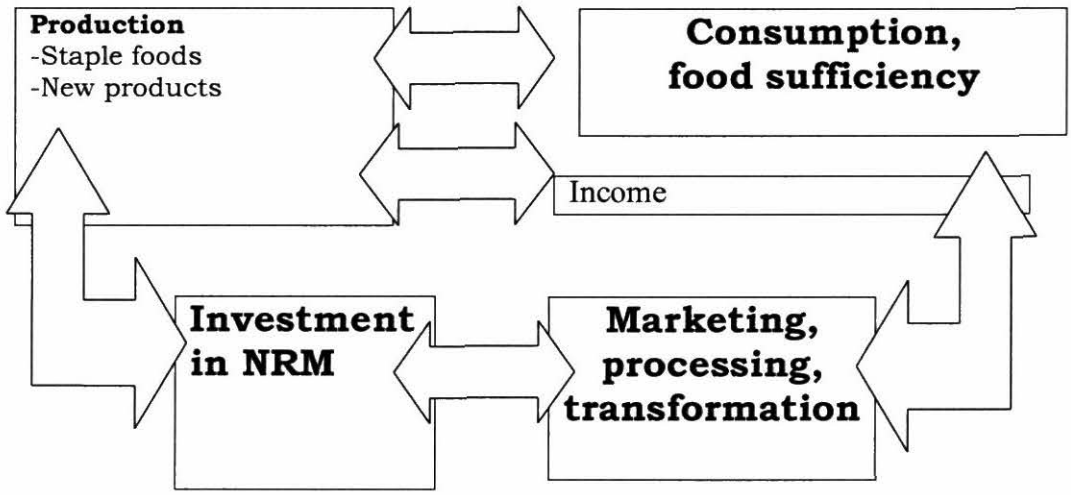

Figure 1. Improving Competitiveness through the Resource-to-Consumption Framework

Improve Competitiveness

The RII assists its clients to develop a fit between their local resources and a unique competitive mix of products and services Market research, technical assistance, farmer experimentation, capacity development and participatory research are designed to provide rural producers and entrepreneurs with practical steps that enable them to design the products and processes required for them to be competitive.

RII works to develop local capacity to combine improvement in the production and processing of staple food crops with a competitive mix of new products. Market opportunities for different value or commodity chains are analyzed to find high potential options for increasing income while making sure there is enough food. To do this, RII helps farmers to experiment with new crops and products that have a well-identified market opportunity. To improve competitiveness, RII teaches the skills needed to design agro-enterprise projects that enable farmers to capture a larger share of the value added by new post harvest processes, packaging or marketing.

This approach to improving competitiveness is summarized as a "resource to consumption" framework illustrated in Figure 1. Finding ways for each day of labor to produce more food or income is central to the approach. Especial attention goes to generating the additional income needed to invest in improving soil, water or other natural resources needed to sustain competitiveness. RII provides existing community organizations and agencies with advice and training in new ways of organizing to be more competitive-- to conduct local experimentation, to develop small-scale agro-enterprises and to use the information highway.

Through Learning Alliances Build Capacity to Innovate

Developing an enduring capacity to innovate is vital for staying competitive. RII's approach is to provide training and research in combination, through a relationship with a client or group of clients called a "Learning Alliance." Participants in a Learning Alliance simultaneously monitor, evaluate and learn quickly together from the training and research experience to derive lessons that will enable the results to reach more people, more quickly. To support learning how to innovate, the RII teaches the skills and knowledge needed to search for and identify new markets and products as well as new production or marketing processes. These skills include knowing HOW to find the information, expertise and financing needed, WHERE to find it and WHO to go to for help.

Skills for innovation include knowing how to experiment and evaluate with new options to see if they will prove successful in local conditions. New technologies are tested and introduced for combining staple food crops with a competitive mix of new products. Once new options have been identified, " pilot" or trial production and marketing projects are established with small groups.

Learning quickly from successes as well as the mistakes we make in these first trial projects is essential so RII teaches clients how to run their own monitoring and evaluation process. This helps local people and the agencies who support them to expand trials quickly to benefit larger numbers of people. But innovation doesn't stop with the first success. RRI makes sure clients know how to stay competitive by keeping up a vigorous cycle of learning, experimentation, problem solving and innovation with new markets, products and processes.

Promote Knowledge-sharing, Information and Communication

Successful entrepreneurs stay competitive by constantly exchanging experience and sharing information both locally and with the wider world. RII works to foster information exchange and learning to support local innovation and promote competitiveness. To do this, RII provides training programs aimed at developing local capacity for information discovery and sharing valuable local content on the World Wide Web linked to radio and other communication channels. These programs typically work with community *telecenters*, local information systems and community-based oral or other kinds of communications. RII complements these with training in the use of computer-based, decision-support tools designed to enable agencies supporting farming communities and rural entrepreneurs to use the vast store of biological and economic information that otherwise is inaccessible to them.

Blend scientific and local knowledge

Competitivity based on developing a fit between local resources and a unique mix of products and services often builds on a blend of scientific and local knowledge. A good example is the new market opportunities that can develop for small farmers once their knowledge about the taste, storage qualities and growth habits of a local fruit variety are combined with scientific knowledge about how to characterise the fruit's vitamin C content, improve its shelf life and enhance its disease resistance. The RII is a gateway for small producers and rural entrepreneurs to access the scientific expertise of CIAT and its Science Park, and a wide diversity of other partners for this purpose.Once clients have identified high potential options with promising markets and a good fit with local resources that may need blending through scientific research, the RII assists them to build the partnerships required to do this.

2 Highlights in 2002

Sustainable rural livelihoods comprise the core of CIAT's current strategic plan. To achieve them depends on three essential conditions: agricultural competitiveness, agroecosystem health, and rural innovation. The term rural innovation describes the process whereby various stakeholders generate, adapt or adopt novel ideas, approaches, technologies or ways of organizing. Rural Innovation occurs when stakeholders put these into widespread use to improve the production of food and environmental services through farm and non-farm activities, so that the rural sector becomes competitive in a sustainable manner.

The Rural Innovation Institute's (RII) research on how to improve innovation systems has consolidated in 2003 through several important *Learning Alliances* which are agreements with development agencies to conduct joint action research on how to accelerate innovation, including Catholic Relief Services; IDRC, Canada; the W.K.Kellogg Foundation; IFAD and GFAR; the Institute of Rural Reconstruction; the von Humboldt Institute, and Colombia's Ministry of Agriculture.Originating in the AgroEnterprise project, learning Allinaces are rapidly integrating expertise from participatory research and rural knowledge systems, thereby proving an effective instrument for self-organizing integration across projects within the Institute. In all *Learning Alliances* the stakeholders are funding RII to participate in capacity building and action research. Strategic importance for *Learning Alliances* was gained at the CGIAR Annual General meeting in October, 2003 with the recognition of *Learning Alliances* as a distinctive feature of CIAT's approach to Institutional Learning and Change, ILAC, a new initiative which is financing the RII's involvement in cenerating and ILAC case study. ILAC is promoted by the Rockefeller Foundation, with support from several other donors, incluing IFAD and BMZ Germany, and several IARCs.

One of the most important results CIAT expects to achieve from science-enhanced rural innovation is an improvement in the capacity of rural communities to control the use of science and technology for improving their livelihoods. In 2003 significant progress was made in expanding further development of approaches to scaling up participatory monitoring and evaluation approaches in projects linking farmers to markets, collectively known as "enabling innovation" in East Africa, Central America and Bolivia and supported by the Kellogg Foundation, DFID United Kingdom, the Rockefeller Foundation and the Belgian government.

In the area of knowledge management and information for development, CIAT was offered the opportunity to write the proposal for, and if successful, implement a segment of the CGIAR Systemwide IT and KM Program. This is an important step forward in gaining recognition for the contribution CIAT's Communications, Information Services and Documentation team has been making to the CGIAR over the past few years. A central role in Knowledge Management positions CIAT to generate strategic research proposals and projects in this new area.

3. Research on Accelerating Innovation

The Institute's efforts to improve innovativeness with its clients draw on its investment in learning from research carried out elsewhere, as well as its own internal research on the determinants of successful innovation and factors that accelerate or hinder innovation. The working hypotheses which guide rural innovation research are depicted in the form of a path diagram in Figure 2. Determinants of competitiveness in the first column are crucial exogenous variables which set the scene and are defining conditions for whether rural innovation will occur and to what extent it will succeed. CIAT's research outputs (or results) are designed to change some key aspects—but not all, of the determinants of rural innovation: these are laid out in the second column. Four important outcomes have to occur for beneficiaries in a time frame of 3-6 years, listed in the third column. If achieved, these outcomes lead to expected longer-term impact over 7-20 years, shown in the final column.

The Institute is building a database of Innovation Case Studies which are used first by the Learning Alliances which generate the cases, and will be subsequently used for meta-analysis to be conducted cooperatively across a wide array of projects and initiatives to test the working hypotheses laid out in the causal model. Case study partners will want to adapt the generic causal model, roadmap and indicators of success to their own particular experience and at the same time, the meta-analysis will maintain some common variables and indicators for comparative analysis.

4. Toolbox

An ongoing inventory of the numerous approaches and methods that are used within CIAT for rural innovation-related research provides input to a web-based inventory of methods, approaches and tools for which the documentation is being assembled with all the contributors. This will enable knowledge-sharing within the CIAT rural innovation community and will provide a vehicle for exchange of different approaches which in the normal course of events, do not rub shoulders.

DETERMINANTS OF **COMPETITIVENESS** | *CIAT OUTPUTS* | *OUTOMES FOR* | *IMPACT* **BENEFICIARIES**

Opportunity Assessment | -Resource-to-Consumption Framework | PM&E | Impact Assessment

----------Learning Alliances----------

Innovation Case Studies

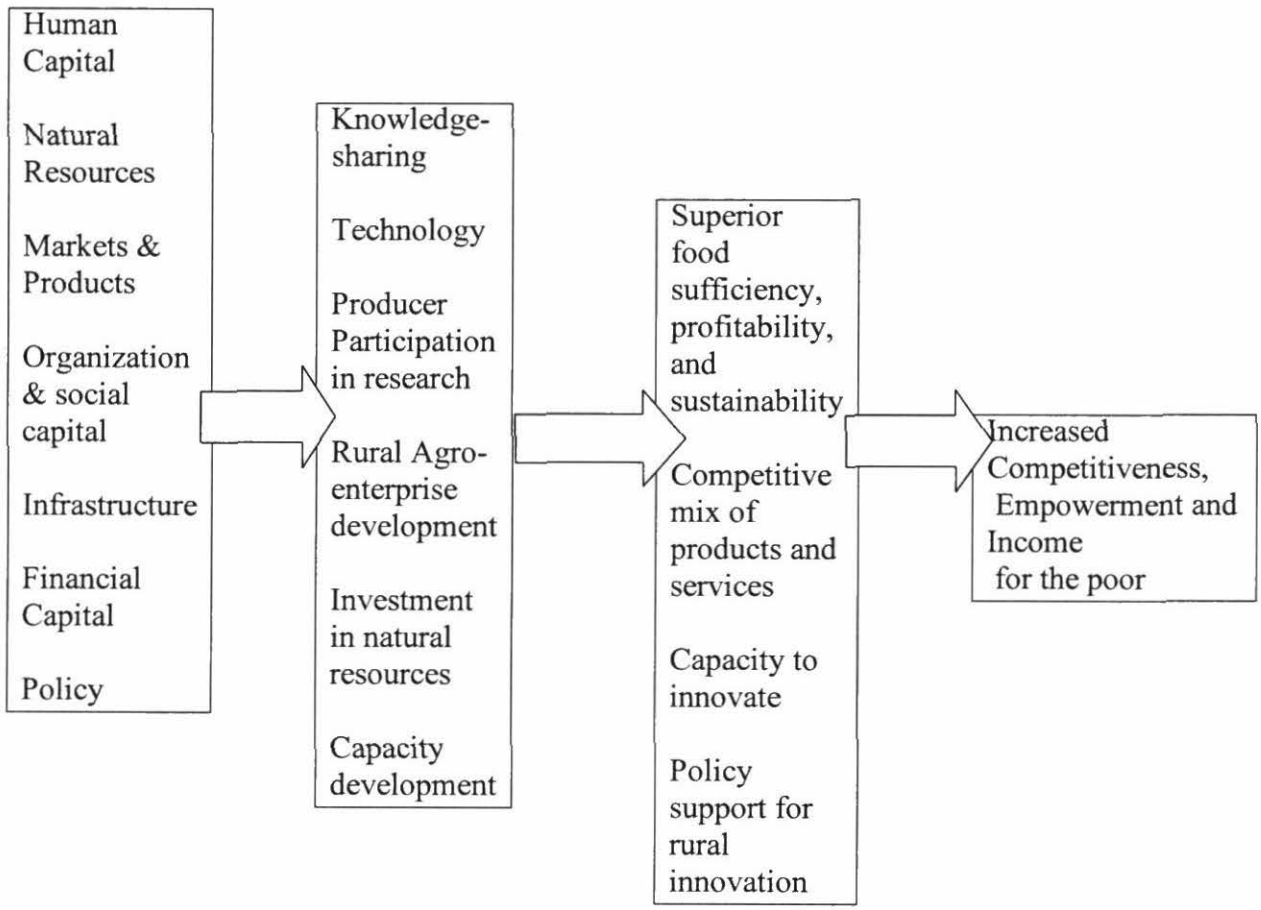

Figure 2. Causal model of Rural Innovation

5. Logframes

CIAT has well-elaborated logframes for each of the three projects which are a pivot of rural innovation. The project outputs lead to achieving the purpose and goal of the Institute. Rural Innovation Project Purposes (SN2, SN3 and SN4 in the mid-term plan) appear in the logframe as Institute Outputs. Rural Innovation Program areas appear in the log frame performance indicators

RURAL INNOVATION INSTITUTE LOG FRAME

NARRATIVE SUMMARY	VERIFYABLE INDICATORS	METHODS OF VERIFICATION	CRITICAL ASSUMPTIONS
GOAL *Contribute to promoting the competitivity of small producers by enhancing their capacity for innovation using applications of scientific and lay knowledge that enable rural innovators to work better for the poor*	*- RII stakeholders, their partners, small producers and their organizations see the Institute as providing a unique and valuable service that has improved their innovativeness, competitiveness and income.*	*-Beneficiary assessments* *- Participatory monitoring and evaluation*	*-Small producers can improve their competitiveness by building a capacity for continuous innovation* *-Favourable policy environment for small producers* *-RII stakeholders are convinced by CIAT's reputation and want to partner with the RII*
PURPOSE *To develop and scale up capacity for innovation among organizations of small producers serving low-income rural communities, indigenous people and women.*	*- Innovation Case studies* *-Learning Alliances* *At least three examples of large scale Rural Innovation are providing working models of approaches and impacts by 2006 using a common set of indicators of success*	*- Impact assessment studies* *- Participatory monitoring and evaluation reports* *- Innovation Case Study reports* *- Learning Alliance reports*	*-Donor, Board of Trustees and Management support* *- CIAT projects and scientists have rural innovation as a goal and collaborate in and share rural innovation approaches center-wide*
OUTPUTS 1. *-- SN1: methods and tools for use by local practitioners in the participatory design and execution of decentralised rural agroenterprise development schemes aimed at diversifying and adding value to the production of smallholders* 2. *- SN3: Participatory*	*1.Methods, tools and institutional models for rural agroenterprise development broadly adapted and used by partners and beneficiary groups for collective organization to scale up technology change* *2.Application of participatory*	*Reports and project documents of our partner institutions.* *Projects, plans and reports of*	*Political and institutional support for sustainable rural and agricultural development at the reference sites and targeted countries is maintained.* *Natural disasters or civil strife do not impede progress toward the project's goal* *Institutions committed to the*

	research principles, approaches and 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 well-being and agro-ecosystem health	*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*	*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*	*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*
3.	*- SN4: Strengthened decision-making capacity of rural communities and R&D organizations to obtain, generate and share information and knowledge with the aid of modern information and communication technologies*	*3. Improved knowledge-sharing* information systems, methods and approaches are being incorporated by partners' programs and organizations to better meet local demand for information and support rural innovation*	*- On-line evaluation of e-learning programs.* *- Training tools available in print form and on CD-ROM.* *- Locally developed information systems available on the World Wide Web.* *- Consultancy reports and project information on the Web and in print form.* *Conference papers, journal articles, and technical reports on the performance and impact of approaches developed by the project.*	*- Public and private telecommunications agencies support initiatives to create affordable, reliable Internet access in remote rural areas.* *- National and local organizations can generate resources through information services that enable them to sustain these services.* *National and local organizations gain credibility in rural communities as reliable providers of useful Web-based information services.*

4. - A platform for pro-poor innovation policy dialogue	*4. Pro-poor rural innovation policy formation* is being influenced by results of RII research on how to improve competitiveness of rural poor*	*Project Reports*	*Donor support for policy dialogue*
ACTIVITIES/ PROJECTS *1.Agroenterprise Project Work plans* *2.Participatory Research Project Work plans* *3.Information for Development Work plans* *4. PRGA Workplan*	*See Project Annual Reports*	*See Project Annual Reports*	*See Project Annual Reports*

PROJECT SN-1

Rural Agro-enterprise Development

Project description: Rural Agro-enterprise Development

Objective: To develop methods, tools and information for use by local practitioners in the participatory design and execution of development schemes for decentralized rural agroenterprise by which the production of smallholders can be diversified and value-added.

Outputs:

1. Methods for identifying and developing viable market opportunities that incorporate small-scale farmer selection criteria.
2. Methods and tools for developing local capacity to select and develop postharvest processing and handling technologies.
3. Options and tools for integrating collective action with business organization to establish sustainable enterprises.
4. Decision-making tools and institutional models for strengthening rural agroenterprises and complementary support services.
5. Strong partnerships established for research, training and diffusion of the results of the project.

Gains: Rural populations in CA, Andean Region, East and Southern Africa, and Southeast Asia enhance their capacity to establish small-scale agroenterprises and link these to growth markets. Linkages improved between conservation, production, added value processing, markets, and consumers. Sustainable production practices catalyzed and adopted more widely.

Milestones:

2003 Field guides and associated training materials for the design of Integrated Agro-enterprise Development Projects and the formation of Interest Groups in Rural Economic Development available. Financial profitability model developed for evaluating production and processing enterprises. Alliances and projects established in Asia for validation and adaptation of the methods and tools developed by the project in Latin America.

2004 Draft guidelines available for designing support systems for rural agroenterprise, based on experiences in Latin America and case studies. Learning alliances consolidated with major NGO partners in Central America, the Andean Region and East Africa. Pilot projects initiated in Vietnam and Lao PDR.

2005 Guidelines for identifying and developing viable rural agroenterprises prepared for Eastern Africa, based on pilot experiences in Uganda, Malawi and Tanzania.

Users: Immediate beneficiaries are the technical personnel of GOs and NGOs in rural development and rural policy makers. Ultimate beneficiaries are the inhabitants of rural areas, including female small farmers, and entrepreneurs, who benefit from training and information on market opportunities, postharvest technologies, enterprise skills, and access to better support services.

Collaborators: *Development of methods and technology components:* CIRAD, NRI, PRODAR (in Lima), IDRC, CIP, IITA, CARE, CRS, Foodnet, InterCooperation, IPRA, MADR Colombia, PROINPA, ATICA, Belgium Technical Cooperation - Ecuador. *Execution of pilot projects:* CIPASLA (Colombia), CLODEST (Honduras), Africare (Uganda), TIP (Tanzania), ADD-Lilongwe (Malawi), Proyecto Emprender (Ecuador), Proyecto Marenass (Peru), MADR (Colombia). *Training and networking:* PRODAR-IICA (Peru), ASARECA (Foodnet), SEARCA, UPWARD, members of PhAction, REDCAPA.

CGIAR system linkages: Crops and Livestock Production Systems (15%); Livestock (5%); Protecting the Environment (20%); Training (10%); Information (10%); Networks (10%); Organization and Management (30%). Participates in the Global Post-*h*arvest Forum (P*h*Action).

CIAT: SN-1 Project Log Frame (2003-2005)

Narrative Summary	Measurable Indicators	Means of Verification	Important Assumptions
GOAL TO IMPROVE THE LIVELIHOODS OF RURAL POPULATIONS IN LA, AFRICA, AND ASIA BY ENHANCING THE CAPACITY OF SUPPORT INSTITUTIONS TO PROMOTE COMPETITIVE AND ENVIRONMENTALLY RESPONSIBLE AGROENTERPRISES THAT EQUITABLY LINK SMALLHOLDERS TO GROWTH MARKETS.	Percentage decrease in rural poverty index in selected areas of Africa, Asia, and LA.	National statistics of different countries where projects have been implemented.	
PURPOSE **To develop methods and tools for use by local practitioners in the participatory design and execution of decentralized rural agroenterprise development schemes aimed at diversifying and adding value to the production of smallholders.**	By the end of 2006, the project has complemented its activities in the reference sites by establishing alliances with important partner institutions in LA who are widely using the methods, tools, and institutional models developed by the project. These products have been adapted by partners in Asia and Africa and are applied in a selected number of sites on both continents.	Reports and project documents of our partner institutions.	**Political and institutional support for sustainable rural and agricultural development at the reference sites and targeted countries is maintained.** Natural disasters or civil strife do not impede progress toward the project's goal.

Narrative Summary	Measurable Indicators	Means of Verification	Important Assumptions
OUTPUT 1 Tools, methods, and information for identifying and developing market opportunities, developed as an input for the design of economically viable and sustainable rural agroenterprises.	Training materials for market opportunity identification available and being used by partners in LA, Asia, and Africa. A series of methods and tools for identifying market opportunities are available for use in different situations; these methods and tools are developed at the reference sites and elsewhere through alliances. Information system on alternative trade available.	**Manual published.** Annual reports and project proposals. Project home page. Training materials.	**Collaborating institutions have adequate resources to use the materials and tools developed.**
OUTPUT 2 Tools, methods, and information systems that can be used in the selection and local development and adaptation of appropriate postharvest technologies for small-scale rural agroenterprises.	Methods and tools developed for establishing local information systems in support of agroenterprise development. Series of manuals on methods and techniques for the participatory development of postharvest technology for improving the efficiency of rural agroindustry. Manuals in preparation on techniques for the participatory development of new rural agroindustrial products and processes.	**Project home page.** Manuals published. Annual reports and working documents.	
Output 3 Information, options, and recommendations for the design of efficient and effective organizational and business schemes for small-scale rural agroenterprise and their support services.	Case studies of small rural agroenterprises, documenting best practices, key success factors, and lessons learned, completed for LA and Asia. Training materials for the design of business and market plans and	**Case studies published.** **Materials available on the web site** Project proposals and annual reports. PhD thesis on agroenterprise clusters (local food systems).	

Narrative Summary	Measurable Indicators	Means of Verification	Important Assumptions
	strategies for small agroenterprises available. Options for the organization of enterprises, their links in the agrifood chain, and the organization of support services are being tested in the reference sites and with other partner institutions.		
Output 4 Institutional models and policy options for establishing and strengthening rural agroenterprises and their support systems within a territorial context.	Ten or more agroenterprise projects being executed at reference sites in LA, Asia, and Africa. Manual for identifying and developing integrated R&D rural agroenterprise projects completed. Guidelines for designing local support systems to promote agroenterprises at the microregional level.	**Project proposals and reports.** Published field guides and associated training materials. Guide published.	
OUTPUT 5 Alliances consolidated with a range of strategic stakeholders, with whom the project carries out research and training to enhance the capacity to design and develop successful agroenterprise projects.	200 personnel trained in aspects of agroenterprise development in LA, Africa, and Asia. Case studies on the adoption and impact of agroenterprise R&D completed. Project's Web site expanded and updated periodically with project outputs. Strategic alliances with research and development partners for both research and capacity building.	**Training documents, course evaluations, and annual reports.** PhD thesis completed on rural innovation and impact of the project's work in the LA reference sites. Project's Web site. Letters of Understanding, project contracts, and interinstitutional agreements.	

Project summary
Project Staff

Rupert Best, PhD	Postharvest research and development specialist and Project Manager (based in Kampala)
Dai Peters, PhD	Postharvest specialist and Coordinat[illegible] Small-scale Agroenterprise Development in the Uplands of Lao PDR and Vietnam project (based in Hanoi, Vietnam)
Christopher Wheatley, PhD	Rural Agroenterprise Specialist (retained consultant)
	Carlos F Ostertag, MSIM Business and market specialist
	Veronica Gottret, MAEconomist (Visiting Researcher – PhD)
	Mark Lundy, MA, MSc Rural agro-enterprise specialist
François Boucher, MBA	Expert in Rural agro-industry specialist, Centre de Coopération Internationale en Recherche Agronomique pour le Développement - Département territories, environnement et acteurs (CIRAD-TERA), based in Lima (upto August 2003)
	Carolina González, MA Lawyer and economist (with the Impact Assessment Project)
	Marco A Vásquez, MBA Enterprise specialist (based in Tegucigalpa)
John Connell, BA	Community development specialist (based in Vientiane, Lao PDR – 50% dedication)
Cu Thi Le Thuy, BA	Economist and National Coordinator of the Small-scale Agroenterprise Development in the Uplands of Lao PDR and Vietnam project (based in Hanoi, Vietnam)
Ounkeo Pathammavong, BA	Educationalist and National Coordinator of the Small-scale Agroenterprise Development in [illegible]plands of Lao PDR and Vietnam project (based in V[illegible]ne, Lao PDR)
	Jhon J Hurtado, BScFood Technologist and Information specialist
	Angela Arenas, BSc *Social communicator*
	Elly Kaganzi, BA Agroenterprise planning and management (based in Kampala)
	David Brand, BA Economist
Dora Patricia Arevalo, BA	Social communicator (with the Information for Development Project)
Sandra Rivera, BSc	Industrial engineer
Clara Feijoo, BSc	Administrative Assistant (arrived August 2003)
	Carlos ChilitoTechnician, rural agro-industrial processing
	Jairo Jiménez Field technician
	Trinidad Daza Office system support technologist (*left August 2003*)
	Luis Hernández, MA Agronomist (consultant)
	Diego Izquierdo, BA Economist (consultant)
	Robinah Nyapendi, BSc Agribusiness (visiting scientist, based in Kampala)
	Diego TenorioAgroenterprise management (visiting scientist)
	Erika Eliana Mosquera Social communicator (visiting scientist)

Laura Victoria Becerra (visiting scientist)	Social communicator
Juan Francisco Barona Business (visiting scientist)	International Marketing and
Oscar Andrés Sandoval	Agro-industrial Engineer
Diana Marcela Córdoba	Sociologist (visiting scientist)

All 100% dedication to project unless otherwise indicated

Partners

Within CIAT:

Linkages with BP-1, IP-2, IP-5, PE-2, PE-3, PE-4, SN-3, SN-4, Information Systems, Training and Conferences, Consorcio Latinoaméricano y del Caribe de Apoyo a la Investigación y Desarrollo de la Yuca (CLAYUCA), Participatory Research in Agriculture (IPRA), Improved legume-based feeding system for smallholder dual-purpose cattle production in tropical Latin America (TROPILECHE), and Collective Action and Property Rights (CAPRi).

Outside CIAT:

See CGIAR system links and Collaborators on Project Description, p. 1. Others include Corporación Colombia Internacional (CCI), Comités de Investigación Agrícola Locales (CIALs), Cooversalles, Asociación de Productores La Montaña, CIPAV, Corporación para el desarrollo de Tunia (CORPUTUNIA), Serraniagua, Fundación El Alcaraván, Programa de Desarrollo y Paz del M/lena Medio (PDPM), Instituto Interamericano de Cooperación para la Agricultura (IICA), Infoagro, Institute of Social Studies (ISS), Intermediate Technology Development Group (ITDG), Southern Africa Root Crops Research Network (SARRNET), South East Asian Ministers of Education Organisation (SEAMEO), Universidad del Valle (UNIVALLE), and Universidad Nacional, Bogotá, Kampala City Council.

Budget 2003

Source	Amount (US$)	Proportion (%)
Unrestricted Core	8,419	1
Restricted Core	292,155	25
Carryover from 2002	21,126	2
Subtotal	321,700	27
Special Projects	859,981	73
Total Project	1,181, 681	100

Research Highlights in 2003

The following major advances are highlighted this year:

Tools, methods, and information for market opportunity identification and development, as an input for the design of economically viable and sustainable rural agro-enterprises

The demand for appropriate tools and methods for identifying market opportunities for smallholder agriculture comes from many quarters. One such demand comes from

government and non-governmental development agencies working at the community or local level as they facilitate the process of moving farmers to a greater market orientation, seeking to identify production options that can generate income. Other demands come from national or regional government agencies that need to orient research and development programs by prioritizing investments in support services ranging from research itself, direct technical assistance through extension agencies, and the provision of market information services. The Rural Agroenterprise Development Project (RAeD) has been developing a range of tools for the needs of different clients.

The 'mother' of these tools is the Market Opportunity Identification (MOI) manual published in 1999. This manual has been translated into four languages and is in use in many parts of the world. Most recently in Uganda the National Agricultural Advisory Services, NAADS, has contracted CIAT and ASARECA's FOODNET to carry out a study to identify market opportunities in Kampala for the farmer organizations throughout Uganda that are associated with their enterprise selection process. Beyond providing information that will subsequently be used to prioritize the types of farmer enterprise that will supported through the decentralized and privately-oriented extension scheme, an important objective is to work with NAADS in the validation of a process that can be subsequently used by service providers in other major towns in Uganda.

With the experience gained in using the MOI methodology, modifications are being incorporated that respond to the suggestions made by those that have used the methodology. In 2003, a "tool book" in multimedia-computerized format that already incorporates many of these changes was produced and tested in training events in Central America. Interestingly, the multimedia format was not universally popular in these events, suggesting that these novel forms of communication need to be backed up by conventional manuals and appropriate field exercises.

The full Market Opportunity Identification process requires that the persons that undertake the studies have a certain level of technical and business expertise, or have access to these. At the local and community level, these skills are not always available or access to them is limited. The principles of market opportunity identification have been adapted for use by market facilitators in supporting enterprise selection at the community level. This process involves farmers in all steps of the process, from participatory diagnosis, market visits with farmers, collection of technical and economic information of promising options, and the calculation of simple economic parameters to compare among options. This participatory methodology is now being validated and improved with selected communities, NARI and NGO partners in 8 sites in Uganda, Tanzania and Malawi. These local processes engender strong ownership by the communities involved. They require facilitation by trained extension personnel. Currently, most extension agents come from a production background and have few or no business or market skills. The 'retooling' of these extension agents is a major challenge for both government and non-government service providers. The Learning Alliance concept (see Output 5) is a way in which the RAeD project is attempting to contribute to this process.

Successfully moving farming communities to an increased market and enterprise orientation requires that they can access, on a near permanent basis, information on markets that will support their existing enterprises and provide them with ideas for new options. To meet this need the RAeD project is developing tools, linked to the Local Rural Agroenterprise Information Systems (see Output 3) that permit the collection and analysis of pertinent market information.

Tools, methods, and information for the development of appropriate postharvest technologies for small-scale rural agro-enterprises
Once farming communities and their service providers have identified promising enterprise options and the process of enterprise development has commenced, there is an on-going need to maintain competitiveness. An important aspect related to competitiveness is the need to be innovative in incorporating cost reducing and quality enhancing improvements into postharvest handling and processing activities. The RAeD project has over the past two years been developing a methodology to enhance local capacity in rural communities to innovate in this crucial aspect of the market chain.

Using a similar philosophy to that of the Local Agricultural Research Committees developed by the Participatory Research Project, and with their support, a set of methodological steps have been defined and the process tested with producers of *panela* (raw sugar) in Cauca Department in Colombia. Panela is produced in small artesenal processing units called *trapiches* (sugar mills) of which there are over 200 in the region. While a strong demand exists in urban markets, the rustic nature of the panela being produced does not meet the quality characteristics demanded by the consumer. Without innovation, there is a considerable danger that these trapiches would go out of business causing significant hardship to the local population through loss of jobs an income. This situation is encountered by many small rural agro-industrial enterprises.

The local innovation process centers on the *Grupos de Investigación en Agroindustria Rural* (GIAR, Rural Agroindustry Research Groups). The members of these groups are selected by the community to undertake adaptive research on improvements to the efficiency and quality control of the panela manufacturing process. The agenda is agreed upon through discussions among panela producers and their service providers. Activities have included the evaluation of appropriate varieties for the production of good quality panela, the modification of processing technology to local conditions, the promotion of good manufacturing practices (BPM) and the diversification of product presentation and formulation in line with market demand.

This example of the development of a local capacity to access, evaluate and incorporate postharvest technological innovations has captured the attention of the Colombian Ministry of Agriculture. The development organizations that partnered the RAeD project in this process have achieved funding to initiate the process in 14 municipalities. The RAeD project will now test the methodology with other commodities and in different institutional and socioeconomic conditions. Opportunities to interact with the CIAT commodity improvement projects are being sought.

Information, options, and recommendations for the design of efficient and effective organizational schemes for small-scale rural agro-enterprises and their support services
Access to information is key to appropriate decision-making, both for the selection of promising enterprise options for smallholder farmers and subsequently to improve the performance of an enterprise once it has been established. The major advances in Information and Communications Technologies (ICTs) over the past decade provides a major opportunity to put these technologies at the service of rural enterprises.

In partnership with the Information and Communication for Rural Communities Project (InforCom) and RAeD project has devised a novel, three-part approach for this purpose. The first part involves community telecenters, managed by strong local organizations. The second part entails local development of Web-based information systems, which combine important knowledge from farmers' experience with relevant information obtained from research and development organizations. In support of agroenterprise

development, for example, these systems can provide information on such topics as markets (current prices, annual price patterns, directories of buyers, quality requirements, etc.), technological options (processing, technologies, etc.), and availability of support services. In order for those systems to be locally relevant and useful, it is essential that they be developed in a participatory manner with community-based stakeholder groups, representing farmer associations and other local organizations. The establishment and training of such groups constitutes the third main component of the approach. By linking the Web-based information system with other communications channels, these groups can discover and share the knowledge their communities need to build and sustain competitive agroenterprises.

This approach has been developed over a two-year period in Cauca Department, Colombia in support of the activities of the Local Agroenterprise Committee, which is made of service providers and farmers organizations and promotes and supports agroenterprise development. The region possesses community telecenters that are being managed by local development and community based organizations. These telecenters, beyond providing a general communications service that is run as an enterprise, have a social objective of promoting local development. The research activities have concentrated on the development of an electronic information product, or web site, and the development of a local communications network. The development of the web page is participatory in nature with active involvement of the beneficiaries in its design and the development of content. Diagnostic studies identified two principal components on which to base the design of the web site: a) a price information service, and b) agroenterprise information resources. In the first instance, the content of the page is focusing on those products that have been prioritized by the Local Agroenterprise Committee, and include *panela*, blackberry and milk products. Complementary information on the local information network and how it operates, and the activities and results of the information project itself are also included. The local communications network itself centers around the consolidation of groups in the community that are trained to manage information and provide the link between information provide in electronic form and its subsequent diffusion, using other communication means.

The process of trying to establish a local information system has revealed a number of challenges that need to be faced in order for the promise of ICTs can be fully realized. Not least of these is the need for forming a range of partnerships or relationships that go beyond the purely local, where the project is being implemented, but includes organizations from regional and national levels whose business it is to supply and receive information. A further aspect relates to the need to develop levels of trust and confidence within communities that allow them to interact and communicate freely among themselves and with the communications group. Success in achieving rural populations that are fully integrated into the information society require an enabling environment that develops skills in areas such as team work, leadership, conflict management, and that provides basic physical infrastructure for bringing people together.

Institutional models and policy options for establishing and strengthening rural agro-enterprises and their support systems at the microregional level

The RAeD project has developed a 'territorial' approach that seeks to enhance the capacity of local institutions to facilitate enterprise development in a flexible, dynamic and coordinated fashion. This approach includes four components:

1.The identification and strengthening of a working group comprised of diverse local organizations with common goals and strategies for rural enterprise development;
2. The identification and evaluation of market opportunities available to the 'territory' (see Output 1);

3. Participatory production to market chain analysis, consensus building with diverse actors along the chain, and design of a shared strategy to increase chain competitiveness, and
4. The identification and promotion of appropriate and sustainable business development services and markets for these services for the 'territory'.

Following a period of approximately four years of research and validation work with partners in several countries, a field guide has been published on the third of these components: the design and development of strategies for improved market chain competitiveness. The essence of the field guide is to illustrate to development partners steps that can be undertaken to promote collective action to improve market chain effectiveness, and facilitate the conversion of market chains into 'value' chains. The method seeks to develop a common vision among actors for the long term, systematic strengthening of the value chain. An action plan may include activities, covering research and development aspects, in production, post-harvest handling and processing, marketing, business organization and support service provision. The plan is likely to include short-, medium- and long-term activities that blend local knowledge and resources with external ones to improve value chain competitiveness.

The guide is not meant to be used as a 'recipe' book, but rather to examine the principals on which a successful strategy should be based. Tools are presented for collecting essential information for decision-making and for prioritizing actions for the strengthening of the enterprise. The guide is already in use in Central America and E Africa (see Output 5) where it will be adapted to the needs and capacities of local partners.

Enhanced capacity to design and develop successful agro-enterprise projects, within CIAT and other institutions

The RAeD project now has activities and internationally recruited staff on all three continents: Latin America and the Caribbean, Africa and Asia. The opportunities for enhancing the capacity of our partners to design and develop successful agroenterprises, and entering into mutual learning processes with them, are now global. Three aspects of the RAeD projects work in this area stand out this year:

In Asia, the 'Small-scale agroenterprise development in the uplands of Lao PDR and Vietnam' (SADU) financed by SDC for four years got underway this year. The development of agreements with country governments, hiring and induction of international and local staff, and the selection and preliminary characterization of field sites are among the principle activities that have been undertaken. In April, the second regional three-week training workshop on 'Sustainable Agro-Enterprise Development in a Micro-regional Context' was undertaken with the Postharvest Technology Institute, Vietnam, the SEAMEO Regional Center for Graduate Study and Research in Agriculture (SEARCA), and the Users' Perspectives With Agricultural Research and Development (UPWARD). 24 participants from 4 countries participated in the three-week workshop. Among the participants there were several from partner institutions with which the SADU project will interact.

The concept of the "Learning Alliance" for establishing a novel relation with major development partners was initiated in 2002. A Learning Alliance is a model of mutual learning between research and development institutions, with a view to enhancing the rate of take up of innovative concepts, methods and technologies. During 2003, alliances were continued with CARE Nicaragua and CRS East Africa (nine countries). A new alliance was negotiated for Central America with CRS in El Salvador, Honduras, and Guatemala, CARE Honduras, the Universidad Nacional Agraria (UNA) Honduras and GTZ Honduras. In the Andean Region a learning alliance is in the process of being

established with CRS for Peru, Ecuador, Bolivia and including Haiti. Through these alliances, the project's findings are being tested, adapted and used by partner organizations to contribute to improved livelihoods for more than 100,000 poor rural families in Africa and Latin America. IDRC is supporting the analysis of the model through the project 'Diversified livelihoods through effective agro-enterprise interventions: creating a cumulative learning framework between CIAT, development NGOs and donors in Central America' which was approved this year.

The demand for technical expertise in the area of rural enterprise development is well illustrated by the fact that in 2003 the project in Central America and the Andean Region generated over US$30,000 by providing services through participating in project evaluations, undertaking consultancies on market chain analysis, project formulation and training. These resources are invested in research product development. The project has established a relationship with CATIE in Costa Rica for undertaking training on enterprise development. Two regional training courses on linking farmers to production chains have been undertaken in 2002 and 2003. In 2004 three further courses are scheduled. All of these courses are run on a full cost recovery basis.

Problems encountered and their solutions

Related to the identification and prioritization of research opportunities
Systematizing the information on opportunities and problems that are generated through formal needs assessments, conferences, training events, etc. remains a challenge. We have instigated an annual review of research opportunities and brainstorming on strategic research questions that can form the basis for the formulation project proposals. To date, this exercise has had limited impact on the type or number of proposals that have been written, primarily because of the intensive work plan that has resulted through the decentralization of the project which now operates on three continents. However, research partnerships are in the process of being established with the University of Guelph and the University of Florida in Gainesville for undertaking strategic studies based on the action research that we are undertaking in the field, especially in Africa.

Identification and prioritization of research opportunities is an area that requires further attention, and should be led by the Project Manager. It is evident that the incorporation of regional coordination responsibilities with the role of project manager has left limited time for exploiting the opportunities identified. An alternative way of solving this problem could be to integrate the identification of research opportunities at the level of the Rural Innovation Institute (RII).

Research on pro-poor policy related issues, including those related to obstacles for achieving smallholder-market linkages, is a demand being manifested in many fora. This is a topic that the RII has identified and one that should be pursued.

Related to the development of research products
Progress has been made this year to complete a number of important end and intermediate research products. There are however a number of other products whose completion has required a greater investment of resources that was originally anticipated.

The high level of restricted and special project funding oriented toward action research has limited research of a more strategic nature. We need to become more adept at budgeting into action research projects, specific resources dedicated to comparative

studies across sites and continents. Now that we have projects and partners, all operating under a similar 'territorial' enterprise development approach, in Latin America, Africa and Asia, this becomes an important task.

The Andean region has been successful in cost recovery service provision and the resources generated have been invested in research product development. Our participation in this type of service provision provides visibility for the project and, if the experiences are carefully analyzed, they can feed back important information to the research process. However, contracts of this nature are highly demanding and we are striving to achieve a balance that does not take us so far towards service provision that new research product development suffers.

The project is reaching the stage that it needs to look beyond the 'territorial approach to agroenterprise development'. Two years of research are still required to complete the set of 4 tools that represent the four components of the approach. The last of the 4 components of the territorial approach on Rural Business Development Services is one that would benefit from a wider integration of expertise within CIAT. In this sense, the RAeD project could usefully position itself within the 'Learning to Innovate' initiative that seeks to be the focus for a wider integration among CIAT competencies. At the present time, the decentralization of the Rural Agroenterprise Development Project, with regional coordination responsibilities shared among team members, means that it is proving difficult to provide as great an input into the Learning to compete initiative, as perhaps we should.

Related to the projection of project results

With the adoption of the Learning Alliance model we have a means for achieving wide scale impact. However, the transaction costs are high and there is a danger that investment in new research products suffers as a result. We are attempting to adhere to the principal of cost sharing and ultimately full cost recovery. In Latin America and Africa, demand is outstripping our capacity to respond. We are also seeking to reduce our input by incorporating into the projects the best of those partners or individuals with whom we have worked.

Related to project administration and financing

The benefits of project decentralization, in terms of demand identification and visibility, continue to manifest themselves, however the drawbacks, mentioned above have become more apparent. We need to creatively and proactively look for opportunities to achieve additional resources in order to meet present demand and provide a platform from which to respond to new opportunities. At present we are spread too thinly, and this limits our capacity to respond to these opportunities. Many of the opportunities are more action research or development oriented. Strategic research proposals require greater investment of time and appear at this time to be more difficult to come by. However, without paying attention to strategic issues are possibility of regeneration is limited.

Decentralization of the team has tested our ability to communicate opportunely and maintain cohesion. Naturally regional activities have taken precedence over joint activities of a more global nature. This bridging between continents requires an investment in time beyond what we originally considered necessary. A further obstacle for efficient management relates to timely and accessible budget information. The on-line access to the Project Manager software will prove useful in this respect.

Given this scenario and under the present project structure, it may be questionable trying to combine project management with the coordination of a region. However, should additional resources become available, which frees up time from on-the-ground activities of the project manager, the situation could turn itself around. Opportunities for generating resources in Africa look promising in the short-term. These issues have been brought to the surface and a topic of internal discussion as the project goes through the process of recruiting a new manager.

With the start-up of the SE Asia project, we are learning how to deal with a donor that has high expectations and a desire for quick results. We are fortunate to have been able to hire personnel of high caliber with a sound knowledge of the region. The project is, however, a challenging one that should expect and receive the active support from the team as a whole.

Plans for next year

Major areas of action will include:

- The project faces the major challenge of incorporating a new project manager. Provision has been made for an overlap between the out-going and in-coming project manager with the intention of achieving as smooth a transition as possible.

- Following-up on funding opportunities in Africa is a key priority in order to free up time of the project manager and better meet our obligations to the Enabling Rural Innovations team and our partners.

- 2004 will be a critical year for the learning alliance model as some of the first initiatives reach maturity. We will invest time in analyzing the results achieved and are well placed to do this with resources from IDRC in Central America and the possibility of a PhD student to look at the E Africa case.

- Research partnerships with the University of Guelph and the University of Florida in Gainesville will be established through PhD students and joint projects.

- The continuation of the development of agro-enterprise methodologies at the reference sites in Honduras and Colombia, with emphasis on options for the delivery of sustainable business support services. This project, financed by the New Zealand government, should provide the basis for developing further research proposals in this key and under researched area.

- The SE Asia SADU project will be consolidated. Opportunities for continuing our training alliance in SE Asia with SEARCA, UPWARD and PHTI will be pursued.

- We will seek to play an active role in further cross-center initiatives, in particular 'Learning to Innovate'.

Performance indicators

Technologies, methods and tools

Decision support guides/tools

- Design strategies for increasing the competitiveness of supply chains with small-scale producers. Field guide in Spanish.

- Identification and evaluation of opportunity identification for small rural producers. In: Instrumentos metodológicos para la toma de decisiones en el manejo de los recursos naturales. COSUDE; CIAT. Interactive cd – rom in Spanish.

- Alternative Trade Information System (ATIS). Web-based information system in Spanish.

- Basic business concepts and business planning instruments. Set of annoted PowerPoint presentations placed on the project's we page.

- Cassava postharvest management and processing information system. Web-based information system in Spanish.

Publications

- Refereed journals: Published: 2, Submitted: 4
- CIAT publications: 3
- Scientific meeting presentations: 10
- Training manuals: 2
- Working papers, other presentations and publications:

(See Appendix I for details)

Strengthening NARS

Training courses/workshops

- Learning alliance on rural agro-enterprise development. 2nd CRS – CIAT/Foodnet Workshop, 10-14 March, Nairobi, Kenya. 26 participants. 5 days.
- Community Agroenterprise Development within an Enabling Rural Innovation Framework. Market Facilitators Workshop. 24 – 28 March, Lushoto, Tanzania. 19 participants. 5 days.
- Learning alliance on rural agro-enterprise development. 3nd CRS – CIAT/Foodnet Workshop, 10-14 November, Nairobi, Kenya. 26 participants (planned). 5 days.
- Integrating Farmer participatory research (FPR) and participatory market research (PMR) for Enabling Rural Innovation, 31 March – 11 April, Salima, Malawi (with the Participatory Research Project). 22 participants. 12 days.
- Sustainable agro-enterprise development in a micro-regional context. CIAT, the SEAMEO Regional Center for Graduate Study and Research in Agriculture (SEARCA), and Users' Perspectives With Agricultural Research and Development (UPWARD) and the Postharvest Technology Institute Ho Chi Minh City (PHTI). 31 March - 18 April. 24 participants. 19 days

- Identification of marketing opportunities for small rural producers. CIP/CONDESAN-CIAT Workshop. 10 – 11 September. Cusco, Peru. 20 participants. 2 days.
- Linking small rural producers with value chains: Design strategies for increasing the competitiveness of small-scale producers. CATIE – CIAT International Workshop, 29 September – 3 October, Turrialba, Costa Rica. 21 participants. 12 days.
- Participatory research and scaling-up strategies for soil fertility management. TSBF-CIAT Training workshop for participants in the African Soil Fertility Network (AfNet). 29 September – 10 October. Arusha, Tanzania (with Enabling Rural Innovation team). 29 participants. 12 days.
- Identification of market opportunities for small farmers. CIAT Decision Support Tool Workshop. 17-18 February, Matagalpa, Nicaragua. 20 participants. 2 days.
- Identification of market opportunities for small farmers. CIAT Decision Support Tool Workshop. 24-25 February, Siguatepeque, Honduras. 20 participants. 2 days.
- Introduction to the Territorial Approach to Rural Business Development. First Workshop of the Learning Alliance with Fundación El Alcaraván, Colombia. 18-20 June, CIAT, 10 participants. 3 days.
- Basic Business Concepts for Rural Business Development . Second Workshop of the Learning Alliance with Fundación El Alcaraván, Colombia. 23-26 July, Arauca, Colombia, 10 participants. 4 days.
- Identification of market opportunities for small farmers. First Workshop of the Learning Alliance with Proyecto Emprender, Ecuador. 25-28 March, Baños de Ambato, Ecuador, 30 participants. 4 days.
- Development of Business Plan for rural agro-enterprises. Second Workshop of the Learning Alliance with Proyecto Emprender, Ecuador. 4-6 August, Latacunga, Ecuador, 30 participants. 3 days.
- Strengthening local rural business development services. Third Workshop of the Learning Alliance with Proyecto Emprender, Ecuador. October, Ecuador, 30 participants. 4 days.
- Bases for Rural Business Development in Colombia: The Territorial Approach to Rural Business Development and Basic Business Concepts. CIAT-Ministry of Agriculture Workshop. 28-29 October, Bogota, Colombia, 44 participants. 2 days.
- Methodologies for Identifying and Prioritizing Demands for Rural Innovation in Bolivia. CIAT and SIBTA Methodological Workshop. 8-10 October, Cochabamba, Bolivia. 3 days.

Individualized training

- None this year

PhD, MSc

- On-going:
  - PhD: Latin America 2
  - MSc: Africa 2

Workshops and meetings

- Project Inception Workshop, "Enabling Rural Innovation in E and S Africa", 24 – 27 February, Jinja Uganda.

- Second Conference Henry A. Wallace Inter-American Scientific Conference Series, 19-21 March 2003, CATIE, Turrialba, Costa Rica.
- International Working Meeting, "Improving food systems in Sub Saharan Africa: responding to a changing environment", 5 – 9 May. Yaounde, Cameroon.
- Third FOODNET Steering Committee Meeting, 21 – 23 July, Nairobi, Kenya.
- Biannual CIO-CIAT Meeting on Research Collaboration, 26 - 28 May, Montpellier, France.
- Southern and Eastern African Association for Farming Systems Research-Extension (SEAAFSRE) Ninth Regional Conference, "Moving beyond doing good research and extension to making a difference to the lives of resource-constrained farmers and the rural poor", 29 September – 1 October, Kampala, Uganda.
- RAeD Internal Mid-year Review Meeting, 4 – 6 June, Cali, Colombia.
- International Workshop, "A Global Post Harvest Systems Initiative for the 21 Century: Linking Farmers to Markets", 7 – 9 October, Rome, Italy.
- Small-scale Agroenterprise Development in the Uplands of Lao PDR and Vietnam. Induction workshop for project staff. 27 – 31 October, Hanoi, Vietnam.

Technical and business assistance

- Business skills for small-scale seed producers. 2 one-day workshops for secondary school teachers participating in the schools component of the Kampala Urban Agriculture Project. February.
- Action Alliances for strengthening the business and market orientation of two rural agro-enterprises (Cooversalles and Asociación La Montaña). Weekly one-day workshops and market visits for action training and coaching in the Valle Department, Colombia.
- Planning workshop with Serraniagua, environmental NGO operating in southwestern Colombia. An action plan for inserting rural business development into current environmental activities was designed.
- The Territorial Approach to Rural Business Development. Two-day workshop with ASOHOFRUCOL directors to support their agenda and action plan.
- Design and implementation of a Rapid Baseline Study for an IDB-funded production project, research requested by the NGO Corpotunia, executing agency of the project in the Cauca Department.
- Rapid study of four meat-chain segments in northern Ecuador, research requested by the Belgium Technical Cooperation of Ecuador (CTB).
- Support in formulating a 4 million Euro IAP to strengthen the meat chain in northern Ecuador, work requested by the Belgium Technical Cooperation of Ecuador (CTB).
- Rapid study to identify market opportunities for processed cassava products, research requested by the regional Colombian NGO "Programa de Desarrollo y Paz del Magdalena Medio" (PDPM).
- Leadership of the external review team for the SDC-funded and Swiss Contact-executed AGROPYME, focused in developing a viable scheme for rural business development in Honduras.

Resource mobilization 2003

PROPOSALS BY RAED, FUNDED

- Diversified livelihoods through effective agro-enterprise interventions: creating a cumulative learning framework between CIAT, development NGOs and donors in

Central America. US$ 439,519 for 4 years. Submitted and approved for funding by IDRC.
- Identifying market opportunities for Ugandan farmers in Kampala. US$ 14,141 for 6 months. To CIAT: US$ 14,141. Submitted and approved for financing by the National Agricultural Advisory Service (NAADS).
- Design and implementation of a Rapid Baseline Study for an IDB-funded production project, research requested by the NGO Corpotunía, executing agency of the project in the Cauca Department, Colombia. US$ 3,300
- Rapid study of four meat-chain segments in northern Ecuador, research requested by the Belgium Technical Cooperation of Ecuador (CTB). US$15,000
- Support in formulating a 4 million Euro IAP to strengthen the meat chain in northern Ecuador, work requested by the Belgium Technical Cooperation of Ecuador (CTB). US$ 6,500
- Rapid study to identify market opportunities for processed cassava products, research requested by the regional Colombian NGO "Programa de Desarrollo y Paz del Magdalena Medio" (PDPM). US$ 4,000
- Leadership of the external review team for the SDC-funded and Swiss Contact-executed AGROPYME, focused in developing a viable scheme for rural business development in Honduras. US$ 6,000
- Learning Alliances with Fundación El Alcaravan, Colombia. US$10,000
- Institutional strengthening of the MARENASS Project in southern Peru, US$22,500
- Learning Alliances with Proyecto Emprender, Ecuador. US$8,500

Proposals and concept notes submitted by RAeD

- None this year

Proposals submitted by others, in which the RAeD is participating

- Pan African Bean Research Alliance. US$ 4.50 million for 5 years. Presented by the CIAT's African Regional Program to CIDA, Canada and approved in May.
- Improved livelihoods for smallholder bean farmers in East and Southern Africa: Seeking competitiveness and added value through strengthened farmer-market linkages. US$ 2.88 million for 3 years. Presented in November by the ERI Africa Team and Bean Improvement Project to the Rockefeller Foundation.
- Technical and Business support for rural agro-enterprise projects in Colombia. US$1 million for one year. Presented in November to ARD-CAPP of Colombia.

Impact monitored

- Ongoing PhD research entitled "Rural Innovation Processes and their Contribution to Sustainable Rural Livelihoods: Understanding the Interface between Research and Development". This research is investigating the impact in two reference sites, Cauca, Colombia and Yorito, Honduras.

Appendix I: Papers, publications and reports of the Rural Agro-enterprise Development Project 2003

Papers published in peer-reviewed journals

Boucher, F. 2003. El sistema agroalimentario localizado de los productos lácteos de Cajamarca: Una nueva perspectiva para la agroindustria rural. Article présenté et à la

revue d'économie de l' Université Autonome de Mexico (Mexique), il a été accepté et sera publié en 2003.

Requier-Desjardins, D.; Boucher, F.; Cerdan, C. 2003. Globalisation, competitive advantages and the evolution of production systems: Rural food processing and localized agri-food systems in Latin-American countries. Entrepreneurship and Regional Development Review, London, UK.

Papers submitted for peer review publication

Best, R.; Bokanga, M. Cassava roots and leaves for human, animal and industrial purposes. Submitted for publication in Plant Molecular Biology.

Johnson, N.; Suarez, R.; Lundy, M. The importance of social capital in Colombian rural agro-enterprises, (in review at World Development. Previous version published as CGIAR Program on Collective Action and Property Rights (CAPRi). Working Paper 26, Washington, DC: International Food Policy Research Institute (IFPRI).

Peters, D.; Do, D.N. Agro-processing waste assessment and management in peri-urban Hanoi. Journal of Sustainable Agriculture. Florida, USA. (accepted for publication in 2004).

Peters, D.; Nguyen, T.T.; Pham, N.T.; Mai, T.H.; Nguyen, T.Y.; Keith, F. Rural income generation through improving crop-based pig production systems in Vietnam: Diagnostic, interventions, and dissemination. Agriculture and Human Values. (accepted for publication in 2004).

CIAT publications

Gottret, M.V.; Ospina, B. 2004. Twenty years of cassava innovation in Colombia: Upscaling under different political, economic, and social environments. *In*: Pachico, D. (ed.). Scaling up and out: Achieving widespread impact through agricultural research. Centro Internacional de Agricultura Tropical (CIAT), Cali, Colombia. (In Press).

Lundy, M. 2004. Learning alliances with development partners: A framework for outscaling research results. *In*: Pachico, D. (ed.). Scaling up and out: Achieving widespread impact through agricultural research. Centro Internacional de Agricultura Tropical (CIAT), Cali, Colombia. (In Press).

Ostertag, C. F. 2003. Identificación y evaluación de oportunidades de mercado para peqeños productores rurales. In: Instrumentos metodológicos para la toma de decisiones en el manejo de los recursos naturales. Interactive cd – rom. COSUDE; CIAT.

Theses

Córdoba D., M. 2003. El papel de la intervención externa en los procesos de innovación para el desarrollo de comunidades marginales de ladera: El caso de la sub-cuenca del Río Cabuyal en Colombia. Facultad de Ciencias Sociales y Económicas, Departamento de Sociología, Universidad del Valle, Cali, Colombia.

Sandoval N., V. 2003. La agroindustria rural de producción de almidón agrio de yuca en el departamento del Cauca- Colombia. Un ejemplo de sistema agroalimentario

localizado. Facultad de Ingeniería y Administración, Departamento de Ingeniería Agroindustrial, Universidad Nacional de Colombia, Palmira.

Papers presented at conferences, seminars, and symposiums

Boucher, F.; Carimentrand, A.; Requier-Desjardins, D. 2003. Agro-industrie rurale et lutte contre la pauvreté: Les systèmes agroalimentaires localisés contribuent-ils au renforcement des «capabilités» ?. *In*: 3ème Colloque sur l'Approche des Capacités, Université de Pavie, 7-9 septembre 2003.

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PROJECT SN-3

Participatory Research Approaches for Reducing Poverty and Natural Resource Pegradation

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.

Narrative Summary	Measurable Indicators	Means of Verification	Important Assumptions
Goal: Develop and apply knowledge, tools, technologies, skills and organizational principles that contribute to improving the IAM[1] and the levels of well being	• 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	• 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	• 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
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	• 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	• Impact study • Institutional reports • Publications • Proceedings	• 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
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	• No. of methodological approaches developed or adapted and of analytical tools developed for the IAM	• Project reports • Publications • Proposals presented	• Good coordination and integration among the collaborators • Minimal conflicts in meeting demands • Full participation of stakeholder groups

[1] IAM = Integrated Agroecosystem Management

			• 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	• Submit and approve Project log frame • No. of strategies and organizational procedures for PR adopted and adapted	• Project reports • Publications	

Outcomes	Measurable Indicators	Means of Verification	Important Assumptions
3. Professionals and others trained as facilitators of FPR	• No. of professionals, technicians and farmer-researchers trained in the PR methodology	• Project reports	
4. Material and information on participatory methodological approaches, analytical tools, autochthonous knowledge and organizational principles, developed	• No. of visits to the Web sites • No. of requests for materials and information • No. of materials published	• Project reports • Publications • Case studies written	
5. Impact of the SN-3 Project activities, documented	• 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	• Case studies, PME reports and databases, impact studies	
6. Internal projects and other institutions supported and strengthened in doing PR	• *No. of internal projects supported* • No. of external organizations strengthened • No. of participatory projects implemented by internal projects and other institutions	• Project reports • Publications of internal projects and other institutions	
7. Capacity of the SN-3 Project team, strengthened	• No. of team meetings • No. of seminars and workshops organized and/or received by the team or its members	• Project reports	

2. Researchers and support staff: position and time fraction

Carlos Arturo Quirós	Acting Project Manager	100%
Boru Dougthwite	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 Assitant	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, Indigenas 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 ce 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:
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 soybeam 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.

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: ASOCIALAGO[2], ASOCIAL Yorito[3]" ASOCIAGUARE[4], ASOCIAL Vallecillos[5]" and CIADRO[6] 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.

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 it's partner institutions: *Fundación para la Investagión Participativa con agricultures 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)[7], 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

[2] The Association of CIALs of the Yojoa Lake Region
[3] The Association of CIALs of Yorito
[4] The Association of CIALs of the Yeguare Region
[5] The Association of CIALs of the Vallecillos Region
[6] The Association of CIAL of the Jesús de Otoro
[7] 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.

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. 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 conitinue 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

W.K Kellogg Foundation Work Report

Objective: The W. K. Kellogg Foundation (WKKF) has identified a series of expected outcomes associated with youth development and a need to focus on building blocks of regional development. Development building blocks involve partnerships or alliances, institutions and their leaders. WKKF plans to work with clusters of WKKF-funded projects in a micro-region and groupings of clusters, called *meso-clusters* for the purpose of this work. In this context, a purpose can be defined for the evaluation and the baseline in the following terms:

- To document impacts on youth socioeconomic and physical well-being and development by projects, clusters and meso-clusters at a scale large enough to influence national and local policy and organizations concerned with youth
- To enhance the capacity of clusters and meso-clusters to function as hubs for learning and change
- To assist grant making to select and cluster the most promising ongoing grants (about 30) for subsequent support.

The Rural Innovation Institute at CIAT is cooperating with the WKKF to carry out this work.

Outputs:

1. Program evaluation scientists and institutions scan performed by the Rural Innovation Institute generating a searchable database containing more than 70 active evaluators
2. Baseline evaluation design study. This study was used to structure the evaluation process in such a way that permitted the active participation of the stakeholders as requested by the WKKF.
3. Baseline evaluation workshop. During this workshop, facilitated by the Rural Innovation Institute several key stakeholders met to review the process and to
4. Expertise used as a tool to facilitate the baseline evaluation. This web tool was especially designed to facilitate communications and information exchange between all stakeholders.
5. Information exchange
6. CIALs and the baseline evaluation study
7. Evaluation process

Milestones:

2004 Completion of phase 1 of this work, which involves the evaluation of 6 Participative Research Centers (CIP in Spanish)
Workshop to organize the report of the results of the evaluation of the 6 CIPs
Delivery of the consolidated report of phase 1 of the evaluation (Base line report)
Analysis using Expertise of the databases generated by work of WKKF associates in Sucre, Bolivia
2005 Continued used of the Expertise platform to integrate, evaluate and communicate the WKKF's youth development work in Central America, Andean region and NE Brazil.

Users: The primary users of this project's outputs will be the WKKF as such and its collaborators, the beneficiaries of this project, especially youth leaders associated with local organizations and its members and the development professionals associated with the project.

CIAT project linkages: This collaboration between the Rural Innovation Institute and the WKKF will help the Foundation to better assess the impact of this initiative and to strengthen ties with CIAT and its projects, especially those closely associated with the Institute.

Project SN-4

Information and Communications for Rural Communities (InforCom)

Information and Communications for Rural Communities

Objective: To strengthen rural communities' capacity for innovation by better enabling them to obtain, generate, and share information and knowledge, with the aid of modern information and communications technologies (ICTs).

Outputs:

1. Computer-based distance-education (e-learning) programs, multimedia products on CD-ROM, and printed materials that convey science-based knowledge and methods in forms that are useful for development professionals
2. Proven approaches and tools for finding and obtaining agricultural information, especially via the Web
3. Community telecenter models for providing connectivity and building local capacity to use ICTs for rural innovation
4. Approaches for creating a local culture of knowledge discovery and sharing, with the aid of new ICTs linked to other communications media
5. Approaches for stimulating the development of local content that is relevant to rural innovation

Milestones:

2004 Efforts under way in Colombia, at least one other Andean country, and in two Central American countries to incorporate the use of ICTs into rural development, with particular emphasis on support for small agroenterprises. Four e-learning courses completed and at least one multimedia training tool under development. New collaborative arrangements established in Colombia for improving access to agricultural information.

2005 Regional projects on ICTs for development under way in Latin America and East Africa. Local information systems and communications groups created and operating in both those regions. Further e-learning courses and multimedia products developed.

Users: The primary users of the project's outputs will be development professionals and community leaders associated with local organizations (particularly farmer groups, NGOs, and rural schools). These persons will acquire new tools and approaches that better enable them to help rural people create useful knowledge and improve services needed for solving problems and acting on new opportunities in agriculture.

Collaborators: SN-4 is building alliances with various international organizations that support the use of ICTs for development, including Canada's Institute for Connectivity in the Americas (ICA), Fundación Chasquinet (a Latin American initiative based in Ecuador), and the global Association for Progressive Communication (APC). In addition to profiting from these organizations' experience and expertise, CIAT can tap into their networks of local partners in developing countries.

CGIAR system linkages: Training (30%); Information (60%); Organization and Management (5%); Networks (5%).

CIAT project linkages: SN-4 will provide all Center projects with new means of increasing research impact and obtaining feedback on research products from rural people. The project should be particularly useful to CIAT's new Rural Innovation Institute (RII) as a means of strengthening participatory approaches to agroenterprise development, local adaptive research, community-based watershed management and rural planning.

Narrative summary	**Measurable Indicators**	**Means of verification**	**Important assumptions**
Goal To help the rural poor build sustainable livelihoods by improving the flow of genuinely relevant information among rural communities and research and development (R&D) organizations.	• Increased occurrence of technical and social innovation in target rural communities. • Increased opportunities for off-farm activities that generate income and employment.	• Impact evaluation within a sustainable livelihoods framework, based on household surveys, interviews with key informants, and group techniques in target rural communities.	
Purpose To strengthen rural communities' capacity for innovation by better enabling them to obtain, generate, and share information and knowledge, with the aid of modern information and communications technologies (ICTs).	• New options for enhancing livelihoods identified by individuals and organizations in rural communities through improved information access. • Stronger planning and problem-solving capacities in rural communities, based on improved electronic communications both among communities and with R&D organizations. • A greater capacity in local organizations to satisfy information demand in rural communities.	• Case studies on the use of information obtained with the aid of ICTs in target rural communities. • Impact evaluation of Web-based information applications developed by local organizations.	• Rural communities can obtain affordable, reliable access to the Internet. • National and local organizations commit themselves to providing rural communities with relevant information services. • Rural communities prove receptive to a new information culture based on the use of modern ICTs. • Systems for continuous monitoring and evaluation adopted by organizations hosting rural community telecenters.
Outputs 1. Computer-based distance-education (e-learning) programs, multimedia products on CD-ROM, and printed materials that convey science-based knowledge and methods in forms that are useful for development professionals. 2. Proven approaches and tools	• E-learning programs under way and multimedia products available to partners. • Diverse clients (from researchers to telecenter operators) more effectively obtaining information and using it in their work. • Financially and socially sustainable telecenters established by local	• On-line evaluation of e-learning programs. • Training tools available in print form and on CD-ROM. • Locally developed information systems available on the World Wide Web. • Consultancy reports and project information on the Web and in print form.	• Public and private telecommunications agencies support initiatives to create affordable, reliable Internet access in remote rural areas. • National and local organizations can generate resources through information services that enable them to sustain these services.

for finding and obtaining agricultural information, especially via the Web. 3. Community telecenter models for providing connectivity and building a local capacity to use ICTs for rural innovation. 4. Approaches for creating a local culture of knowledge discovery and sharing, with the aid of new ICTs linked to other communications media. 5. Approaches for stimulating the development of local content that is relevant to rural innovation.	established by local organizations, with the aid of training tools developed by CIAT. • Local communications groups formed in target communities and providing effective information services to rural communities. • Dynamic, Web-based information systems (integrated with conventional communications media) developed by local organizations that have received training and other support from the Center.	• Conference papers, journal articles, and technical reports on the performance and impact of approaches developed by the project.	• National and local organizations gain credibility in rural communities as reliable providers of useful Web-based information services.

Project Staff

Nathan Russell (50%), Project Manager and Head, Communications Unit (CU)
Edith Hesse (30%), Head, Information and Documentation Unit (IDU)
Dora Patricia Arévalo, Research Assistant
Rebeca Bolaños (30%), Secretary
David Brand, Economist
Eduardo Figueroa (50%), Training Specialist
Jorge Gallego (25%), Systems Engineer
Luz Marina Gómez, Research Assistant
Odilia Mayorga, Research Assistant
Mariano Mejía (30%), Library Public Service Coordinator
Erika Mosquera, Communications Student
Liliana Mosquera, Economist
Olga Patricia Paz, Research Assistant (left during the year)
Silvia Andrea Pérez, Communications Assistant
Martha Cecilia Sarria, Community Facilitator
Simone Staiger (25%), Web Publishing Coordinator
Diana Paola Valero (25%), Graphic Designer

Note: Staff for whom no percentage is indicated worked full-time for InforCom.

Project Partners

- Asociación de Cabildos Indígenas del Norte del Cauca (ACIN), Santander de Quilichao, Cauca, Colombia
- Association for Progressive Communication (APC), through Colnodo (NGO), Bogotá, Colombia
- Consorcio Interinstitucional para una Agricultura Sostenible en Laderas (CIPASLA), Caldono, Cauca, Colombia
- Corporación Colombiana de Investigación Agropecuaria (CORPOICA)
- Corporación para el Desarrollo de Tunía (Corpotunía), Piendamó, Cauca, Colombia
- Corporación Universitaria Autónoma de Occidente (CUAO), Cali, Colombia
- Fundación Chasquinet, Quito, Ecuador
- International Plant Genetic Resources Institute (IPGRI), Office for the Americas, Colombia
- Red de Instituciones Vinculadas a la Capacitación en Economía y Políticas Agrícolas en América Latina y el Caribe (REDCAPA), Brazil
- Universidad Nacional, Colombia

Note: Within CIAT, InforCom collaborated actively with the Rural Agroenterprise Development and Impact Assessment Projects in research on telecenters, communications groups, and local information systems. Work on e-learning was done in collaboration with the Genetic Resources, Rural Agroenterprise, and Land Use Projects.

Financial Resources

Budget 2003

Source	Amount (US$)	Proportion (%)
Unrestricted Core	151,958	76
Restricted Core	0	0
Carry over from 2002	11,730	6
Subtotal	**163,688**	**82**
Special Projects	36,593	18
Total Project	**200,281**	**100**

Research Highlights

In its first full year of operations, the InforCom Project defined a cogent strategy for developing international public goods aimed at strengthening the capacity of rural communities and R&D organizations to obtain, generate, and share information, with the aid of new information and communications technologies (ICTs). The strategy consists of the five central components listed below, which encompass a broad continuum of information and communications functions, from international and national organizations to rural communities:

1. *From research results to development resources*—**e-learning programs and multimedia training tools**
2. *Better access to global information and knowledge*—**proven approaches and tools for finding and obtaining materials on the Web**
3. *Local use of ICTs for rural innovation*—**models for developing community telecenters to provide connectivity and build local capacity in ICT use**
4. *Local communications groups*—**a community-based approach for creating a local culture of information use**
5. *Local information systems*—**an approach for stimulating the development of local content relevant to rural innovation**

Building on previous experience, InforCom made significant progress, as spelled out in the highlights below, in pursuing all five components of its strategy. For more detailed information, see the full project annual report.

E-learning

Early in the year, the project embarked on a new venture in distance education. We chose a computer-mediated approach, or e-learning, for this purpose because of its distinct advantages over other options. E-learning lends itself more readily than videoconferencing, for example, to life-long learning for busy professionals, who may lack the time or money to participate in courses involving specific time commitments and travel to remote locations.

With e-learning students are accompanied by experienced tutors, who facilitate the process. The experience is further enriched by discussions among students through a virtual campus, which is accessible to students, tutors, and **experts invited to cover**

specific topics in the course. Students may access lessons and discussions in the virtual campus from Internet cafés, community telecenters, universities, or home computers, and they can download study materials and discussions.

To speed the incorporation of e-learning into CIAT's work, we chose REDCAPA as our partner. Headquartered in Brazil, this NGO has 8 years of experience in computer-mediated distance education. The head of the IDU and supervisor of library public services first established a representative working group of CIAT staff and then organized a 10-day e-learning consultancy with REDCAPA's director. This included a 3-day workshop, which was attended by 40 CIAT staff. The consultant also conducted interviews with 40 staff, which resulted in a list of 37 possible topics for e-learning courses.

Based on the outcomes of this consultancy, the working group recommended that we concentrate on just a few courses initially, particularly on one—Ex-situ Conservation of Plant Genetic Resources and Management of Germplasm Banks—that had already been organized several times, in conventional fashion, by CIAT and IPRGI at CIAT headquarters. We decided to go about developing the course as a joint venture with Colombia's Universidad Nacional, IPGRI, and REDCAPA. Preparations for this course are well under way, and individuals from each institution are participating enthusiastically.

Multimedia training tools

The project completed its first multimedia training tool this year. Based on the experience of a recently completed project (InforCauca), the tool—called *Telecentros Comunitarios: Una Estrategia para Promover el Uso de las Nuevas Tecnologías de Información y Comunicación (TIC) para el Desarrollo Sostenible en Zonas Marginales*—offers recommendations and advice on telecenter development. It also provides details about the telecenters and organizations that InforCauca supported, with funding from the International Development Research Centre (IDRC) and Rockefeller Foundation. *Telecentros Comunitarios* presents this material in an engaging and interactive manner through a combination of brief, interestingly written Spanish-language texts, animation, photos, and other elements.

The product was launched at Colombia's Second National Telecenter Workshop, which CIAT organized with two local partners and hosted at Center headquarters in early October 2003. *Telecentros Comunitarios* will be distributed to workshop participants, and it will be publicized in Colombia through Colnodo (an NGO partner that promotes the use of ICTs for development) and elsewhere in Latin America through the Fundación Chasquinet, which coordinates the regional telecenter network Somos@Telecentros. Local partners in Colombia plan to use the tool for promoting telecenter development through meetings with municipal government officials and NGOs.

Information access

Over the last couple of years or so, the CIAT Web site has proved effective for broadening access to information about our research and its results and products. Statistics on use of the Web site during 2003 show a steady increase in the total number of visits to the site per month, which reached 133,000 in September, up from just over 80,000 in January.

Even so, filling Web sites with on-line scientific information does not by itself guarantee that users will be able to find the material they want and make good use of it. Key scientific information resources must be promoted among specific user groups and training provided in the use of these tools. To help meet those needs, InforCom offered a

series of workshops in 2003, which contributed importantly to the capacity of close partners in Colombia and heightened their awareness of information resources available through CIAT.

The project also supported initiatives, such as the CGIAR's InfoFinder Project, involving the use of metadata, with multilingual keywords, to facilitate access to information across language barriers. In addition, we helped conceive and implement a project in collaboration with the UN Food and Agriculture Organization (FAO), the World Health Organization (WHO), Cornell University in the USA, and the Rockefeller Foundation, aimed at making scientific journals readily available to the world's poorest nations. In connection with this work, the World Bank commissioned CIAT to carry out a consultancy in Ethiopia, Kenya, and Uganda to assess the capability of libraries to access on-line scientific information resources.

Community telecenters

When the InforCom Project was created last year as part of CIAT's Rural Innovation Institute (RII), previous work on community telecenters was incorporated into this new communications and information endeavor. As InforCauca came to an end (June 2003), we placed particular emphasis on evaluating the impact of the three telecenters supported by the project and on implementing a strategy to achieve telecenter sustainability.

That strategy depends on three key elements: (1) income for services, (2) support from host organizations, and (3) funds generated through the development of local projects involving ICT use. Four months after the close of InforCauca and the end of donor support, all three telecenters are operating and show reasonably good signs of achieving financial sustainability. Income for services, however, covers no more than about half the total costs of operating the telecenter (in some cases less). Interestingly, the host organizations have proved willing to pick up the rest of the costs. And some have been remarkably successful in obtaining funds for their own projects involving the telecenter operators and services.

These outcomes are closely related to some of the main conclusions of the impact evaluation. At the outset of the project, we expected impact to come chiefly from the decisions and actions of individual telecenter users. Contrary to our expectations, the most notable impacts can be seen within the organizations hosting the telecenters. One of them, for example, ACIN, has used the telecenter to develop and manage externally funded projects more efficiently, to improve information flows between its headquarters and remote indigenous reserves, to strengthen its ties with other organizations within and beyond Colombia, and to bring attention to gross human rights abuses against indigenous leaders and communities, among other purposes. In effect, the telecenter has served as a kind of communications unit for ACIN, and this helps explain why the latter is now willing, in effect, to subsidize telecenter operations.

Use of the telecenter by the surrounding communities, in contrast, is still rather limited. The telecenter at Tunía, for example, which is hosted by a rural development NGO (Corpotunía), has been used by only 25% of the local population. Users tend to be younger and better educated than nonusers. And they frequent the telecenter mainly for computer training, to obtain general information (related to school assignments, for example), or to communicate with friends and relatives. Cases of individuals obtaining technical or economic information for use in development-related decisions are still relatively scarce.

Local communications groups

To find means of enhancing the development impact of telecenter services through increased use in the community of information directly related to agriculture, the InforCom Project embarked last year on new endeavors that complement our support for the telecenters. One involves the formation of communications groups (each consisting of 8 to 10 people, mainly members of farm households) within or in association with community-based organizations.

CIAT experience has shown that farmer groups can learn to carry out valid research and develop successful agroenterprises, thus promoting an experimental and entrepreneurial culture in rural communities. Thus, it should also be possible for groups of farmer-communicators to learn to obtain and share useful information, based on community needs, thus fomenting a *local culture of knowledge* discovery. If successful, these groups could provide a useful support service for local research and agroenterprise development.

To explore that possibility, InforCom has pursued two closely related lines of research over the last year. First, under a 1-year project developed by Corpotunia with funds from the Instituto Colombiano para el Desarrollo de la Ciencia y la Tecnología (Colciencias), we are supporting efforts to develop *grupos gestores de comunicación* within five community-based organizations (e.g., an association of organic coffee producers) operating in central Cauca.

The idea is to determine whether and under what conditions these groups can be trained to build and share—through information acquisition and communication—the knowledge their organizations need to solve specific problems or seize particular opportunities. Toward this end the groups have been receiving training since early 2003 on the following topics: introduction to communications, organizational strengthening, project planning and development, basic computer programs, and the use of diverse communications media.

In related work, supported initially by IDRC and Rockefeller and now with InforCom core funds, we are helping form three other groups of farmer-communicators in three municipalities of northern Cauca. Group members are connected with various *panela* (brown sugar) producer associations scattered across the region. The aim is to establish whether and how these groups can acquire the capacity to provide an effective information support service for the *panela* industry (as a pilot case) and subsequently for small agroenterprises dealing with the region's other main value-added products. For this purpose the groups received intensive training this year in community organization, teamwork, use of the Internet, Web site development, and the development and implementation of communications work plans.

Local information systems

Just as groups of farmer-researchers share an experimental plot, farmer-communicators need a joint information product to provide a focal point for their learning process. A central assumption of our work with the communications groups in Cauca is that a Web-based information system can serve that and related purposes particularly well. Thus, in 2003 we worked closely with the three communications groups in northern Cauca to develop an on-line Information System for Rural Agroenterprise Development (or SIDER, its acronym in Spanish).

Why an on-line system, given that few producers and processors have access to the Internet and are inclined or able to use it? One compelling reason is that an on-line system can easily be updated, as the communications groups glean new information from both local and distant sources. Another is that, as we have seen in the development of CIAT's own Web site, a relatively complex Web-based system lends itself

to decentralized development, so it is a good vehicle for involving group members directly in the process.

To overcome the problem of limited Internet access, the communications groups are being trained to analyze and use a wide range of other more conventional or traditional media, such as community radio, simple printed items, community assemblies, and so forth. Through these media group members will be able to channel information available in the on-line system to a wide audience in their communities.

What kinds of information will aspiring entrepreneurs obtain through this process? The SIDER consists of five components: (1) a price information service, (2) general information resources on agroenterprise development, (3) detailed information about the region's main value-added products, (4) a section including other information about the region, developed by the communications groups, and (5) an explanation of the SIDER process. Gathering and organizing all this information has proved to be slow but is now well advanced. Part of the difficulty is that many of the actors (group members and local organizations) have had to learn new skills and acquire new habits of documentation.

Problems Encountered

The lack of full-time project leadership continues to handicap InforCom somewhat. Ideally, at least one senior staff member should be dedicated exclusively to project development and fund-raising. But instead, the heads of the CU and IDU must maintain a balance between those tasks and their continuing responsibilities for CIAT's communications and information services.

Despite this handicap InforCom made good progress during 2003 in laying the groundwork for new projects in Central America and East Africa. And as described under "Research Highlights" above, our activities in Colombia yielded worthwhile results. These serve as a source of ideas for new projects and give CIAT credibility as a potential international player in seeking effective ICT applications for rural innovation.

Plans for 2004

- Four e-learning courses will be carried out, covering the following topics: ex-situ conservation of plant genetic resources and gene bank management, three-dimensional participatory mapping, production chains as tools for linking smallholders to markets, and entrepreneurial orientation and market fundamentals.

- Having developed its first multimedia training tool in 2003, InforCom will promote the use of this tool in Latin America, identify suitable topics for further products of this type, and proceed with the development of one or more promising candidates in 2004.

- The project will establish new collaborative arrangements with Colombia's Universidad Nacional, CORPOICA, and other organizations aimed at strengthening the national agricultural information network. A project proposal for this purpose will be developed for consideration by a new World Bank-funded project on rural diversification.

- InforCom will work with other CIAT staff to develop an ICT/knowledge management project for the CGIAR.

- Based on the outcomes of the InforCauca Project, InforCom will consolidate and extend its work with community telecenters and related initiatives in Colombia by expanding its alliance with local partners. Negotiations are already under way, for example, with the Universidad del Cauca.

- As described below under "Resource Mobilization," InforCom will seek to establish "learning alliances" with organizations in selected countries of Central America, the Andean Zone, and East Africa that are exploring the use of ICTs in support of agroenterprise development and related aspects of rural innovation. Efforts in 2004 will follow up on contacts and consultations made this year with CIAT staff and potential partners in those regions. The main purpose of our learning alliances will be to combine CIAT's experience and results with those of partner organizations, with a view to identifying good practices that can be adapted to diverse circumstances.

Project Performance Indicators

Rural development approaches
InforCom completed development of a generic approach to the establishment of financially and socially sustainable community telecenters, which are hosted by local organizations and provide access to ICTs as well as training in their use.

The project also embarked on the development of two closely related approaches—one involving community-based communications groups and the other Web-based local information systems—designed to enhance the direct impact of the telecenters on specific groups of ICT users in rural communities.

In addition, InforCom made a start toward designing a suitable approach whereby CIAT can enrich training activities through e-learning programs developed in collaboration with national and international partners.

Decision-support tools
InforCom staff developed a multimedia training guide this year—called *Telecentros Comunitarios: Una Estrategia para Promover el Uso de las Nuevas Tecnologías de Información y Comunicación (TIC) para el Desarrollo Sostenible en Zonas Marginales*—which is available on CD-ROM and offers recommendations and advice on telecenter development.

Publications and presentations
- CIAT (Centro Internacional de Agricultura Tropical). 2003. Telecentros comunitarios: Una estrategia para promover el uso de las nuevas tecnologías de información y comunicación (TIC) para el desarrollo sostenible en zonas marginales [CD-ROM]. Cali, Colombia. 1 CD.
- Hesse, E. 2003. Educación a distancia mediada por computadora. Presented at Seminario introductorio para los tutores del Curso: Conservación Ex-Situ de Recursos Fitogenéticos y Manejo de Bancos de Germoplasma. Centro Internacional de Agricultura Tropical (CIAT), Cali, Colombia, 17 de octubre de 2003.
- Hesse, E. 2003. Promoviendo los servicios de información agropecuaria y rural en las Américas: El papel estratégico de las bibliotecas. Presented at II Taller Estratégico de Coordinadores del SIDALC, San José, Costa Rica, marzo 20 y 21 de 2003.
- Hesse, E. 2003. Rules and tools behind the scene: The role of libraries in knowledge sharing. *In*: Pachico, D. (ed.). Scaling up and out: Achieving widespread impact

through agricultural research. Centro Internacional de Agricultura Tropical (CIAT), Cali, Colombia. (In press)

- Hesse, E. 2003. Scientific information access: Evolving roles of libraries. Presented at 11 East African institutions in the context of a consultancy commissioned by the World Bank in June 2003.
- Hesse, E. 2003. Scientific publishing and copyright: The role of researchers and libraries. Centro Internacional de Agricultura Tropical (CIAT), Cali, Colombia. (CIAT Seminar Series, February 2003)
- Hesse, E. 2003. Update on TEEAL: The essential electronic agricultural library. Presented at CGIAR Information Managers' 3rd Meeting, The Hague, September 15-18, 2003.
- Hesse, E.; Mejía Marmolejo, M. 2003. Bibliotecas virtuales y derecho de autor: Experiencias recientes del CIAT. Paper presented at XIII Reunión Interamericana de Bibliotecarios, Documentalistas y Especialistas en Información Agrícola, Ciudad La Antigua, Guatemala, 22-26 de septiembre de 2003. (To be published in Revista AIBDA)
- Holland, D.; Ashby, J.; Mejía Marmolejo, M. 2003. Growing social research in CIAT, 1968-2002. (To be published by CABI)
- Russell, N. 2003. InforCauca: A pilot project on community telecenters. Centro Internacional de Agricultura Tropical (CIAT), Cali, Colombia. (CIAT Seminar Series, September 2003)
- Russell, N. 2003. Is there an "e" in scaling up? Lessons from a community telecenter in southwestern Colombia. *In*: Pachico, D. (ed.). Scaling up and out: Achieving widespread impact through agricultural research. Centro Internacional de Agricultura Tropical (CIAT), Cali, Colombia. (In press)

In addition, InforCom staff supported the development by a local partner (CUAO) of an approximately 20-minute documentary video dealing with the educational potential of community telecenters. The video will be presented in November at the Segundo Festival Educativo y Cultural in Madrid, Spain.

Project staff also made three formal presentations of InforCom at various symposia in Colombia and four informal presentations to potential local partners or supporters in Colombia, including the country's first lady, Doña Lina de Uribe.

Training courses

- Three workshops on accessing electronic sources of agricultural information at Colombia's Universidad Nacional-Palmira, CUAO, and CORPOICA.
- Two training workshops for telecenter operators and other staff of local partner organizations in Colombia, one on basic graphic design concepts and another on agricultural information services and resources relevant to rural communities.
- A workshop on how to use controlled vocabulary for better access to Web-based resources for information managers in CIAT projects.
- Several training workshops for members of community-based communications groups on the following topics: introduction to communications, group organization, organizational communications, formation of social networks, project planning and design, basic computer programs, use of various communications media (e.g., radio, video, and printed products), Web site development, and design and implementation of communications strategies.

Workshops

- Organized and hosted Colombia's Second National Community Telecenters Workshop at CIAT headquarters (80 participants).

- Participated in the Second Regional Telecenter Workshop, organized by the Fundación Chasquinet at Quito, Ecuador.
- With REDCAPA organized a workshop on computer-mediated distance learning for CIAT staff and selected partners.
- Organized the participation of Colombian telecenter operators in the following events:
  - Workshop on Support Networks for Indigenous Peoples of the Americas in the framework of the II Annual National Forum on Connectivity for Canadians at Ottawa, Canada.
  - VI Taller de Redes Internet para América Latina y el Caribe in Mérida, Venezuela.
  - Conéctate, Primer Encuentro de Informática de los Niños y Niñas de Colombia, in Bogotá, Colombia.

Students
A communications student at the CUAO is carrying out a practicum, in which she provides communications support for the above-mentioned SIDER.

Assistance
InforCom staff provided weekly assistance to three community telecenters, based on telecenter work plans, as well as on-site training in Web site development. They also made nearly weekly visits in support of a total of eight community-based communications groups in northern and central Cauca, with a combined membership of more than 80 people.

Resource mobilization
The InforCom project submitted a grant proposal (for US$350,000 over 2 years) to the competitive Incubator Initiative of the World Bank's InfoDev Program, but it was not among the proposals selected.

Project staff also submitted a concept note to the Banco Centroamericano de Integración Económica (BCIE) for a large and ambitious ICT project (with a budget of about $2.5 million over 4 years), but it was not approved for proposal development.

As an active member of the Colombian Agricultural Information Network (RIDAC, its Spanish acronym), CIAT supported CORPOICA in developing a concept note for a project aimed at strengthening the national information network. In 2004 we will explore the possibility of obtaining funds for this work through a new World Bank-funded project on rural diversification.

InforCom contributed to the development of several proposals under preparation for the CGIAR's ICT/Knowledge Management investment plan.

The project also collaborated with FAO and the University of Florida, USA, in developing a concept note for an agricultural ontology project that would permit us to update CIAT's cassava thesaurus. The donor to which this note was submitted did not express interest, however.

In addition, we developed a concept note for a project in Central America, which would complement an agroenterprises project approved recently by IDRC's Minga Program. We are currently modifying this concept note, based on feedback from an IDRC program officer. Another concept note for a project in eastern Africa is being reviewed by CIAT agroenterprise staff in the region.

Finally, InforCom played an active role in the development of two major initiatives, which we hope will bring significant resources to the project in 2004. One of these was Learning to Innovate, which is among three CIAT "collaborative efforts to attack poverty through rural innovation and environmental reconstruction." The other was Putting Knowledge to Work, a project being developed in collaboration with CABI and for which the International Fund for Agricultural Development (IFAD) has "pipelined" funds.

Impact evaluation

As mentioned above under "Research Highlights," InforCom placed particular emphasis this year on evaluating the impact of the InforCauca community telecenters project. For this purpose a baseline survey of 445 households was carried out in two rural communities; interviews were conducted with focus groups consisting of telecenter users; and studies of institutional impacts were carried out in two organizations hosting rural telecenters.

SN-4 PROJECT
Information and Communications for Rural Communities
Sub-project "Planning for Rural Development"

Investigators and national staff:

- Nathalie Beaulieu, Ph.D. Remote Sensing, Senior Research Fellow, based in Senegal
- Adriana Fajardo, Biologist, Research Assistant 2, HQ
- Jaime Jaramillo, Civil Engineer, Professional Specialist, PhD candidate at the University of Barcelona, Spain.
- Maria Fernanda Jiménez, Systems Engineer, Visiting Scientist, HQ (50%)
- *Hubert Mazurek, Ph.D. Ecology, Investigator at IRD UMR 151 *"Populations, environnement et développement"*. Hosted at CIAT, posted in Bolivia
- Ovidio Muñoz, Agronomist, *Diplôme d'études approfondi* (DESS) in territorial planning, Research Assistant 1, HQ
- Rogelio Pineda, Geologist, Research Assistant 1, HQ
- Marcela Quintero, Ecologist, Research Assistant 2, HQ
- Yolanda Rubiano, Agrology, Ph.D. Candidate in Agronomical Sciences, Universidad Nacional in Palmira, HQ (50% InforCom, 50% PE-2)

* arrived in 2003

Cooperators:

Within CIAT:
Personnel of Land Use (PE-4), Information Systems, Forages (IP-5), Clayuca, Cassava (IP-3), Impact Assessment (BP-1) Training unit, and through the Learning To Innovate initiative, Agro-enterprise development (SN-1), Participatory Research and Tropical Fruits.

Outside CIAT:

Internationally: IRD-UMR 151, ICRISAT, TSBF, CIRAD-EMVT, CIRAD-TERA

In Colombia: MADR, CORPOICA, Alcaldia de Puerto Lopez, UMATA de Puerto Lopez,

In Bolivia: Vice Ministerio de planificación y desarrollo sostenible (Dirección de Ordenamiento territorial y CODEPO) IESE and CEPLAG (Universidad de San Simon), INE – Instituto Nacional de Estadística, Municipal offices of Calamarca, Ayo Ayo, Patacamaya, Umala, Asociación de municipios de Pando;

In Peru: GTZ, CIP, CONDESAN, Municipal office of Pampacocla

In Senegal: ISRA-CDH, ISRA-CNRF, ISRA-BAME, ISRA-LNERV, ANCAR (regional offices in Thiès, Diourbel, Fatik, Kaolak), PAFD2, Direction des Eaux et Forêts, Direction de l'agriculture

In Brazil: INPE, Universidad Federal de Uberlândia, EMBRAPA-CPAC

Budget:

Source	Amount (US$)	Proportion (%)
Convenio Colombia (restricted core)	91000	50,9
Core (Rural Innovation Institute)	65500	36,7
French contribution to core	12500	7,0
DMP	3000	1,7
CONDESAN-GTZ	6700	3,7
Totals	178700	***100.0***

Research Highlights in 2001

We aim at facilitating the use of information by local stakeholders for the management of their natural resources by providing methods and tools, documented examples, and principles (or insight) that can help successful planning and the efficient use of information. These are developed through case studies in specific locations, and are then diffused through training events, seminars, reports, and publications, as well as through the CIAT Web page. Our outputs are divided in three categories, case studies, methods and tools, and capacity-building. This section will address only the first two, our capacity building activities being covered in the indicators summary.

1) Case studies

This work began in 1999 with the contribution of the Land Use project to the agreement between CIAT and MADR, aiming at putting geographical information and decision support tools (DSTs) to the service of decision makers so they could improve the rationality of land use. Planning mechanisms, legally required from all administrative levels, and that can also be implemented at the village level, appeared as our best entry point. In 1999-2000 we supported the Municipality of Puerto Lopez in its municipal Plan de Ordenamiento Territorial and then in 2001 in its municipal development plan, in all cases also conducting planning workshops at the village level. The follow-up of municipal formal plans and village-level informal plans have led to participate in the logistical support of various local initiatives and the linking of local stakeholders with the Forages, cassava and Clayuca and agro-enterprises projects. In 2003, we began case studies in other countries—Bolivia, Peru, and Senegal. The work in Peru was initiated through an alliance with GTZ and CONDESAN, who were interested in applying some of our methods, jointly with theirs, in some of the pilot watersheds of the CONDESAN consortium. The work in Bolivia has resulted from the hosting of Hubert Mazurek, a scientist from IRD, in the InforCom project. The work in Senegal is conducted in relation with the Desert Margins Program (DMP), and involved the posting of Nathalie Beaulieu in Dakar.

<u>Colombia</u>

- A multi-sectorial committee of the civil society, with our support, is conducting follow-up of the municipal PBOT and PMD, using the SEGUIMIENTO tool, presented later.

- A cassava drying trial, conducted in 2002, led to the adoption of this practice in the village of El Turpial, the commercialization of dry cassava with animal feed factories, and the funding of a drying facility by the municipal administration.
- Cassava variety trials were conducted in five of the rural communities, jointly between farmers and CIAT's cassava project.
- The indigenous communities of Humapo and La Victoria constructed a tree reproduction greenhouse, and have begun producing small trees for the reforestation of their reserve and for commercialization.

Bolivia

- Three groups of municipalities (four in Altiplano south of La Paz, four in department of Pando and one in department of Cochabamba) have been chosen for pilot study sites. Initiation workshops have been conducted in two municipalities which signed an agreement of engagement (with the *dirección del Ordenamiento Territorial*) to conduct participatory planning. Meetings with mayors of the other municipalities were conducted in September 2003 in which we jointly agreed to start the planning processes in March 2004. General Agreements between OT, CIAT and municipalities should be signed before the end of 2003.
- A collaborative agreement was drafted between CIAT / IRD, the Dirección del OT, the Consejo de Población (CODEPO) and the Instituto Nacional de Estadistica (INE) to define respective roles in the collaborations under way
- We are currently reviewing the methodology used by the Bolivian government for territorial planning to include many more socio-economic aspects and participatory practices
- We participated in the teaching of courses of the Masters degree in Rural Development of the Universidad San Simon de Cochabamba and in the directorship of three Masters theses on rural innovation.
- On September 29th and 30th 2003, we organized in Cochabamba a seminar on stakeholders, territory and local development, where we analyzed the progress of local development planning in different regions of Bolivia, in the context of the 50th anniversary of the agrarian reform.
- We organized a statistical cartography course at the end of October 2003, for technical staff working in the organizations with a role in public planning

Peru

- We conducted field visits in the districts where GTZ-COPASA intervene, to become acquainted with their development plans, and the problems they have experienced.
- We conducted the workshop/seminar entitled "Bases para la Formulación de Planes de Ordenamiento Territorial", in Arequipa, from 8 to 14 September 2003, including a practical component in the district of Pampacocla.
- We conducted the workshop/seminar entitled "Planes de Ordenamiento Territorial como herramienta de gestión del espacio en Arequipa" on September 16th in Arequipa.
- CIAT and GTZ-Colombia are assisting GTZ-Peru in the writing of terms of reference for the elaboration of a pilot territorial plan in the district of Pampacocla.

Senegal

- Several meetings were conducted with regional and local partners to discuss study sites and methodologies used for common outputs on local stakeholder participation, capacity building, and monitoring of land degradation. Study sites were visited.
- Four Regional Development Council (CRD, the French acronym) meetings were held in the "*gouvernance*" (regional parliament) of the studied regions, with the participation of regional, departmental, and local authorities.
- Meetings were held with officials of the *Cellule d'appui aux élus locaux* (CAEL) who are interested in using tools developed in Colombia
- We developed French version of a participatory planning guide for local communities
- With the Information Systems unit, we developed a preliminary French version of the Expertise software.

2) Methods and tools

In addition to continuing to work on how geographical information could be used in planning, and how scientific results could be made into DSTs and also used in the process, we started looking at ways to improve the planning processes themselves.

This year, we released a series of methods and tools which we have been working on in the last five years (some of them having been previously shared with partners through training and technical assistance). Many of them yield results that can be spatialized, and we developed the procedure to alow users to do this with free GIS software, either MapMaker Popular, developed by MapMaker inc, or SPRING developed by INPE in Brasil. We consider them as propotypes that we will continue to co-develop with partners. They are the following:

- Participatory systems approach to planning and *Herramienta de Planificación Participativa* (HePP)
- CUFRUCOL database (Cultivos y frutas en Colombia)
- ARBOLES (spatialization of decision trees for land use recommendations)
- GEOSOIL (georeferenced soil database)
- SEGUIMIENTO (database tool for monitoring and evaluation of municipal plans)
- Classification of Land Use/cover based on a temporal series of multispectral satellite images, whicih can be applied to the monitoring of degraded pastures

Problems encountered and their solutions:

We would rather consider these problems as opportunities:

The first opportunity we experienced this year was the change of hosting project, resulting from a decision on the part of the management of the Land Use project. The SN-4 project is a natural host for this work on planning as a mechanism for rural stakeholders to use information in their decision-making. This reporting in separate sections is only due to the recent integration of this ongoing work into the project. The integration of these two sections will be achieved through joint planning, and facilitated by the fact that rural planning needs to be supported by effective information and communication technologies, and that information and communication are more effectively used is supporting planning processes. The Learning To Innovate initiative is also one that is integrating this work with many other CIAT projects. Because the two international scientists of this team are not located at Headquarters, links with other

projects is more challenging, but this can be resolved with better communication and giving the national staff more responsibility in the interlinking efforts.

The second opportunity has been the insecurity related to the funding of these activities, which has since 1999 been almost exclusively covered by the agreement between the Colombian Ministry of Agriculture and Rural Development (MADR), an agreement that is finishing this year, will be renewed but with modalities that are yet to be determined. This has encouraged us to actively seek funding with other sources, while making sure that our work meets the demand of MADR. We now have good prospects of obtaining funding for activities in Bolivia and Senegal, in addition to continuing our activities with MADR.

One area in which we are unsatisfied is our productivity of scientific papers in journals. This work has started out as being mostly development-type, but has led to the development of a series of hypotheses that leading to very interesting research. This will be resolved by placing a higher priority on research issues (spending as much time on testing hypotheses as we spend on developing tools and training), involving our national staff in graduate studies and taking the time to write journal articles. We also have the intention of creating an informal group of scientists in CIAT that could coach each other in improving their scientific publications record.

Plans for next year:

- In Colombia, Bolivia and Senegal, assist national programs of support to producer organizations and decentralized political structures in articulating a network of resource persons with local planning groups (engaged in a continuous M&E and learning process), using ICTs, including the Expertise software, and in organizing information for local decision-making, technology transfer and innovation.
- Write a project with the Brazilian Vice Ministry of Family Agriculture, in collaboration with EMBRAPA and collaborating universities, for an assistance similar to the previous item on this list, but in Brazil.
- In Bolivia, revision of methodological guidelines for territorial planning with the *division del ordenamiemto territorial,* publishing of a methodological guide
- In Colombia and Senegal, organize an extensive training program for municipalities and local collectivities in the use of participatory planning, M&E and learning.
- In Colombia, organize an extensive training program on the use of GIS and the above-mentioned decision support tools, for territorial entities.
- Publish developed methodologies in refereed journals
- Publish journal articles from the case studies in Puerto Lopez and continue research activities in that geographical area
- Continue research in initiating case studies in Bolivia, Peru and Senegal

PROJECT SW-3

PRGA Program
Program on Participatory Research and Gender Analysis for Technology Development and Institutional Innovation: A CGIAR Systemwide Program

Project Description

Goal

To improve the ability of the Consultative Group on International Agricultural Research (CGIAR) system and other collaborating institutions to develop technology that alleviates poverty, improves food security, and protects the environment while ensuring equity.

Purpose

To assess and develop methodologies and organizational innovations for gendersensitive participatory research, and to operationalize their use in plant breeding, crop management, and natural resources management.

Outputs and activities

• Develop capacity to encourage gender-equitable, stakeholder-client representation in research decision making, and networking with a cadre of 'champions' who support each other and who can make a difference

- Generate methods for using gender and/or stakeholder analyses for technology development
- Promote skills and planning for organization development
- Develop concepts and skills for impact assessment
- Establish a network of 'champions' who support each other and who can make a difference

• Continue building compelling evidence of impact

- Conduct empirical studies on participatory research methods for plant breeding (PB) and natural resource management (NRM)
- Develop and disseminate tools and methods that enable scientists to capture the impact of products and processes, and integrate learning from impact assessment into research planning and adaptation (learning and change)

· Action research partnerships to institutionalize PR&GA approaches with a core group of IARCs and NARS

- Conduct institutional assessments with partner organizations to assess opportunities and constraints for institutionalizing participatory research and gender analysis (PR&GA) methods

Summary PRGA Annual Report 2002-2003

- Form partnerships with organizations that enable the PRGA Program to have a major impact on (1) integrating PR&GA into agricultural research, and (2) enhancing methods and approaches that help improve the livelihoods of the very poor, particularly rural women
- Develop tools that go beyond generic gender diagnosis and analysis to (1) enable the design of tailored analyses, and (2) guide researchers in interpreting gender analysis (GA) results so they may effectively address their implications in research planning and adaptation

· Communications and partnerships for disseminating information

- Interactive Web site
- Dissemination
- Publications
- Enhance the support function of the working groups PBG, PNRM-wg, and GAwg

Gains

• Greater access to a global exchange of PR&GA expertise among a wide range of institutions

• Accelerated learning from experiences; and new, widely applicable, methodologies for PR&GA generated

• Considerable savings and increased impact from national agricultural research systems (NARS) generated by better designed technologies

• Indigenous systems of crop development and NRM strengthened and integrated with formal research in a mutually reinforcing way

• Poor rural women become meaningful participants in, and the beneficiaries of, research
• Greatly accelerated development and adoption of diverse germplasm in major food crops
Beneficiaries
Poor rural farmers, international agricultural research centers (IARCs), national agricultural research institutes (NARIs), nongovernmental organizations (NGOs), and rural grassroots organizations
Collaborators
IARCs, NARS, NGOs, grassroots organizations, and universities

Main collaborating institutions

Agricultural University of Norway Cassava Biotechnology Network (CBN) Centre for International Forestry Research (CIFOR, Indonesia) Centro Internacional de Agricultura Tropical (CIAT) Centro Internacional de la Papa (CIP, Peru) Centro Internacional para Mejoramiento de Maíz y Trigo (CIMMYT, Mexico) Corporación Colombiana de Investigación Agropecuaria (CORPOICA) Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA, Brazil) Escuela Agrícola PanamericanaZamorano (EAP-Zamorano, Honduras) Food and Agriculture Organization of the United Nations (FAO, Italy) Fundación para la Investigación y el Desarrollo Agrícola (FIDAR, Colombia) Fundación PROINPA "Promoción e Investigación de Productos Andinos" (PROINPA, Bolivia) International Center for Agricultural Research in the Dry Areas (ICARDA, Syria) International Plant Genetic Resources Institute (IPGRI, Italy) Investigación Participativa en Agricultura/Participatory Research in Agriculture (IPRA, a CIAT project) Local Initiatives for Biodiversity, Research, and Development (LI-BIRD, a Nepalese NGO) Proyecto de Investigación Participativa en Centroamérica (IPCA, Honduras) Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI, India) West Africa Rice Development Association (WARDA, Côte d'Ivoire)
CGIAR system linkages
Enhancement and Breeding (25%), Crop and Livestock Production Systems (25%), Protecting the Environment (30%), and Organization and Management (20%)

.Principal Staff

Anna Knox, MSc in Development Economics
Program Manager
Left the PRGA Program 7 July 2003
Barun Gurung, PhD in Anthropology
Senior Research Fellow
Program Coordinator
Nina Lilja, PhD in Agricultural Economics
Senior Scientist
Impact Assessment
Ralph Roothaert, PhD in Crop and Weed Ecology
Senior Scientist, Forages for Smallholders Project
Joint appointment between the International Center for Tropical Agriculture (CIAT) and the International Livestock Research Institute (ILRI, Addis Ababa, Ethiopia)
Ann Braun, PhD in Ecology
Facilitator, PNRM-Working Group
Also, Coordinator, Development of the PRGA Program Web site
Louise Sperling, PhD
Senior Scientist, Specialist in participatory PB and methods and tools
Left the PRGA Program 30 June 2003

S.3. Budget for 2003
The overall budget for year 2003 is as follows:
Source Amount (US$) Proportion (%)
Carry-over from 2002 30,000a 3.1
Subtotal 30,000 --
Special projects 926,587 96.9
Total 956,587 100.0
a. There are more funds from the 2002 carry-over that were not included because they were received after the budget allocation dates.

The following table shows the PRGA Program's income for special projects in 2003:
Donor Amount (US$)
Norway 200,000
DGIS (Netherlands) 97,000
SDC (Switzerland) 70,000
Italy 113,000
New Zealand 100,000
IDRC (PPB restricted) 30,587
CIDA (Africa restricted) 316,000
Total 926,587
The following table shows the distribution of budget allocations for year 2003:
Project Amount (US$)
Impact assessment 163,000
Mainstreaming and institutionalization 144,000
Communications and outreach 40,000
ILRI-PRGA Program, partic. research/forages 47,500
Non-project staff 155,700
PNRM-wg 40,000
PBG 15,000
Challenge Programs 10,000
Stakeholder and Advisory Board meetings 55,000
Other meetings 19,000
Publications: production and dissemination 29,000
Support to partners 85,642
Supplies and operations 20,000
Indirect costs 132,000
Total 955,842
6

S.4. Research Highlights in 20022003
S.4.1. Participatory plant breeding (PPB)
The purpose of the Small Grants Program of the PRGA Program is to build capacity for applying participatory research (PR) and gender analysis (GA) approaches to ongoing research. The funded projects contribute methodological and organizational innovation to the field of PRGA and rigorous evaluations of the impact of applying participatory and equity-enhancing approaches, with special attention to the effects on poor, rural women. Projects analyze the outcomes of these methods, comparing them with those of conventional research methods, and evaluate the effects on the research process itself.
The PRGA Program continues to support three doctoral theses. These are making good progress, with fieldwork near completion. They focus on themes essential for filling gaps within the PPB field: local seed systems, farmers' decision making in PPB

in the context of a systems perspective, and how to break the nexus between poverty and agrobiodiversity.
Collaboration with PPB partners:
Collaborative efforts with PPB partners have resulted in the following publications:
· Quantitative Analysis of Data from Participatory Methods in Plant Breeding, based on the proceedings of a workshop of the same title held in August 2001
· PPB Monographs, nos. 1 to 4:
- PPB Monograph, No. 1
Title: Technical and Institutional Issues in Participatory Plant Breeding: From the Perspective of Formal Plant Breeding
Authors: Eva Weltzien-Rattunde, Margaret E. Smith, Laura S. Meitzner, Louise Sperling
Series title: A Global Analysis of Issues, Results, and Current Experience
- **PPB Monograph, No. 2**
Title: Technical and Institutional Issues in Participatory Plant Breeding: Done from a Perspective of Farmer Plant Breeding
Authors: Shawn McGuire, Gigi Manicad, Louise Sperling
Series title: A Global Analysis of Issues, Results and Current Experience
- PPB Monograph, No. 3
Title: BiotechnologyAssisted Participatory Plant Breeding: Complement or Contradiction?
Authors: A. M. Thro, C. Spillane

- PPB Monograph, No. 4
Title: Participatory Plant Breeding and Gender Analysis
Authors: Cathy Rozel Farnworth, Janice Jiggins
S.4.2. Participatory natural resource management (PNRM)
In 2003, the focus of the PNRM Working Group's work plan was to consolidate outputs from activities conducted in previous years, specifically to:
· Complete the book Managing Natural Resources for Sustainable Livelihoods: Uniting Science and Participation
· Consolidate the establishment of the PNRM Resource Center by expanding the collection of PNRM methods, tools, and resources developed by Group members
· Develop a synthesis document on Farmer Participatory Research for Integrated Pest Management
The PNRM-wg is open to all practitioners and developers of participatory research approaches for NRM. The Group interacts through an e-mail discussion list, meetings, seminars, and small, self-organizing subgroups that form to undertake specific projects.
S.4.3. Mainstreaming
The PRGA Program's general objective of mainstreaming involves several discrete but interrelated activities:
• Capacity development for gender-sensitive PR, complemented with organizational development for institutionalization
• Demonstrating concrete evidence of impact for institutional learning and change
• Supporting network of PR & GA practitioners
• Developing learning cases
• More actively seeking to develop a high-level support function from stakeholders, particularly donors and influential members, who will provide intellectual direction and advocate for the Program's objectives both within and outside the CGIAR

Forum for Agricultural Research in Africa (FARA)
The PRGA Program and FARA propose to strengthen, consolidate, and mainstream PR&GA in a high priority, highly visible program that recognizes and promotes gender equity and gender-sensitive participatory approaches as comprising an important strategy to make R&D organizations demand driven. One avenue for doing so is through enhanced capacity development for gender-sensitive participatory approaches, combined with enhanced capacity for organizational innovations, that will sustain the use of such approaches beyond the project's life by institutionalizing them within the procedures, structures, and cultures of the participating organizations.
Local Initiatives for Biodiversity, Research, and Development (LI-BIRD)
A Nepalese NGO, LI-BIRD has been conducting farmer participatory maize breeding in the Gulmi District in the Western hills of Nepal since 1999. It focused not only on developing a new farmer-preferred maize variety, but also on strengthening farmerled breeding and informal seed selection and maintenance procedures.
The impact studya collaborative effort between the PRGA Program and LI-BIRDbegan with a planning workshop in October 2002. The study's specific objective was to assess changes in farmers' skills and economic benefits that may accrue from the increased knowledge. Excellent baseline data already exists on the participating farmers, and the same 100 farmers at two sites were surveyed to assess the changes in human capital due to project impact.
Africa Gender Initiative
The overall goal is to strengthen the capacity of our national R&D partners to develop innovative agricultural technologies and income generation opportunities that would address women's special needs and constraints.
10
Summary
PRGA Summary Program Anual Report 2003
S.4.4. Impact assessment
The Program's impact assessment (IA) work for 2002-2003 focused mainly on:
· Conducting empirical studies on the impact and costs of PPB
· Synthesizing and disseminating impact results through presentations to various stakeholders, and through building and maintaining the Program's IA Web site.
Empirical studies
For the last 4 years, with the collaboration of many institutions and individuals, the PRGA Program has systematically collected scientifically credible empirical evidence of the impact and costs of PR in NRM and PB by conducting impact case studies. A methodology was developed for the collaborative studies to analyze both impact and costs of PR&GA. Both qualitative and quantitative data are used, including existing project documentation; as are open-ended interviews with project staff, farmer participants, and other key informants, including community leaders and policy makers; and statistical and econometric analyses of survey data.
One case study on participatory barley breeding in Syria was completed with ICARDA during this reporting period. A second impact study, on participatory rice varietal selection in West Africa, was also completed with the collaboration of the West Africa Rice Development Association (WARDA) in February 2002(1). The results were written up and published as a PRGA Program working document (Lilja and Erenstein 2002). Two other collaborative case studies on impact were started and are still being completed: one with the Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA) in Brazil on participatory cassava breeding, and the other with LI-BIRD in Nepal on participatory maize breeding.
Evidence from the impact case studies demonstrates that the use of PR&GA methods in research generates a process of learning and change, particularly in methods innovations that result from farmers' feedback (Johnson et al. 2000; Lilja and

Erenstein 2002)(2). Results of impact case studies conducted with ICRISAT, ICARDA, World Neighbours Canada, and WARDA demonstrated that user participation led to feedback that changed the priorities and practices of research institutions. Systematizing methods and learning, together with capacity building to use PR&GA methods more effectively have contributed to scaling-up (reaching more people more quickly).

(1)Lilja N; Erenstein O. 2002. Lilja N; Erenstein O. 2002. Institutional process impacts of participatory rice
improvement research and gender analysis in West Africa. Working Document, No. 20.
(2) Johnson NL; 2002. Guide to impact assessment in participatory research and gender analysis. Working
Document, No. 7. PRGA Program, Cali, Colombia.
Lilja N; Erenstein O. 2002. Cited on page 22.

Synthesizing and disseminating impact results

The year 2002-2003 provided an opportunity to reflect on some of the findings, and synthesize the results of the PNRM and PPB impact studies. Five presentations were made in international meetings. The Program created an IA Web site that provides access to all publication outputs of the Program's IA research, that is, project inventories, impact case studies, guides on IA methods, and PowerPoint formats on synthesized results presented at various international meetings. The site also offers access to other reviewed and recommended IA research methods and empirical results.

The site's address is at:

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S.5 Future Directions

In the second phase, the major focus of the Program will be on mainstreaming gendersensitive
participatory approaches to better enable agricultural R&D to become more demand-driven.

In addition to building upon existing global partnerships and alliances from phase one, a major area of PRGA Program attention will focus on the Sub-Saharan African region. A partnership has been established with the Forum for Agricultural Research in Africa (FARA) to work with institutions that come under their umbrella in East, South and West Africa.

The PRGA Program's strategy for mainstreaming will focus on the following activities:

S.5.1 Developing enhanced capacity of 'champions' who are well versed in the following:

· PR&GA methods,
· impact assessment skills for learning and change, and
· concepts and skills of organizational development for their institutionalization within their own organizations.

S.5.2 Continued emphasis on evaluating impacts to foster a process of learning and change. Activities will focus on:

· Conducting empirical studies on participatory research methods for plant breeding and natural resource management
· The development and dissemination of tools and methods that enable scientists to capture the impact of products and processes, and integrate learning from impact assessment into research planning and adaptation (learning and change)

http://www.prgaprogram.org/impact_assessment/impact.htm

S. 5.3 Develop action research partnerships to institutionalize PR&GA approaches with a core groups of IARCs and NARIS. Activities will include:

· conducting institutional assessment to assess opportunities and constraints for institutionalizing PR&GA approaches
· forming partnerships with institutions that enable the PRGA Program to have a major impact on (1) integrating PR&GA into agricultural research, and (2) enhancing methods and approaches that help improve the livelihoods of the rural poor, particularly women.
· Develop tools that go beyond generic gender diagnosis and analysis to (1) enable the design of tailored analyses, and (2) guide researchers in interpreting gender analysis results so they may effectively address their implications in research planning and adaptation.

S.5.4 Partnerships and Communication for devolution and disseminating information

· Enhance the support function of working groups on gender analysis (GA), participatory plant breeding (PPB) and natural resource management (NRM). This function aims to develop a collaborative process of devolving PRGA Program decision-making responsibilities to Program partners, particularly in the areas of fund raising, establishing objectives and activities etc.

S.6 Proposed activities for next year

S.6.1. The Africa initiative for mainstreaming

In collaboration with FARA, CIAT Africa and ILRI the following 4-step strategy is presently being implemented for the mainstreaming initiative in Africa.

· Mainstreaming Planning Team. The team is being developed to provide the necessary guidance to the program on how to generate demand, what steps are appropriate, provide political clout, etc. The composition of the team will be based on the following criteria:
- knowledge of PR&GA approaches
- knowledge of African context
- experience of using PR&GA approaches
- committed to the agenda for use of PR&GA approaches and the organizational -
- innovation that is required to sustain their use beyond the project level
- someone who is influential, particularly in the regional context.

Mainstreaming cannot be imposed but needs to fill a gap. The capacity development process for mainstreaming can only be started where there is a clear demand.

· assessment to establish demand for mainstreaming. This assessment will be explore the following:
- identification of NARIS and NGOs within the Sub-Saharan region who are willing to participate, combined with experience and/or willingness to use PR&GA approaches
- assessment of motivation to participate, particularly of those in the leadership

· development of a strategy. The development of the strategy will involve indepth consideration of the following questions/issues by the Planning Team
- should organizational change agents be selected from those already experienced in PR&GA or should they (also) include those who have no experience but show high level of interest in the use of such approaches as well as their organizational implications. Either approach is possible.
- Who else may collaborate in the establishing the organizational core of change agents
- What will be the scale of the program (ie the number of organizations that can/should participate in the initial phase?). A slow and gradual start might be advisable, to consolidate skills, before working on a larger scale
- What will be the profile of most participants?
- Will they receive an incentive/honorarium/salary or will they be volunteers?
- What strategies for creating a more supportive environment (both within the organization and externally) would be most effective?

- What will be the overall timetable that would plausibly yield results (processual as well as immediately functional)
- How will monitoring and evaluation of the process be undertaken?
- How will the lessons learned from the pilot phase be used for planning a larger scale operation?
- What are the budgetary implications for phase 1 and phase 2
· A strategy document will lay out subsequent steps to follow and the timetable to do so. An additional task of the planning team will be to assist the PRGA Program in the development of the course curriculum.

S.6.2 Impact Assessment
· two impact case studies with EMBRAPA and LI-BIRD
· three impact case studies and their results published:
O IPRA (CIAT), a study of CIALs in Colombia, co-financed by IPRA and the PRGA Program
O CIAT-Asia, a cassava-based NRM study in Vietnam and Thailand. A funding proposal was submitted to and accepted by CPIA
O CIMMYT, a study on the development of participatory methods at CIMMYT, co-financed by CIMMYT and the PRGA Program
· Impact assessment research results continue to be synthesized in Power-Point presentations, working documents, or journal articles, which are then disseminated to stakeholders at international meetings. The following presentations are planned:
O FARA meeting in Dakar, Senegal
o PRGA Stakeholder Meeting in Cali, Colombia
o International Agricultural Economics Association Annual meeting in Durban, South Africa
· A course module and materials on impact assessment of PR&GA approaches will be developed and taught as a graduate course at the University of Florida
· Program's IA website continues to offer a wide range of resources on methods from IA of PR&GA, as well as empirical studies
· Workshop on IA methods is planned and organized for mid-2004
· Three proposals on IA for learning and change integrated into (a) the Challenge Program on Water and Good (one to be led by the PRGA Program and another by ICARDA), and (b) the Program's Gender in Africa Initiative.
S.6.3 Capacity Development
· Capacity development on social and gender analysis for 12 partner institutions in the eastern Himalayan region. The 18-month process involves three workshops and mentoring 18 participants from the region
S.6.4 Partnerships and Communication for devolution and disseminating information
· Collaborate with Challenge Programs on Water and Food and Biofortification, particularly for the development of an experts panel to address gender issues
· Interactive Web site
· Publications

S.7. Performance Indicators
S.7.1. Publications, 2002-2003
Refereed journal articles
Buruchara R; Sperling L; Ewell P; Kirkby R. 2002. The role of research institutions in seed-related disaster relief: Seeds of Hope experiences in Rwanda. Disasters 26(4). Special issue.
Gurung B. 2002. Addressing food scarcity in marginal mountain environments: a participatory seed management initiative with women and men in eastern Nepal. Mountain Res Dev 22(3):240-247.

Longley C; Sperling L, eds. 2002. Beyond seeds and tools: effective support to farmers in emergencies. Disasters 26(4). Special issue.
Sperling L. 2002. Seeds of Hope in Rwanda - what have we learned? Geneflow p 24-25.
Sperling L. 2002. Emergency seed aid in Kenya: some case study insights on lessons learned during the 1990s. Disasters 26(4). Special issue.
Working documents
Lilja N; Johnson N. 2002. Guide to impact assessment in participatory research and gender analysis. Working Document, No. 7. PRGA Program, Cali, Colombia.
Lilja N; Erenstein O. 2002. Institutional process impacts of participatory rice improvement research and gender analysis in West Africa. Working Document, No. 20.
Saad N. 2002. Farmer processes of experimentation and innovation: a review of the literature. Working Document, No. 21. PRGA Program, Cali, Colombia.
Sanginga PC; Lilja N; Tumwine J. 2002 Assessing the quality of participation in farmers' research groups in the highlands of Kabale, Uganda. Working Document, No. 19. PRGA Program, Cali, Colombia.
Reports
PRGA Program, CGIAR. 2002. PRGA Program: synthesis of Phase I (1997-2002). Prepared by Nadine Saad. PRGA Program; CIAT, Cali, Colombia. (Version with color illus. and photos published in 2003.)
PRGA Program, CGIAR. 2002. PRGA Program's summary annual report, 2002. Prepared by Nadine Saad. PRGA Program; CIAT, Cali, Colombia.

Proceedings published by the PRGA Program
CIAT; JIRCAS; PRGA Program. 2002. Proc. workshop on "How Participatory Research Can Complement Conventional Research Approaches", held in Tsukuba, Japan, 4-8 March 2002.
PRGA Program, CGIAR. 2002. Proc. Stakeholders Meeting, held in Bonn, Germany, 22-23 April 2002. (Hosted by the German Ministry for Economic Cooperation and DevelopmentBMZ.)
PRGA Program, CGIAR. 2002. Proc. workshop on "Natural Resource Management (NRM) Small Grants End-of-Project", held in Cali, Colombia, 13-17 Nov 2001.
PRGA Program, CGIAR. 2003. Proc. Stakeholders Meeting, held in Cali, Colombia, 30 Junel July 2003.
Books
PRGA Program, CGIAR. 2002. Quantitative analysis of data from participatory methods in plant breeding. Cali, Colombia.
2003. Managing natural resources for sustainable livelihoods: uniting science and participation. Earthscan; IDRC,
Monographs
Farnworth CR; Jiggins J. 2003. Participatory plant breeding and gender. PPB Monograph, No. 4. PRGA Program, Cali, Colombia.
McGuire S; Manicad G; Sperling L. 2003. Technical and institutional issues in participatory plant breeding: done from a perspective of farmer plant breeding. PRGA Program, Cali, Colombia. (Also available as Working Document, No. 2.)
Thro AM; Spillane C. 2003. Biotechnology-assisted participatory plant breeding: complement or contradiction? PPB Monograph, No. 3. PRGA Program, Cali, Colombia. (Also available as Working Document, No. 3.)
Weltzien-Rattunde E; Smith M; Meitzner L; Sperling L. 2003. Technical and institutional issues in participatory plant breeding from the perspective of formal plant breeding. (Series: A global analysis of issues, results, and current experience.) PRGA Program, Cali, Colombia.

S.7.2. Strengthening NARS through workshops and meetings
· The "Quality of Science in Participatory Plant Breeding" workshop was held in

Rome at the headquarters of the International Plant Genetic Resources Institute (IPGRI) during 30 September-4 October 2002
· A training course on "Managing Innovation" was held in May 2003, at the University of Florida
· Building capacity in social/gender analysis in the eastern Himalayas, 2003
S.7.3. Resources mobilization
Proposals funded by the PRGA Program
· Farmer-Led Participatory Maize Breeding in Middle Hills of Nepal (second phase); LI-BIRD; US$30,000
· Village-Based Participatory Breeding in the Mountain Slopes of Yemen (second phase); ICARDA; US$30,000
· Metodologías Participativas para el Mejoramiento Genético del Frijol Común [Participatory Methodologies for the Genetic Improvement of Common Bean] (first phase); IPCA; US$8000
· Participatory Development of Farmer-Managed in vitro Propagation and Biodiversity Conservation of Cassava (second phase); FIDAR; US$33,000
· Study of participatory plant breeding/biotechnology of sorghum through assessment of farmers' variety development, selection methods, seed systems and management, genetic diversity, and conservation; Agricultural University of Norway; US$39,699
· The Cassava Biotechnology Network in Latin America: Strategies for Integrating Small-Scale End Users in Research Agenda Setting, Testing, and Evaluation; CBN; US$70,000
· Integrated Nutrient Management for Building the Assets of Poor Rural Women; IPRA; US$250,000
· Proyecto de Mejoramiento Participativo de Papa en Bolivia [Project on Participatory Improvement of Potato in Bolivia] (second phase); Fundación PROINPA; US$30,000

·Metodologías Participativas para el Mejoramiento Genético del Frijol Común (second phase); EAP-Zamorano; US$22,000
· Farmers' Practice of Domestication and Their Contribution to the Improvement of Yam in West Africa; IPGRI; US$70,000
· Developing a Participatory Research Model with a Systems Approach for Improving Technologies and Their Adoption for the Cassava-Maize Intercropping Production System Used in the Colombian Caribe Region; CORPOICA; US$78,000
Proposals submitted
! A proposal was submitted to the Challenge Program on Water and Food, entitled Ensuring Benefits for Those who Need Them Most: Building Strong Institutions for Managing Inclusive multi-Stakeholder Processes for Watershed Development.
! A proposal on Organizational Change was submitted to BMZ, Bonn, Germany.