

**PEOPLE AND AGROECOSYSTEMS RESEARCH FOR DEVELOPMENT
CHALLENGE (PA RDC)**

ANNUAL REPORT 2008

Outcome Line: Agroecosystems Resilience





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PEOPLE AND AGROECOSYSTEMS RESEARCH FOR DEVELOPMENT CHALLENGE
(PA RDC)

Outcome Line: Agroecosystems Resilience

Introduction

The tropical world is characterized by considerable variation, at all scales from community to the region. 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 composition, agroecological situation and socioeconomic circumstances.

Development and research practitioners need tools that enable them to work at different scales, and to discriminate effectively among rural populations and environments. Outcomes tailored to specific social and biophysical contexts are needed to achieve widespread impact under these conditions. 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) in order to yield robust and international public goods.

This project (outcome line) is new to CIAT's portfolio of projects for 2008. It was established in late 2007, taking on components of the Markets, Institutions and Livelihoods project. The project is among the smaller ones of CIAT, and currently consists of two outputs:

1. Institutional arrangements and mechanisms for targeting, increasing and evaluating impacts
2. Policy guidelines, tools and innovations for adaptation to risk, high stress and vulnerability.

The emphasis of the project is on process-based research which supports other research activities within CIAT and with external partners (including CPs), with a thematic focus on generating better understanding of water-related processes and issues surrounding climatic risk. A common theme throughout the project is that of impact mapping, both geographically and institutionally.

Outputs from this project will increase the effectiveness of other projects of CIAT, as well as the wider R&D community. Output 1 specifically develops knowledge on how impact occurs in complex institutional, economic, environmental and geographic settings, and develops methodologies for monitoring and evaluating impacts. Output 2 focuses on the significant risks facing rural communities (especially from climate variability and change) through impacts on agricultural production and the natural resource base, and develops tools and methodologies for assessing and adapting to these risks from the local to the regional scale. This output specifically

looks at the challenges of climate variability and change to rural communities, providing policy-relevant insights of impacts and potential adaptation mechanisms.

Cross-cutting between both outputs is the use of spatial analysis for characterizing the problems associated with rural development and for supporting ex-ante and ex-post impact assessments and supporting research decisions during the life of projects. This builds on CIAT's core competency in spatial analysis, and an important component of the project's strategy is one of service provision within CIAT and to key external partners.

The project operates through close collaboration with other projects within CIAT (both germplasm and natural resources) and with external partners, especially Challenge Programs. The project leads Theme 2 of the Water and Food Challenge Program, co-coordinates the Andes Basin Focal Project of the Water for Food Challenge Program, plays a coordination role in the Lake Kivu pilot site of the SSA-CP, and supports both Harvest Plus and GCP through geographic analyses of ex ante impact. Gender analysis will be applied systematically in the work described here.

1. Outcome Line Logframe

The logframe for 2008-2010 was still based on the old RDC structure of an integrated logframe with 5 products (or broad outputs). The logframe for 2009-2011 is the first which is actually structured around the Agroecosystems Resilience Outcome Line structure.

Targets	Output	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 2009	An approach for strengthening and weaving effective networks for influence and pro-poor impact put into use in at least one R4D program	Complex R4D research programs and projects, eg. CPWF, SSA CP, PABRA, EULACIAS Project, KS-in-Research Project, Cambio Andino Project; ERI project collaborators in Eastern and Southern Africa	Complex R4D research projects and programs use network methods developed to monitor, evaluate and strengthen the networks that they build and foster	More efficient use of research-for-development funds to foster innovation; higher quality 'learning selection' in projects and programs using the tools; improved relevance and impacts of agricultural innovations systems through better expression of user-demands (see above)
	Methodological framework for testing and evaluating innovation platforms (multi-stakeholder partnerships between private-public-CSOs) and other forms of partnerships for facilitating small holder participation in high value market chains	National agriculture research and extension systems; SSA-CP, civil society organizations; decentralized local Governments and local institutions; rural service providers	Increased capacities of organizations / institutions to develop and promote integrated agro-enterprise development solutions for wealth creation	Effective multi-stakeholder partnerships with skills in innovative approaches for linking farmers to markets, improved performance of the research for development, better delivery of quality services, accelerated uptake of agricultural innovations and feedback to research and development priorities

Targets	Output	Intended User	Outcome	Impact
Output Targets 2010	Extrapolation domain analysis comprising biophysical and social parameters developed for supporting technology transfer	Policy-makers (public, private & donor), farmer organizations, NGOs, researchers in CIAT and partner organizations	Researchers and development practitioners using extrapolation domain analysis to identify the geographic targets for specific agricultural technologies, practices or policies	Appropriate agricultural and natural resource technologies, practices and policies being used by rural communities, contributing to reduced poverty and sustainable natural resources
	Water-poverty interactions assessed in the Andes through expert knowledge and Bayesian network analysis	CPWF, Organizations working on pro-poor development, conservation organizations, managers of water systems	Improved understanding of water-poverty interactions leading to improved targeting of programs, interventions and benefits towards the rural poor in the Andes basin	Targeted R+D reduces poverty associated with water-related processes in the Andes
Output Targets 2011	Institutional priorities and arrangements identified with respect to water, poverty and agricultural production in the Andes	Organizations in the Andes that address issues of agriculture, natural resources and economic development, CPFW.	Enhanced understanding of multiple objectives at basin scales leading to complementarities and tradeoffs. Discussion amongst stakeholder groups to negotiate preferable and equitable policies and projects.	Improved soil, water and agricultural productivity contribute to human welfare and ecosystem resilience.
OUTPUT 2	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.

Targets	Output	Intended User	Outcome	Impact
Output Targets 2009	Socio-economic and agronomic vulnerability hotspots identified under current climate variability and future climate change	Policy-makers (public, private & donor), farmer organizations, NGOs, researchers in CIAT and partner organizations	Tools developed and applied for the identification of development policies and associated investments that support the implementation of profitable and resilient land uses	Improved efficiency of development interventions in increasing the adaptive capacity of agricultural systems to climate variability and change
	Standard protocol for valuation of ecosystem services (soil and water) developed and tested in at least 2 pilot sites	Policy-makers (public, private & donor), farmer organizations, private sector, NGOs, researchers in CIAT and partner organizations	Ecosystem service payment schemes launched in two pilot sites, contributing to sustainable land-use systems	Ecosystem service payment schemes established in two pilot sites, improved soil and water use and increased farm productivity.
	Poverty assessments and crop-specific drought maps for priority areas of the Generation Challenge Program	Agricultural scientists of the Generation Challenge Programs and others working on drought.	Agricultural scientists will be able to more efficiently target drought tolerant varieties to poor farmers in drought-prone environments	Drought tolerant varieties lead to improved productivity and better livelihoods for those living in marginal environments
Output Targets 2010	A set of instruments (seasonal forecasting, insurance, policy), agricultural technologies and practices for coping and adapting to climate change identified and promoted in pilot sites	Policy-makers (public, private & donor), farmer organizations, NGOs, researchers in CIAT and partner organizations	Innovations contributing to enhanced resilience in agricultural systems to climate variability and change	Less vulnerability of rural communities, especially in marginal areas, to climate variability and change
	Assessment of drought phenotyping trial sites to provide information for future field trial planning and dissemination of drought tolerant genotypes.	Plant breeders in CIAT and partner organizations, GCP, NARS	Improved targeting of research activities leads to development of better varieties at lower cost	Drought tolerant varieties lead to improved productivity and better livelihoods for those living in marginal environments

Targets	Output	Intended User	Outcome	Impact
	Breeding strategy recommendations to confront global climate change made for at least 3 crops on a global scale	Plant breeders in CIAT and partner organizations, GCP, NARS	Crop improvement programs have a 20-year vision of demand for new germplasm and use it to develop crop improvement programs	Farming communities have adapted germplasm at their disposal to confront future challenges from climate change
Output Targets 2011	Community-based risk experimental methods developed to evaluate change scenarios at the local level in the context of global change	Policy-makers (public, private & donor), farmer organizations, NGOs, researchers in CIAT and partner organizations	Methodologies available for evaluating climatic risk from the community perspective	Communities less exposed to climatic risk through adoption of appropriate resilient technologies and practices
	Weather insurance schemes based on sound climatological and agronomic science in place in at least two sites in two different countries	Policy-makers (public, private & donor), farmer organizations, NGOs	Methodologies developed by CIAT are adopted by partner organizations and used in the development of weather insurance schemes	Reduced climatic risk-exposure of rural communities leads to reduced poverty and more stable livelihoods
	An assessment of the potential of payment for environmental services generated from agriculture to both improve the environment and rural livelihoods	Agricultural extension, Organizations working on pro-poor development, conservation organizations, managers of downstream water systems (irrigation and potable water)	Where appropriate, farmers will receive additional incentives to adopt soil and water conserving practices	Upland agriculture is more productive and sustainable and downstream water supplies are improved

2. Outcome 2008 - Targeting of high-value crops to environmental niches through a supply-chain framework

CIAT research on the targeting of high-value crop options to environmental niches in Latin America and Africa has generated a number of methodologies and tools which are now being used widely by public and private organizations engaged in high-value supply chains. This outcome refers to Output 2 of the BP-2 project in CIAT's 2007-2009 MTP, which aimed to generate "Frameworks and tools for evaluating and targeting technology and/or management alternatives in agriculture and NRM R&D".

This outcome was achieved largely through a project in Colombia and Ecuador on diversification options in hillside landscapes, and through a number of off-shoot projects including also Central America which were subsequently developed. The overriding principle of this work focused on the development of generic tools and methodologies for identifying niches for high-value crops, and the application of such methodologies in coffee, honey, medicinal plant and high-value forage supply chains. A total of 52 community-based organizations, public institutions, and private companies were involved.

The Cinfo system was developed and made operational, which allows the two-way flow of information between producers, exporters, and roasters, and even the consumer. During the course of the project, some 2,000 farms were integrated into the Cinfo system. Today more than 4,000 farms are registered in Cinfo and this number continues to increase as other farmer organizations and secondary level organizations adopt the tool.

Homologue software was developed to find homologous environments for technological transfer, where a particular variety or management regime may be well adapted. This was used to identify specific niches for high-quality coffee production, and results were validated in the field. Homologue has now been distributed to over 100 organizations across the globe, including NARS, ARIs, and sub-national research and development organizations.

Canasta software was developed to combine expert knowledge with formal scientific knowledge in order to predict potential adaptation zones for a species. It was used to identify specific niches for high-quality production of coffee in Colombia and Central America, and through the Cinfo system this information is fed back to the farmer in order to provide options for increasing farm income. It is now being used on a range of different crops in different continents, including for the generation of a denomination of origin for coffee in Colombia and Nicaragua.

Today, Homologue and Canasta are being used by external partners across Latin America, Africa and Asia for identifying environmental niches for a wide range of crops and species, including many underutilized crop species.

The analysis of the environmental drivers of coffee quality brought a number of important insights, which provided essential components for projects such as the subsequent work with the Federación Nacional de Cafeteros de Colombia on denomination of origin. A number of other spin-off projects have been generated, and continue to be implemented in the region with new institutions which have become interested in the environmental niche concept for stimulating rural development around high-value supply chains.

The evidence for this outcome is available in a range of reports and scientific publications which are using the principles, concepts and tools of identifying environmental niches for high value

products. An impact study of the output from the 2007 MTP is pending to fully quantify adoption, uptake and changes in farm income derived directly or indirectly from this outcome.

3. Achievement of Output Targets for 2008

We successfully and fully achieved all output targets for 2008:

TARGETS 2008	Fully Achieved	EXPLANATION
<p>PRODUCT 1</p> <ul style="list-style-type: none"> A method for tracking change, improving learning, accountability, relevance and impacts of agricultural innovation systems tested in at least two countries in Africa and Asia 	X	<p>The method developed is Participatory Impact Pathways Analysis which has been published in the Canadian Journal of Program Evaluation and has been adopted by CPWF, the CIP-CIAT Project Cambio Andino and the EULACIAS project where it is the basis of the Co-Innovation Dynamics work package.</p> <p>Evidence: Rotondo, Emma, Rodrigo Paz, Graham Thiele. 2008. EVALUATION OF OUTCOMES AND IMPACTS OF PARTICIPATORY METHODOLOGIES. Andean Change project approach. WORKSHOP ON RETHINKING IMPACT, Capturing the Complexity of Poverty and Change, Cali-Colombia, March 26-28. Downloaded from: http://www.prgaprogram.org/riw/files/papers/Paper%20Cambio%20Andino%20PRGA%20Workshop%20vf.doc. on 2nd March, 2009</p> <p>EULACIAS web site http://www.eulacias.org/posters_presentations.html</p>
<ul style="list-style-type: none"> A set of good practices derived from Colombia and Kenya for strengthening the participation of the poor in land and water management institutions. 	X	<p>Report on the SCALES project delivered to the CPWF:</p> <p>Johnson, N., 2008, Sustaining inclusive Collective Action that Links across Economic and Ecological Scales in upper watersheds (SCALES), Report produced by CIAT for the CPWF, 41pp, CIAT, Colombia.</p>
<ul style="list-style-type: none"> Two studies published assessing levels and dimensions of social capital and approaches that are critical for promoting pro-poor market linkages, farmer experimentation, social inclusion, and investment in natural resource management in Eastern Africa. 	X	<p>Two publications:</p> <p>Susan Kaaria, Jemimah Njuki, Annet Abenakyo, Robert Delve, Pascal Sanginga. Assessment of the Enabling Rural Innovation (ERI) approach: Case studies from Malawi and Uganda. Natural Resources Forum 32 (2008) 53–63.</p> <p>Kaaria, Susan K.; Njuki, Jemimah; Abenakyo, Annet; Delve, Robert J.; Sanginga, Pascal C. 2008. Enabling rural innovation: Empowering farmers to take advantage of market opportunities and improve livelihoods. In: Sanginga, Pascal C.; Waters-Bayer, Ann; Kaaria, Susan K.; Njuki, Jemimah; Wettasinha, Chesha (eds.). Innovation Africa: Enriching farmers' livelihoods. Earthscan, London, GB ; Sterling, VA, USA. p. 167-185.</p>
<p>PRODUCT 2</p> <ul style="list-style-type: none"> Three sets of frameworks, methodology and tools to target staple crops and higher value products to environmental and socioeconomic niches developed and 	X	<p>CANASTA, HOMOLOGUE and empirical statistical methods developed for identifying niches for 23 underutilised crop species globally, banana, plus a range of other crops: Salazar M. and Jarvis A., 2008, Mapping of Geo-Environmental Niche Suitability (G-ENS) For Neglected and Underutilized Plant Species (NUS), Report</p>

tested for at least 15 crops (General spatial analysis tools, as well as CIAT's Canasta and Homologue software tools, adapted to a range of crops; concepts expanded to Africa)		to the Global Facilitation Unit (GFU), CIAT, Cali, Colombia.
<p>PRODUCT 3</p> <ul style="list-style-type: none"> A methodology and two prediction models to target higher value products to environmental niches developed and tested with at least 5 crops in LAC. 	X	<p>Detailed niche identification methodologies and prediction models developed for coffee in Colombia, Peru and Nicaragua (reports available), including methodologies for defining denominations of origin:</p> <p>Oberthur, t. et al, 2008, Strengthening the Implementation of Denominations of Origin for Coffee in the Huila, Tolima, Santander, Santander Norte, César and Magdalena Departments of Colombia: Relationships between Environmental Factors and Inherent Quality Characteristics of Green and Roasted Coffee Beans, Report to the National Federation of Coffee Growers, 162pp., CIAT, Colombia.</p> <p>Niche identification methods and tools applied also to some high-value underutilized species:</p> <p>Salazar M. and Jarvis A., 2008, Mapping of Geo-Environmental Niche Suitability (G-ENS) For Neglected and Underutilized Plant Species (NUS), Report to the Global Facilitation Unit (GFU), CIAT, Cali, Colombia.</p>
<p>PRODUCT 5</p> <ul style="list-style-type: none"> Standard protocol to examine how farmer linkages to markets affect investments in NRM (currently in use in Malawi, Uganda, Zimbabwe, Mozambique). 	X	<p>Method for measuring and analysing social capital and its relationship with market access and other variables are described for three Southern African countries in:</p> <p>Njuki, J.M., M.T. Mapila, S. Zingore and R. Delve. 2008. The dynamics of social capital in influencing use of soil management options in the Chinyanja Triangle of southern Africa. <i>Ecology and Society</i> 13 (2): 9.</p>
<ul style="list-style-type: none"> Comprehensive assessment of the state of ecosystem services and its link with poverty in the Andes/Amazon region. 	X	<p>Report produced for DFID, and published on the web:</p> <p>ESPA-AA 2008: Challenges to Managing Ecosystems Sustainably for Poverty Alleviation: Securing Well-Being in the Andes/Amazon. Situation Analysis prepared for the ESPA Program. Amazon Initiative Consortium, Belém, Brazil. Available from http://www.ecosystemsandpoverty.org/wp-content/uploads/2008/05/espa-aa-final-report-small-version_.pdf</p>
<ul style="list-style-type: none"> Baseline spatial datasets on climate, climate risk and natural resources (vegetation) developed. 	X	<p>Datasets developed and being used internally, and being offered externally when bandwidth permits:</p> <p>http://srtm.csi.cgiar.org http://www.worldclim.org http://www.diva-gis.org</p> <p>Climate risk data has been generated and has been disseminated to national partners.</p>

4. Research Highlights 2008

Following the three broad areas of work we engage in, here follows three research highlights:

4.1 Technology and impact targeting:

4.2 Equitable and sustainable use of ecosystem services: Ecosystem services and poverty alleviation in the Andes/Amazon

We completed a strategic analysis of the entry points for both research and development in the Amazon region with regard to ecosystem services and poverty alleviation. The report aims to guide research and capacity-building priorities related to ecosystem services and poverty alleviation in the Amazon basin and eastern Andes. It is the result of extensive engagement with stakeholders in the region, combined with novel analysis of secondary data on poverty and ecosystem services such as water provision, biodiversity, and soil quality. The report presents a list of priority research challenges for the region, concluding that it is far more cost effective to prevent future degradation through incentive-based schemes that empower local communities rather than force people to comply authoritatively. Commissioned by the Ecosystems Services for Poverty Alleviation Programme (ESPA), a UK-based initiative of DFID, NERC, and ESRC to promote multi-disciplinary research in sustainable ecosystem management, this study is valuable to direct environmental-management policy at all levels. The full report is available at: <http://www.ecosystemsandpoverty.org/wp-content/uploads/2008/05/espa-aa-final-report-small-version.pdf>.

4.3 Climate change: The changing geography of agricultural suitability

There have now been a number of global and regional studies on the impacts and potential implications of climate change on agricultural productions of major crops, with some studies examining the significance of these changes to food security. Whilst a significant percentage of food intake per capita is accounted for by the world's ten biggest crops, food and nutritional security depends on a much wider range of crops, some of which are consumed on farm and others cultivated as cash crops. Unfortunately, mechanistic-based models (like DSSAT) are only available for a handful of crops, which goes to explaining the concentration of research on major staples. We used a simpler approach to modeling the impacts of climate change on agriculture using the Ecocrop niche-based model. Under 2 different scenarios, and 18 downscaled GCM models we map the changing geographies of crop suitability to 2020 and 2050 for 50 crops. The crops studied included staples, cash-crops and traditional crops that contribute heavily at the local scale to food and nutritional security. Using agricultural production and export data from FAOSTAT, we analyzed the impacts within the context of food and nutritional security for tropical countries. The analysis shows that a great deal of opportunities exist in agriculture as a result of climate change if farmers have the access and information to change varieties and, when necessary, their crops. When the crops are grown for cash, this is easy. However, when the crops are of large cultural importance and highly traditional, adaptation measures are made significantly more difficult. We used this approach to identify hotspots of both opportunity, and of significant challenges where fundamental changes in the agricultural system may be required. The results of this research were presented in numerous international fora.

5. Description of one project outcome.

Targeting of high-value crops to environmental niches through a supply-chain framework

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6. Publications

Articles in refereed journals

- Abello, J.F.; Kelemu, S.; Garcia, C. 2008. *Agrobacterium*-mediated transformation of the endophytic fungus *Acremonium implicatum* associated with *Brachiaria* grasses. *Mycological Research* 112(3):407-413
- Bode, R.; Arévalo, D.; Victoria, P. 2008. Knowledge management and communication to address information access and power asymmetries for resource-poor producers in value chains. *Knowledge management and knowledge sharing in Latin America and Caribbean". Knowledge Sharing for Development Journal* 4(1): 5-20
- Börner, J.; Wunder, S. 2008. Paying for avoided deforestation in the Brazilian Amazon: From cost assessment to scheme design. *International Forestry Review* 10: 496-511.
- Carvajal, A.; Mayorga, O.; Douthwaite, B. 2008. Forming a Community of Practice to Strengthen the Capacities of Learning and Knowledge Sharing Centers in Latin America and the Caribbean—A D-Group Case Study. *KM4D Journal* 4(1):71-81
- Diaz-Nieto, J.; Cook, S.; Jones, P.; Laderach, P. (submitted). Helping small-holder farmers to manage drought risk through insurance: A case study of dry bean production in Honduras, *World Development*.
- Diaz-Nieto, J. Cook, S. Lundy, M. Fischer, M. Laderach, P. (submitted). Risk sharing through insurance: Weather indices for designing micro-insurance products for poor small-holder farmers in the tropics. *Journal of International Development*
- Douthwaite, B.; Alvarez, B.S.; Cook, S.; Davies, R.; George, P.; Howell, J.; Mackay, R.; Rubiano, J. 2008. Participatory Impact Pathways Analysis: A Practical Application of Program Theory in Research-for-Development. *Canadian Journal of Program Evaluation* 22(2):127–159
- Gotschi, E., Njuki, J., Delve, R. 2008. Gender equity and social capital in smallholder farmer groups in central Mozambique. *Development in Practice* 18(4-5): 650-657.
- Hyman, G.; Fujisaka, S.; Jones, P.; Wood, S.; De Vicente, M.C.; Dixon, J. 2008. Strategic approaches to targeting technology generation: Assessing the coincidence of poverty and drought-prone crop production. *Agricultural Systems* 98:50-61.
- Jarvis, A.; Lane, A.; Hijmans, R.J. 2008. The effect of climate change on crop wild relatives. *Agriculture, Ecosystems & Environment* 126:13-23.
- Labarta, R.; White, D.; Swinton, S. 2007. “Does Charcoal Production Slow Agricultural Expansion into the Peruvian Amazon Rainforest?” *World Development* 36(3):527-540

- Lehner, B.; Verdin, K.; Jarvis, A. 2008. New Global Hydrography Derived from Spaceborne Elevation Data. *Eos Trans AGU* 2008 89(10):94-95.
- Maxted, N.; Dulloo, E.; Ford-Lloyd, B.; Iriondo, J.M., Jarvis, A. 2008. Gap analysis: a tool for complementary genetic conservation assessment. *Diversity & Distribution* 14(6): 1018-1030.
- Niederhauser, N.; Oberthür, T.; Kattning, S.; Cock, J.H. 2008. Information and its management for differentiation of agricultural products: The example of specialty coffee. *Computers and Electronics in Agriculture* 61(2):241-253.
- Njuki, J.; Mapila, M.; Kaaria, S.; Magombo, T. 2008. Using community indicators for evaluating research and development programmes: experiences from Malawi. *Development in Practice* 18(4): 633-642.
- Njuki, J.; Mapila, M.T.; Zingore, S.; Delve, R.J. 2008. The dynamics of social capital in influencing use of soil management options in the Chinyanja Triangle of southern Africa. *Ecology and Society* 13(2):1-16
- Salas, M.; Camacho, K.; Staiger-Rivas, S.; Villa, C.; Ferguson J.; Cummings S. 2008. Knowledge Sharing and Knowledge Management in Latin America and the Caribbean. *KM4Dev Journal* 3(2):2-4
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7. Funded project proposals

Project	Donor	Total Budget	Total CIAT in 2008
Mainstreaming impact group support to the ILAC learning laboratory meeting and follow up monitoring and evaluation	BIOVERSITY	21,850	21,850
Environmental assessment for phenotyping network.	GCP	160,674	50,640
Develop an ongoing system for monitoring habitat change in South America based on MODIS satellite imagery and NDVI.	TNC	53,201	53,201
Scoping study for the competitive grant scheme for collecting threatened genetic diversity of crops focusing on wild relatives.	GCDT	50,000	50,000
Getting the focus right: Food crops and smallholder constraints.	GCP	12,000	12,000
Mainstreaming Impact Group Logistical Support to the ILAC Learning	BIOVERSITY	14,950	14,950
Collective action for the rehabilitation of global public goods in the CGIAR genetic resources system: Phase 2 (GPG2),	BIOVERSITY	10,000	10,000
Basin Focal Project: Andean System of Basins	CPWF(KCL)	248,870	140,260
To conduct a spatial analysis on biodiversity in East Africa	EP	11,000	11,000
Provision of cross-site research support in participatory monitoring and evaluation to the Sub-Saharan Africa Challenge Programme	FARA	120,000	120,000
Manejo Integral de Cuencas Hidrográficas, Agua y Saneamiento (MARENA-PIMCHAS)	CARE	33,500	33,500
Elaborar mapas de adaptabilidad de Café bajo la influencia de cambios climáticos para Perú, Nicaragua y México	GTZ-CAFEDIRECT	26,520	26,520
Greenlash in the Atlantic Forests of South America: Is there a relationship between regional deforestation and rainfall changes?	TNC	21,840	21,840
Identificación y Validación de Sistemas Productivos Orgánicos Exitosos con Potencial de Mercado, en los Países del Cono Sur	INIA-CHILE	24,860	8,230
The Borlaug Leadership Enhancement in Agriculture Program (LEAP)	IOWA.	10,452	10,452
Engaging Nationally Recruited Staff to Strengthen Research Capacities for Monitoring & Evaluation and Impact Assessment at Task Force Level	FARA	56,000	-
Gap Analysis of CGIAR Genebank Collections	BIOVERSITY	39,000	39,000
Total		914,717	623,443

Actual Expenditures 2008

Outcome Line PA-2: Risk & Climate Change

SOURCE	Linking Farmers to Markets		Total US\$	(%)
	HQ + LAC	Asia + Africa		
Unrestricted Core	539,005		539,005	9%
Restricted Core C.E			0	0%
Sub-total Core	539,005	0	539,005	9%
Restricted				
Special Projects	1,440,581	226,470	1,667,051	28%
Generation Challenge Program	190,569		190,569	3%
Sub Sahara Africa		1,695,181	1,695,181	29%
Water and Food Challenge Program	1,136,752		1,136,752	19%
Sub Total Restricted	2,767,903	1,921,651	4,689,553	79%
Direct Expenditures	3,306,907	1,921,651	5,228,558	89%
Non Research Cost	425,730	247,393	673,123	11%
Total Expenditures	3,732,637	2,169,044	5,901,681	100%

8. Project Staff (*Left during 2008)

Internationally recruited

Andrew Farrow	MSc, GIS	Research Fellow, Kampala, Uganda
Andrew Jarvis	PhD, Geography	Outcome Line Leader, Senior Scientist
Boru Douthwite	PhD, Sociologist	Senior Scientist
Chiuri Wanjiku	PhD, Social Scientist	Senior Scientist, Kampala, Uganda
Douglas White	PhD, Agr. & Environ. Economist	Senior Research Fellow
Glenn Hyman	PhD, Geography	Senior Scientist
Jan Borner	PhD, Agricultural Science	Associate Researcher, Brazil
Jemimah Njuki	PhD, Sociologist	Senior Research Fellow, Harare, Zimbabwe
Nancy Johnson*	PhD, Economist	Senior Scientist
Norbert Niederhauser*	DI(FH), Inf. & Com. Engineering	Research Fellow
Peter Laderach	PhD, Agronomist	Postdoctoral Research Fellow
Roger Kirkby	PhD, Agronomist	PA RDC Leader
Simon Cook	PhD, Social Scientist	Senior Scientist
Simone Staiger	MSc, Communications	Leader, ICT-KM Project
Laure Collet	MSc, Environmental Science	Research Fellow

Nationally recruited

Alexander Cuero*	Systems Technology	GIS Expert
Ana Mercedes Hernandez*	Sociologist	Research Assistant 2
Ana Milena Guerrero	Bilingual Secretary	Bilingual Secretary
Andrea Carvajal	MSC, Rural Development	Communication Assistant 2
Carlos A. Nagles	Agricultural Technology	GIS Expert
Carolina Gonzalez	Lawyer and Economist	Research Associate 2
Clara Roa*	MSc, Sanitation and Water Resources	Research Assistant 2
Claudia J. Perea*	BSc, Systems Engineer	Systems Analyst 3
Edward Guevara	Environmental Engineering	Technician 1
Elizabeth Barona	BSc, System Engineer	Programmer 1
Enna Bernarda Diaz	MSc, Ecologist - Soils	Research Assistant 2
Germán Lema*	BSc, Industrial Engineering	Statistical Consultant 2
Hernan José Usma*	Agricultural Technology	Expert Research I
James Garcia	MSc, Statistician	Statistical Consultant
Jorge A. Cardona	BSc, Systems Engineer	Systems Technician
Katherine Tehelen	Industrial Engineering	Administrative Assistant 3
Lilian Patricia Torres	BSc, Business Administration	Administrative Assistant 1
Liliana Rojas	MSc, Natural Resources	Research Assistant 1
Marcela Quintero	MSs, Ecologist - Soils	Research Assistant 1
Maria Cecilia Roa	PhD, Water Resources	Assistant 1
Marisol Calderón*	Architectural Drawing	Office Clerk 1
Natalia Uribe	Topography Engineering	Research Assistant 3
Ovidio Rivera	Systems Technology	Office Clerk 2
Silvia Elena Castaño	BSc, Systems Engineer	GIS Coordinator
Victor Soto*	BSc, Business Administration	GIS Expert
Wilson Celemin*	Student Administration	Office Clerk 3

9. Abstracts, papers and reports

Rather than maintain the logframe structure for the detailed abstracts, papers and reports section, we have reordered into three broad categories which better represent the nature of the Agroecosystems Resilience Outcome Line. These are 1) technology and impact targeting, 2) sustainable and equitable use of ecosystem services, and 3) Climate change and risk.