

**PRODUCT LINE PA-1: MARKETS, INSTITUTIONS
AND LIVELIHOODS**

Summary

Annual Report 2007



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ANNUAL REPORT 2007

PEOPLE AND AGROECOSYSTEMS RESEARCH FOR DEVELOPMENT CHALLENGE (PA RDC)

Product Line PA1: Markets, Institutions and Livelihoods

Introduction

This new Product Line aims to deliver innovations, mostly in the form of approaches, methods, tools and policy options, that contribute to improving the effectiveness of agricultural research and development and the uptake of research results by small-scale farmers. Above all, PA1 aims to ensure that the strategies, approaches and methods employed and advocated by CIAT are appropriate for benefiting the hard-to-reach, and especially the poor, which include many female farmers in Africa, Asia and Latin America.

The tropical world is characterized by considerable variation at many scales. Agroecological conditions tend to be most varied in hillside agriculture. Markets are often undeveloped, distant, poorly informed, and especially imperfect in the way they serve the poorer, small farmers. Institutions at all levels from village to region tend to be numerous, and at varying levels of effectiveness, inclusiveness and governance. Small farmers' livelihoods range from near-subsistence to small scale commercial (although pure subsistence is less common than is sometimes thought), and households may seek or have opportunities to emerge from poverty in ways that differ according to their composition, agroecological situation and socioeconomic circumstances.

Both social and biophysical outcomes are needed to achieve widespread impact under these conditions. Development and research practitioners need tools that enable them to work at different scales, and to discriminate effectively among rural populations and environments. Many of the most appropriate tools will be interdisciplinary in nature, and in general need to be derived through iterative interdisciplinary research processes. Agricultural science practice cannot be successful if it is disconnected from development practice, and some of these research processes need to be embedded in development (research for development R4D) in order to yield robust and international public goods.

PA1 on *Markets, Institutions and Livelihoods* aims to address several aspects of the System Priorities 3, 4 and 5, by addressing key research questions around systems approaches (targeting, systems integration, organizational models, reaching end users, learning approaches and impact assessment). We expect outputs from PA1 to increase the effectiveness of other product lines of CIAT, as well as the wider R4D community. Some outputs contribute directly to those of other Product Lines through teamwork with biophysical scientists, and may be reported elsewhere. This Product Line incorporates previously separate CIAT Projects on *Tropical fruits, Crop and agroecosystem health management, Rural agroenterprise development, Participatory research approaches, and Spatial and economic analysis for decision and policy support in agriculture and the environment*. In this transitional year, this annual report for PA1 is presented in the format in which our work was organized throughout 2007 (and which first appears only

in the MTP 2008-2010). However, we have maintained in this report the Output Targets formally approved in the MTP 2007-2009, reorganized into the five Outputs of PA1. Reports are mostly in the form of published abstracts or summaries, with full papers or reports being available elsewhere (including in many cases on the CIAT website).

SUMMARY ANNUAL REPORT 2007

CIAT Markets, Institutions and Livelihoods Product Line PA-1

1. Logframe 2007

This Product Line was established at the end of 2006 from the merger of several previously separate Projects. CIAT's MTP for 2007-2009 had been developed on the basis of those former projects. This annual report for the new Product Line PA-1 is presented in the format in which our work was organized throughout 2007 (and which first appears only in the MTP 2008-2010). However, we have maintained in this report the Output Targets formally approved in the MTP 2007-2009, reorganized into the five Outputs of the new PA-1.

	OUTPUTS	INTENDED USER	OUTCOME	IMPACT
OUTPUT 1	Institutional arrangements and mechanisms for targeting, increasing and evaluating impacts.	Agricultural and environmental research organizations, development and environmental organizations, civil society groups, policy makers at regional, national and local scales.	Greater incorporation of the interests of the poor in the design and implementation of R&D projects.	R&D investments have larger impacts, of which a larger share goes to the poorest beneficiaries.
Output Targets 2007	Methodologies and approaches for diagnosis, tracking and strengthening social capital outcomes for improved NRM documented.	NARES and other organizations and actors involved in rural innovation processes, e.g., IARCs, NARS, NGOs, private sector companies, farmers organizations.	Increased efficiency and number of actors including vulnerable/ disadvantaged farmers participating in rural innovation systems.	Increased productivity and multiple use of resources (social, financial, natural, human) through integrated agricultural and natural resource management interventions.
	At least 10 active partnerships developed with national and international organizations in 4 Latin American countries, for action research on organizational procedures, institutional mechanisms and policies for co-development of technologies.	NARS in Latin America.	Rural innovation systems strengthened through co-development of technologies, and the creation of a more nurturing environment for innovation.	Faster development and adaptation of more appropriate technologies leading to improved sustainable livelihoods, especially for the rural poor.
	At least 40% of NARS professionals trained in the ERI framework are using it in at least four African countries, and as a result at least 25 farmers' groups are using the ERI approach.	NARS in Africa.	Increased capacities of organizations / institutions to develop and promote integrated agro-enterprise development solutions for wealth creation. Increased efficiency and number of actors including vulnerable/ disadvantaged farmers participating in marketing chain.	Ditto.
	At least three teams of facilitators are formed in Africa and Latin America for wider capacity building, dissemination and application of community managed PM&E systems.	NARS in Africa and Latin America.	Ditto.	Ditto.
	Disaggregated data on food consumption, and production and nutritional outcomes for key HarvestPlus target countries.	Researchers internal and external to CIAT.		

	OUTPUTS	INTENDED USER	OUTCOME	IMPACT
OUTPUT 2	Diagnostic, targeting and information tools that improve market value chain management for the economic and environmental benefit of smallholder farmers and the poor.	Policy-makers (public, private & donor), farmer organizations, NGO's, researchers in CIAT and partner organizations.	Improved conceptual and empirical understanding of how impact occurs is used to design more effective research and development interventions.	R&D efforts lead to more effective, equitable and sustainable development in the tropics.
Output Targets 2007	Agro-enterprise methods and strategies, market based software applications validated and contextualized with development partners. Products published in print and disseminated in electronic formats. Methods available in English, Spanish, French, Vietnamese and Lao.	Development partners and service providers linked to selected market chains, enhance through Local ICT providers, and CBO's.	Market based software and ICT market information applications will open new opportunities for commercial investment.	Significantly increased use of marketing tools by service providers leading to more diversified and measurable gains in incomes for poor rural communities.
	Learning alliance partnerships established for impact, action research and strategic studies. ICT based knowledge management systems and first level enterprise "tool box" for learning alliance completed to support selected sites in LAC, SE Asia and Africa, scaled up to 30 countries.	Clients: Strategic partners from NGOs, Gov extension, private enterprise, donor agencies and farmer organizations	Strategic partners invest in learning process and integrate marketing skills into project development and implementation	Increased partner skills, more effective rural development projects and inputs for improved public, private and donor policies
	Research outcomes lead to projects that enable differentiated clients and service providers to achieve better access to markets and services. New models in place that link private sector firms with smallholder farmers based on principles of business equity and sustainable NRM. Impact studies of BDS service options for small-scale producers undertaken in selected sites to support pro-poor market improvement.	Advocacy groups, NGO's, Policy and economics researchers, National – regional trade policy groups, Private sector firms.	Initial model for linking smallholders with major private sector firms in a sustainable fashion.	

	OUTPUTS	INTENDED USER	OUTCOME	IMPACT
OUTPUT 3	Approaches, tools and technologies for improving the competitiveness of smallholder producers of high value commodities including tropical fruits.	Scientists and research managers; development planners and practitioners; producer associations; policymakers; donors.	Decision-makers gain better understanding of high value crop systems and performance, and thereby take informed decisions on resource allocations.	R&D efforts more effectively and systematically targeted. Increased productivity of high value, readily-marketed products.
Output Targets 2007	Proposal for development of a Tropical Fruits Information Center submitted to potential donors for funding.	Research agencies, donors.	Consortium of potential national and international partners identified and engaged in the initiative.	
	Selected at least 10 elite clones from 3 fruit species with desirable attributes to growers and consumers. (lulo, Andean raspberry and avocado).	Local research and development agencies and farmers groups.	Producers using selected and propagated elite materials.	
	At least 6 populations of three fruit species (lulo, Andean raspberry and avocado) tested for resistance to most limiting diseases.	Research agencies.	Breeders of tropical fruits could add identified lines to their breeding program.	

	OUTPUTS	INTENDED USER	OUTCOME	IMPACT
OUTPUT 4	Technologies for better product and environmental quality through management of diseases and pests.	National research and development agencies; and farmer associations in Latin America and Africa.	Cost-effective and environmentally friendly practices and tools promoted by national R&D agencies and in use.	Increased rural income through increased yield, higher market values and reduced production costs.
Output Targets 2007	Molecular tools for detection, diagnosis and diversity studies of key pathogens and pests of CIAT commodities made available.	NARIs researchers in LAC, Asia and Africa, IARCs.	Disease and pest characterization tools developed and adopted by researchers.	
	At least 2 Brachiaria genotypes with spittlebug resistance, a whitefly resistant cassava variety, and 50 blast and sheath blight resistant rice lines developed.	Researchers in LAC, Asia and Africa; CIAT scientists; farmers.	Selected genotypes of Brachiaria, cassava and rice tested for resistance to insects and pathogens in different regions.	
	Management strategies for soil-borne pests (white grubs and burrowers bugs) evaluated with farmers.	NARIs and farmers in LAC, Africa.	Soil pest management methods adopted by farmers.	
	Farmer participatory research on integrated whitefly management conducted in selected pilot sites of sub-Saharan Africa, S.E. Asia and Latin America.	NARIs, Universities, NGOs, IARCs, farmers.	Methods in lower pesticide use resulting in lower production costs and environmental contamination adopted.	

	OUTPUTS	INTENDED USER	OUTCOME	IMPACT
OUTPUT 5	Policy guidelines, tools and innovations for adaptation to risk, high stress and vulnerability.	Policy-makers (public, private & donor), farmer organizations, NGO's, researchers in CIAT and partner organizations.	Improved conceptual and empirical understanding of how policy enables effective research and development interventions.	R&D efforts lead to effective, equitable and sustainable development in the tropics.
Output Targets 2007	Potential of payment for environmental services schemes to provide incentives for adoptions of better soil and water management practices in catchments assessed.			
	Canasta and Homologue tools adapted to a range of crops. Concepts expanded to Africa.	Decision makers in producer associations, NGOs, and GOs.	Tools are used for identification of environmental niches that support the implementation of supply chains high value crops.	More effective locating and targeting of germplasm leads to higher welfare and environmental benefits.

2. Outcome 2007 – Quality management of high value products

Three years ago CIAT engaged in a 3-year BMZ-funded project entitled Diversification Agriculture Project Alliance (DAPA) which had the overall objective of developing the methods and process for linking farmers to high-value product markets. DAPA focused on carefully selected agricultural products, including specialty coffees, high value fodder crops, aromatic plants and high-value honey supply chains in Colombia. The selection represents larger groups of similar products. The project developed a conceptual framework whereby quality of high value products is monitored and managed accordingly at the stages of the value chain that are in the origin country. The developed processes include those for the identification of quality niches in the landscape, quality management at the farm-level, and the accompanying information management of quality attributes through the value-chain.

DAPA research was organized under four thematic lines: (i) Methods and tools for the identification of environmental niches apt for high-value products and their site specific management. (ii) The development and testing of principles for online data management that assures information flow and traceability along the supply chain. (iii) The assessment of the costs and benefits of grower groups to participate in high-value supply chains. (iv) The governance mechanisms of supply chains that enable associations and grower groups' equitable participation in high-value supply chains.

The methodologies are generic in nature, and applicable to a number of high value crops where quality is controlled by environmental and / or management factors, and of value to the market. The uptake of methodologies developed by the project, and published in international peer-reviewed journals and books, by coffee grower associations and their partners led not only to higher farm-gate prices, but helped to establish a culture of quality management. The project also developed an information system entitled Cinfo which has evolved into a broader value-chain management system for differentiating agricultural produce based on their quality characteristics. Currently, over 1,500 farmers have their green coffee production managed in the Cinfo system as part of the DAPA project. DAPA research insights about the generation of relevant product quality information inform and empower producers to negotiate successful business deals. DAPA lead to several spin-off projects, where project outputs are now being adopted by a range of national farmer associations in Colombia, Honduras, Nicaragua, and coffee businesses in consuming countries. CIAT has been contracted to take part in some of these projects. The Cinfo database now houses data on 5,000 growers, and continues to grow. It is now the adopted system for managing quality in some major commercial projects of the National Federation of Colombian Coffee Growers, and training is continually requested on implementing such concepts and systems in new value-chains in coffee and other high value crops.

3. Achievement of Output Targets for 2007

Output 1: Institutional arrangements and mechanisms for targeting, increasing and evaluating impacts

Methodologies and approaches for diagnosis, tracking and strengthening social capital outcomes for improved NRM documented.

- Yes, 100% complete in both Africa and Latin America (Refer to papers by Sanginga et al, Njuki et al on social capital and NRM).

At least 10 active partnerships developed with national and international organizations in 4 Latin American countries, for action research on organizational procedures, institutional mechanisms and policies for co-development of technologies.

- Yes, 100% completed through the CAI-Kellogg Project (see report).

At least 40% of NARS professionals trained in the ERI framework are using it in at least four African countries, and as a result at least 25 farmers' groups are using the ERI approach.

- Yes (100% complete).

At least three teams of facilitators are formed in Africa and Latin America for wider capacity building, dissemination and application of community managed PM&E systems.

- One team formed at the Kenya Agricultural Research Institute. Others not formed due to departure of two senior social scientists. In Latin America, one team was formed in Bolivia and is active in training more technicians, while another is in process of being trained by the new trainers. (See project reports).

Disaggregated data on food consumption, and production and nutritional outcomes for key HarvestPlus target countries.

- Yes, 100% completed (see this Annual Report).

Output 2: Diagnostic, targeting and information tools that improve market value chain management for the economic and environmental benefit of smallholder farmers and the poor.

Agro-enterprise methods and strategies, market based software applications validated and contextualized with development partners. Products published in print and disseminated in electronic formats. Methods available in English, Spanish, French, Vietnamese and Lao.

- Yes. List of manuals at:

http://isa.ciat.cgiar.org/catalogo/listado_es.jsp?tema=AGROEMPRESAS.

Learning alliance partnerships established for impact, action research and strategic studies. ICT based knowledge management systems and first level enterprise "tool box" for learning alliance completed to support selected sites in LAC, SE Asia and Africa, scaled up to 30 countries.

- Yes. Refer to Learning alliances reports.

Research outcomes lead to projects that enable differentiated clients and service providers to achieve better access to markets and services. New models in place that link private sector firms with smallholder farmers based on principles of business equity and sustainable NRM. Impact studies of BDS service options for small-scale producers undertaken in selected sites to support pro-poor market improvement.

- Yes. Cuatro Pinos / Costco study; Gates Africa project (USD 5m); CRS project Nicaragua (USD 20m).

Output 3: Approaches, tools and technologies for improving the competitiveness of smallholder producers of high value commodities including tropical fruits.

Proposal for development of a Tropical Fruits Information Center submitted to potential donors for funding.

- Yes: Seed money for developing the proposal was obtained from donor; a full proposal was developed and submitted for funding to Asohofrucol (manager of National Horticultural Fund), Colombia in November 2006. However, this donor was not willing to fund the full proposal. Other donors and partners in the region has been approached without success. Activity will not longer continue in 2008.

Selected at least 10 elite clones from 3 fruit species with desirable attributes to growers and consumers (lulo, andean raspberry and avocado).

- 60%. Activities are still in progress and will be completed in 2008, as per timetable of corresponding projects. Full version of Annual Report 2007 provides details for this output target.
- Elite clones have been identified in national collections of Colombia and Ecuador (naranjilla and Andean blackberry) and are currently being tested for agronomic performance. Avocado germplasm for rootstocks is being collected by Corpoica (Colombia) and will be assessed for disease resistance (*Phytophthora cinnamomi*) in 2008. Low cost methodologies for clonal propagation of safe planting material are being developed and will be reported in 2008.
- At least 6 populations of three fruit species (lulo, Andean raspberry and avocado) tested for resistance to most limiting diseases.
- Activities are still in progress following the timetables of corresponding projects. Selected germplasm, from national collections in Colombia and Ecuador and from accession from farmers fields, is being tested for resistance to principle diseases and pests (diseases vary according to the species being evaluated). Annual Report 2007 describe the progress achieved to date.

Output 4: Technologies for better product and environmental quality through management of diseases and pests.

Molecular tools for detection, diagnosis and diversity studies of key pathogens and pests of CIAT commodities made available.

- Following the reorganization into Product Lines, this output target is reported under SBA RDC.

At least 2 *Brachiaria* genotypes with spittlebug resistance, a whitefly resistant cassava variety, and 50 blast and sheath blight resistant rice lines developed.

- Following the reorganization into Product Lines, this output target is reported under SBA RDC – cassava and rice.

Management strategies for soil-borne pests (white grubs and burrowers bugs) evaluated with farmers.

- Yes. Following the reorganization into Product Lines, this output target is reported under SBA RDC – Beans.

Farmer participatory research on integrated whitefly management conducted in selected pilot sites of sub-Saharan Africa, S.E. Asia and Latin America.

- Final report on whitefly project under preparation by end March 2008.

Output 5: Policy guidelines, tools and innovations for adaptation to risk, high stress and vulnerability.

Potential of payment for environmental services schemes to provide incentives for adoptions of better soil and water management practices in catchments assessed.

- Yes. Working paper submitted to CPWF.

Canasta and Homologue tools adapted to a range of crops. Concepts expanded to Africa.

- Yes. Tools in use in Africa.

4. Research Highlights 2007.

4.1 Genetic diversity in causal agent of Moko disease in banana and plantain

This study focused on characterization of the genetic diversity of a Colombian population of *R. solanacearum* race 2, causal agent of bacterial wilt of plantain and banana and a very important disease affecting these crops. Using Multiplex PCR a strain of *Ralstonia solanacearum* isolated from banana was found to be pathogenic in plantain, and showed genetic identity with a group of strains isolated from plantain around Colombia. The DNA pattern suggests that this strain is not pathogenic in banana. In areas where the two crops are produced together, the risk of non-pathogenic strains of *R. solanacearum* infecting plantain is high; consequently, disease management measures need to be developed.

4.2 Global modeling of impacts of climate change

Two papers, published or in press in peer reviewed journals, seek to understand the likely impact of climate change on aspects of the agricultural sector. Both papers have received press attention during the year.

The first looked at the threats of climate change on wild crop relatives in Latin America and Africa. Taking wild peanuts, potatoes and the *Vigna* genepool as case studies, species distribution modeling was combined with results from global climate models to evaluate the likely threat that climate change will have on these important wild species. Climate change strongly affected all species, with an estimated 16-22% (depending on the migration scenario used) of these species predicted to go extinct and most species losing over 50% of their range size. These results are important for highlighting the

importance of these genetic resources, and the need for policies to facilitate better conservation of the gene pools.

The second paper modeled climatic suitability for 43 crops from Annex 1 of the International Treaty for Plant Genetic Resources for Food and Agriculture (ITPGRFA), with the aim of understanding the geographic shifts in suitability of major crops and of some important high-value niche crops. Climate change is not all bad news for agriculture, with significant areas actually gaining in climatic suitability. Nevertheless, the most detrimentally affected, in terms of reduction of suitable areas for current staple crops, will be sub-Saharan Africa and the Caribbean, areas with the least technological capacity to cope. The paper shows on a crop by crop basis where the major threats and opportunities exist.

4.3 Enabling rural innovation

Farmer organizations are increasingly being recognized as key players in agricultural research and development. Research on the role of social capital in improving collective marketing, technology adoption and utilization, policy dialogue and in reducing conflict over natural resource in Southern Africa in 2007 showed that endowment in certain dimensions of social capital significantly decreased the occurrence of conflicts and played a significant role in managing them. However, social capital mechanisms have some limits, and are not always effective in resolving some types of conflicts. In such cases, people rely on formal mechanisms for arbitration and adjudication. The use of various soil management technologies is dependant on socio-economic variables as well as the existence of different dimensions of social capital. Social capital affects adoption especially through its importance in determining the access of households to a particular soil management technology. Different kinds of social capital influence technology adoption differently; therefore, it is important to differentiate these kinds when working with farmer groups and farmer organizations. While men and women were found to invest equally in participation in group activities or contribution of communal work, the benefits of social capital are unequally distributed. Women find it significantly harder to transform the number of social relations into improved information, access to markets, or help in case of need.

5. Description of one project outcome.

Targeted action-research to develop pro-poor private sector policy

CIAT Research on the French bean supply chain in Guatemala contributed to the development, improvement and implementation of pro-poor mechanisms by a major US retailer and the dissemination of these results to a group of large-scale buyers of agricultural products globally. This outcome relates to Outcome 3 – Pro-Poor Policy Options for Rural Communities – and specifically the respective Output target for 2006 of the former Rural Agro-enterprise Development Project. The outcome is documented in a study summary available at

<http://www.sustainablefoodlab.org/filemanager/download/7767/>

This outcome was achieved in the context of a Guatemalan French bean supply chain that links nearly 2,000 low-income rural producer families to dynamic markets in the US, moves 4.2 million pounds of product a year and generates US \$ 1.5 million income for

producers. The outcome contributed to the following changes: i) a decision by the retailer to source its product exclusively from poorer producers and communities; ii) a commitment by the retailer to source additional products (i.e. frozen beans) from the farmer owned cooperative; iii) review of existing business practices on the selection of secondary suppliers; and, iv) the establishment of a fund supported by a small percentage of profit from chain actors to reinvest in health care access and educational scholarships for participating smallholder communities and families.

Beyond the chain specific results, this case has contributed to thinking on sustainable relationships between major buyers of agricultural products globally and smallholder suppliers as evidenced by its use at the Healthy Value Chains workshop co-hosted by MIT, World Wildlife Fund and the Sustainability Institute in Boston (August 2007) ¹ and the Sustainable Value Chains workshop hosted by the Sustainable Food Laboratory in Guatemala (October 2007) ². Companies involved in these learning and discussions spaces purchase over US \$ 50 billion of agricultural products annually. They include Unilever, US Foodservice, Costco, CH Robinson, Chiquita, SYSCO, General Mills, Green Mountain Coffee Roasters, Coca Cola, IKEA, BP and Nike among others. The evidence in this paper has contributed to similar work on coffee in Mexico and Central America (with Green Mountain Coffee Roasters), work on shrimp and cashew nuts in Asia and Africa (Costco) and the assessment of tea sourcing (Unilever). Based on this work, CIAT has secured funding through a consortium for US \$ 5 million to work on new business models for sustainable trading relationships in Africa.

The principal users of this work are global buyers of major agricultural products. This study contributes to their understanding of how to build pro-poor mechanisms into their supply chains and, as a result, enhances opportunities for millions of smallholders globally directly and indirectly. The study served to initiate dialogues and concrete activities in this direction but is far from the expected final outcome, which is the mainstreaming of sustainable trading practices by businesses globally, and the development of a sustainable food system.

¹. <http://www.sustainablefoodlab.org/article/articleview/17942/>

². <http://www.sustainablefoodlab.org/article/articleview/18321/> and <http://www.sustainablefoodlab.org/filemanager/download/7425/>

6. Publications

Articles in refereed journals

- Abello, J. F., Kelemu, S., Garcia, C. 2007. *Agrobacterium*-mediated transformation of the endophytic fungus *Acremonium implicatum* associated with *Brachiaria* grasses. Mycological Research (In press).
- Alvarez, E.; Llano, G. A.; Loke, J. B.; González, A. 2007. Nuevas alternativas para el manejo del moko de plátano. Revista ASIAVA 78: 12-15.
- Alvarez, E.; Mejía, J. F.; Llano, G. A.; Loke, J. B. 2007. Detection and characterization of a phytoplasma associated with frog skin disease. Bulletin of Insectology 60(2):273-274.
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7. Funded project proposals

Project	Donor	Total US\$ in 2007	CIAT
BFP1 Workshop/Meeting 17-20 September 2007	IWMI	25,000	25,000
Elaboración de una nota conceptual que se le presentará a donantes potenciales, tales como CFC/FAO y la elaboración de una propuesta para que CENIPALMA estructure, organice y dirija la división de Apoyo a Palmicultores e investigadores	CENIPALMA	2,738	2,738
A Situation Analysis to Identify Challenges to Sustainable Management of Ecosystems to Maximize Poverty Alleviation: securing Biostability in the Amazon/Andes	DFID	122,113	122,380
Improving CGIAR effectiveness through Knowledge Sharing (KS) Planning and Coordination	IPGRI	18,765	18,765
Determinar cuantos de los beneficios netos de conservación de la cuenca abastecedora de Bogotá pueden ser pagados por el valor del aumento del caudal de agua y ahorros en costos de tratamiento	TNC	68,281	68,281
FEDERACAFE/Analyses of Coffee Quality and Production System Characteristics in Huila (North), Tolima (South), Santander and Santander Norte, Cesar-Guajira and Magdalena	FNC	90,000	90,000
Formulación del Plan de Ordenamiento y Manejo de la Cuenca del Río Melúa Municipio de Puerto López	Municipio de Puerto Lopez	8,697	8,697
Educoandes-Contrato Estudio de Línea Base con Indicadores Sociales, Económicos, Ambientales y Educativos	CGIAR	10,560	10,560
SDC - Knowledge Expedition Workshop Netherland	SDC	8,195	8,195
Transferencia Tecnológica y formación de capital humano en sistemas de información geográfica-SIG como herramienta de apoyo al ordenamiento territorial, departamentos piloto: Meta y Guajira	EC	43,203	43,203
Knowledge Sharing: Scaling up and Strengthening Champions	ICT-KM	170,500	210,500
Identificación de Nichos de Café Especiales y la Interacción de la Calidad y el medio ambiente	CAFENICA	12,548	12,548
Alianza para la creación de oportunidades de desarrollo rural a través de relaciones Agroempresariales (ACORDAR)	ACORDAR	28,000	28,000
Linking Farmers to Markets Partnership Programme	FAO	110,500	110,500
Fortalecimiento Organizativo y Empresarial de Pequeños Productores Porcícolas del Municipio de Candelaria	N/A	3,414	3,414
Developing a Community of Practice for Agricultural Marketing and Agro-Enterprise Development in ACP countries	CTA	5,264	5,264
Productores de Lulo y Mora Competitivos Mediante Selección Participativa de Clones Elite, Manejo Integrado del Cultivo y Fortalecimiento de Cadenas de Valor	FONTAGRO	96,758	172,770
Equipos insumos/materiales	FONTAGRO	41,348	105,027
FLIPA-Fondo Latinoamericano de Innovación en Palma de Aceite	FLIPA	166,790	166,790
INIA-Institutional Strengthening for Sustainable Resource Use in the Amazon	INIA	149,730	149,730
Contribution EMBRAPA	EMBRAPA	22,890	22,890

Impact Assessment of Research in the CPWF: An Adoption and Cost-Benefit Analysis Project	CPWF-IWMI	79,993	79,993
Breaking the Spiral of Unsustainability in arid and Semi-Arid areas in Latin America Using an Ecosystems Approach for co-Innovation of Farm Livelihoods	CE	39,311	39,311
Desarrollo de un modelo para la gestión integrada de recursos hídricos, que promueva la equidad, la reducción de la pobreza y el desarrollo del país, bajo el concepto de Desarrollo Sostenible	Univalle/ COLCIENCIAS	13,761	13,761
Managing Uncertainty: Innovation Systems for Coping with Climate variability and change	ASARECA	18,370	18,370
Improving Livelihoods and Enhancing Protected area Buffer Zone Functions by Integrating Profitable Nature-based agro-entreprises and Natural	FARA (SSA CP)	355,000	1,860,000
The Borlaug Leadership Enhancement in Agriculture Program (LEAP)Richard Miiro	CGIAR	13,805	13,805
The Borlaug Leadership Enhancement in Agriculture Program (LEAP) Sheila Onzere	CGIAR	9,785	9,785
Total		3,420,277	1,735,319

ACTUAL EXPENDITURES 2007

Outcome Line PA-1: Linking Farmers to Markets

SOURCE	Total US\$	(%)
Unrestricted Core	540,802	8%
Restricted Core		0%
Sub-total Core	540,802	8%
Restricted		
Special Projects	4,938,656	77%
Water and Food Challenge Program	59,255	1%
Sub Total Restricted	4,997,910	78%
Direct Expenditures	5,538,713	86%
Non Research Cost	874,964	14%
Total Expenditures	6,413,676	100%

⁽¹⁾ Excluding Non Operational expenses: Phase-out and Fixed Assets adjustment.

ACTUAL EXPENDITURES 2007

Outcome Line PA-2: Risk & Climate Change

SOURCE	Total US\$	(%)
Unrestricted Core	613,918	16%
Restricted Core		0%
Sub-total Core	613,918	16%
Restricted		
Special Projects	1,712,509	44%
Generation Challenge Program	74,377	2%
Sub Sahara Africa	113,193	3%
Water and Food Challenge Program	836,938	22%
Sub Total Restricted	2,737,017	71%
Direct Expenditures	3,350,935	86%
Non Research Cost	529,355	14%
Total Expenditures	3,880,291	100%

⁽¹⁾ Excluding Non Operational expenses: Phase-out and Fixed Assets adjustment.

ACTUAL EXPENDITURES 2007

PA-3: PRGA

SOURCE	Total US\$	(%)
Unrestricted Core	37,623	7%
Restricted Core		0%
Sub-total Core	37,623	7%
Restricted		
Special Projects	449,406	80%
Sub Total Restricted	449,406	80%
Direct Expenditures	487,029	86%
Non Research Cost	76,397	14%
Total Expenditures	563,426	100%

⁽¹⁾ Excluding Non Operational expenses: Phase-out and Fixed Assets adjustment.

8. Project Staff (* Left during 2007)

IRS

Alonso Gonzalez (100%)	PhD, Biologist	Senior Scientist, Project Manager
Andrew Jarvis (50%)	PhD, Geography	Senior Scientist
Andy Farrow (100%)	MSc, GIS	Research Fellow, Kampala, Uganda
Arjan Gijsman*	PhD, Soil Science/Crop Modeling	Associate Member to Senior Staff
Boru Douthwaite (50%)	PhD, Sociologist	Senior Scientist
Douglas White (50%)	Ph.D., Agr. & Environ. Econ.	Senior Research Fellow
Edith Hesse (100%)	PhD. Economist	Senior Scientist
Elizabeth Alvarez (100%)	PhD, Pathologist	Senior Scientist
Francisco Morales (100%)	PhD, Virologist	Senior Scientist
Jemimah Njuki (100%)	PhD, Sociologist	Senior Research Fellow, Harare, Zimbabwe
John Connell*	BS Mining	Senior Research Fellow, Vientiane, Lao PDR
Keith Fahrney S. (100%)	MSc, Agronomy	Senior Scientist, Project Manager, Vientiane, Lao PDR
Mark Lundy (100%)	MA Latin American Studies, MSc Community & Regional Planning	Senior Research Fellow
Nancy Johnson (100%)	PhD., Economist	Senior Scientist
Norbert Niederhauser (50%)	DI(FH), Inf. & Com.Engineering	Research Fellow
Pascal Sanginga* (100%)	Sociologist	Senior Scientist, Kampala, Uganda
Roberto Porro (50%)	PhD, Anthropology	Senior Scientist
Roger Kirkby (100%)	PhD, Agronomist	Leader of Outcome Line and PA RDC
Segenet Kelemu* (100%)	PhD, Pathologist	Senior Scientist
Shaun Ferris* (100%)	PhD, Post Production	Senior Scientist
Simon Cook (100%)	PhD, Social Scientist	Senior Scientist
Susan Kaaria (100%)	PhD, Economist	Senior Scientist, Kampala, Uganda
Thomas Oberthur* (100%)	PhD, Geography	Senior Scientist
Tiago Wandschneider (100%)	Msc Economist	Senior Scientist. Hanoi, Vietnam
Zaida Lentini (100%)	PhD, Geneticist	Senior Scientist

NRS

Adriana Arenas (100%)	Biologist	Research Assistant 3
Adriana Cardona (100%)	Economist	Administrative Assistant 3
Alexander Cuero (100%)	Systems Technology	GIS Expert
Alvaro Mejía (100%)	PhD, Cell Biology	Research Associate
Ana Karine Martinez (100%)	MSc, Plant Breeding	Research Assistant 2
Ana Milena Guerrero (100%)	Bilingual Secretary	Bilingual Secretary
Annet Abenakyo (100%)	MSc, Management of Agro-Ecological Knowledge and Social Change	Research Fellow, Kampala, Uganda
Bertha Libia Garcia (100%)		Laborer 3
Buenaventura Riascos (100%)		Technician 1
Carlos Julio Herrera (100%)	Agronomy Engineering	Research Assistant 1
Carlos Nagles (100%)	Agricultural Technology	GIS Expert
Carlos Ostertag (100%)	MSc, Industrial Management	Research Associate 1

Carlos Quiros (100%)	MSc Agronomist	Research Associate 1
Carolina Gonzalez (100%)	Lawyer and Economist	Research Associate
Catalina Ramirez* (100%)		Asociado Invest. 2
Cesar Tulio Rodríguez (100%)		Laborer 1
Clara Roa (100%)	MSc, Sanitation and Water Resources	Research Assistant 2
Claudia Perea (100%)	BSc, Systems Engineer	Systems Analyst 3
Diego Izquierdo (100%)	BSc, Economist	Research Assistant 2
Edidah Lubega (100%)	MSc, Agricultural Extension Education	Regional Research Fellow, Kampala, Uganda
Eduardo Gómez (100%)	BSc, Microbiologist	Research Assistant 2
Edward Guevara (100%)	Environmental Engineering	Technician 1
Eliud Kaganzi (100%)	BSc, Agroenterprise Development	Research Assistant, Kampala
Elizabeth Barona (100%)	BSc, Systems Engineer	GIS Analyst 3
Elly Kaganzi* (100%)	BSc, Agroenterprises	Research Assistant, Uganda
Erika Eliana Mosquera (100%)	BSc, Social Communicator	Research Assistant 3
Escobar Freddy (100%)		Technician 1
Fernando Lukauskis (100%)	Agronomy Engineering	Administrative Assistant 1
Francisco Escobar (100%)	Social Communicator	Communication Assistant 2
Gerardo Arturo Criollo (100%)		Technician 2
German Lema (100%)	BSc, Industrial Engineering	Statistical Consultant 2
German Llano (100%)	MSc Breeding	Research Assistant 1
Harrison Moran (100%)	Bachiller	Laborer 3
Herman Jose Usma (100%)	Agricultural Technology	Expert Research 1
Isaura Rodriguez (100%)	Agronomy Engineering	Research Assistant 2
Ivan Lozano (100%)	Biologist	Associate 1
James Garcia (100%)	MSc, Statistician	Data Base Specialist
Jenny Correa* (100%)	BA Social Communication	Research Assistant 1
Johanna P. Villamizar (100%)	Biologist	Research Assistant 3
John Bernard Loke (100%)	Agronomy Engineering	Professional Especialist
John Jairo Hurtado (100%)	BSc, Food Technology	Research Assistant 1
Jorge Beltran (100%)	Agronomy Engineering	Associate Expert
Jorge Cabrera (100%)		Technician 1
Jorge Cardona (100%)	BSc, Systems Engineer	Systems Analyst 3
Jorge Delgado (100%)		Pool Laborer
Jose de Jesus Tamayo (100%)	Technical	Laborer 1
Jose V. Roa (100%)	Agronomy Engineering	Profes. Especialista
Juan Fco. Barona (100%)	BSc, Marketing and International Business	Research Assistant 3
Juan Fernando Mejia (100%)	MSc Breeding Candidate	Technician 1
Juan Miguel Bueno (100%)	Agronomy Engineering	Research Associate 2
Libardo Rivas* (100%)	MSc, Economist	Research Associate 1
Lilian P. Torres (100%)	BSc, Business Administration	Administrative Assistant 1
Liliana Rojas (100%)	MSc, Natural Resources	Research Assistant 1
Lucia Afanador (100%)	MSc, Phytopatology	Visiting Researcher
Luis Armando Munoz (100%)	Biologist	Research Assistant 3
Luis Hernandez (100%)	PhD Development	Research Associate 1
Ma. Alexandra Peralta* (100%)	BSc, Economist	Research Assistant 2
Ma. Consuelo Martinez (100%)		Technician 1
Marcela Estrada* (100%)	Agronomy Engineering	Research Assistant 3
Marcela Quintero (80%)		Research Assistant 2

Maria Cecilia Roa (100%)	PhD, Water Resources	Research Assistant 1
Maria Claudia Garzón (100%)		Secretary 4
Maria Eugenia Buitrago (100%)	Biologist	Research Assistant 3
Maria Luisa Orozco (100%)	Agronomy Engineering	Research Assistant 3
Mariam Mapila (100%)		Regional Research Fellow, Uganda
Mariana Oropeza (100%)		Administrative Assistant 1 (Bolivia)
Marisol Calderón (50%)	Architectural Drawing	Office Clerk 1
Melissa Garcia Ramos (100%)		Administrative Assistant 3
Mike Salazar (100%)	Ecologist	Research Assistant 3
Noel Sangole (100%)		Research Associate, Uganda
Oscar Sandoval (100%)	BSc, Agro-industrial Engineering	Research Assistant 3
Ovidio Rivera (100%)	Systems Technology	Office Clerk 4
Paola A. Victoria (100%)	BSc, Social Communicator	Communications Assistant 3
Patrick Engoru (100%)	MSc, Agricultural Economics	Research Fellow, Kampala, Uganda
Peace Kankwatsa (100%)	MSc, Crop Science	Regional Research Fellow, Kampala, Uganda
Samir Patino (100%)	BSc Student, Business Administration	Office Clerk 2
Sandra Bolaños* (100%)	BSc, Industrial Engineering	Research Assistant 1
Silvia E. Castaño (100%)	BSc, Systems Engineer	GIS Coordinator
Tennyson Magombo (100%)		Research Assistant Agro-Enterprise Uganda
Victor M. Soto (100%)	BSc, Business Administration	GIS Expert
Viviana Gonzalias* (100%)	MSc, Sustainable Forestry	Research Assistant 2
Wilson Celemin (100%)	Student administration	Technician 1
Zulma Zamora (100%)	Technical Systems	Secretary 4