

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

**SUMMARY ANNUAL REPORT 2008**

**Outcome Line: Agroecosystems Resilience**



## TABLE OF CONTENTS

<b>SUMMARY ANNUAL REPORT 2008 .....</b>	<b>3</b>
PEOPLE AND AGROECOSYSTEMS RESEARCH FOR DEVELOPMENT CHALLENGE (PA RDC) .....	3
OUTCOME LINE: AGROECOSYSTEMS RESILIENCE .....	3
1. <i>Outcome Line Logframe</i> .....	3
2. <i>Achievement of Output Targets for 2008</i> .....	8
3. <i>Research Highlights 2008</i> .....	10
3.1 Technology and impact targeting: Guiding GCP research on new drought resistant technologies .....	10
3.2 Equitable and sustainable use of ecosystem services: Ecosystem services and poverty alleviation in the Andes/Amazon.....	10
3.3 Climate change: The changing geography of agricultural suitability .....	11
4. <i>Project Outcome 2008</i> .....	11
Targeting of high-value crops to environmental niches through a supply-chain framework .....	11
5. <i>Publications</i> .....	13
Articles in refereed journals.....	13
Books and monographs.....	14
Book chapters.....	15
Papers presented at formal conferences and workshop with external attendance .....	17
Articles in international newsletters or other scientific series .....	20
6. <i>Funded project proposals</i> .....	22
7 <i>Project Staff (*Left during 2008)</i> .....	23
8. <i>Summary budget</i> .....	24

# **SUMMARY ANNUAL REPORT 2008**

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

### **OUTCOME LINE: AGROECOSYSTEMS RESILIENCE**

#### **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.

<b>Targets</b>	<b>Output</b>	<b>Intended User</b>	<b>Outcome</b>	<b>Impact</b>
<b>OUTPUT 1</b>	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
<b>Output Targets 2009</b>	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

<b>Targets</b>	<b>Output</b>	<b>Intended User</b>	<b>Outcome</b>	<b>Impact</b>
<b>Output Targets 2010</b>	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
<b>Output Targets 2011</b>	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.
<b>OUTPUT 2</b>	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.

<b>Targets</b>	<b>Output</b>	<b>Intended User</b>	<b>Outcome</b>	<b>Impact</b>
<b>Output Targets 2009</b>	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
<b>Output Targets 2010</b>	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

<b>Targets</b>	<b>Output</b>	<b>Intended User</b>	<b>Outcome</b>	<b>Impact</b>
	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
<b>Output Targets 2011</b>	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. Achievement of Output Targets for 2008

We successfully and fully achieved all output targets for 2008:

TARGETS 2008	Fully Achieved	EXPLANATION
<p><b>PRODUCT 1</b></p> <ul style="list-style-type: none"> <li>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</li> </ul>	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: <a href="http://www.prgaprogram.org/riw/files/papers/Paper%20Cambio%20Andino%20PRGA%20Workshop%20vf.doc">http://www.prgaprogram.org/riw/files/papers/Paper%20Cambio%20Andino%20PRGA%20Workshop%20vf.doc</a>.on 2nd March, 2009</p> <p>EULACIAS web site <a href="http://www.eulacias.org/posters_presentations.html">http://www.eulacias.org/posters_presentations.html</a></p>
<ul style="list-style-type: none"> <li>A set of good practices derived from Colombia and Kenya for strengthening the participation of the poor in land and water management institutions.</li> </ul>	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"> <li>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.</li> </ul>	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><b>PRODUCT 2</b></p> <ul style="list-style-type: none"> <li>Three sets of frameworks, methodology and tools to target staple crops and higher value products to environmental and socioeconomic niches developed and</li> </ul>	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><b>PRODUCT 3</b></p> <ul style="list-style-type: none"> <li>A methodology and two prediction models to target higher value products to environmental niches developed and tested with at least 5 crops in LAC.</li> </ul>	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><b>PRODUCT 5</b></p> <ul style="list-style-type: none"> <li>Standard protocol to examine how farmer linkages to markets affect investments in NRM (currently in use in Malawi, Uganda, Zimbabwe, Mozambique).</li> </ul>	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> <b>13</b> (2): 9.</p>
<ul style="list-style-type: none"> <li>Comprehensive assessment of the state of ecosystem services and its link with poverty in the Andes/Amazon region.</li> </ul>	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 <a href="http://www.ecosystemsandpoverty.org/wp-content/uploads/2008/05/espa-aa-final-report-small-version.pdf">http://www.ecosystemsandpoverty.org/wp-content/uploads/2008/05/espa-aa-final-report-small-version.pdf</a></p>
<ul style="list-style-type: none"> <li>Baseline spatial datasets on climate, climate risk and natural resources (vegetation) developed.</li> </ul>	X	<p>Datasets developed and being used internally, and being offered externally when bandwidth permits:</p> <p><a href="http://srtm.csi.cgiar.org">http://srtm.csi.cgiar.org</a>  <a href="http://www.worldclim.org">http://www.worldclim.org</a>  <a href="http://www.diva-gis.org">http://www.diva-gis.org</a></p> <p>Climate risk data has been generated and has been disseminated to national partners.</p>

### **3. Research Highlights 2008**

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

#### **3.1 Technology and impact targeting: Guiding GCP research on new drought resistant technologies**

CGIAR scientists across the system are breeding crops resistant to drought and other constraints under the framework of the Generation Challenge Program (GCP). Previous CIAT research helped the GCP focus on regions of high drought, severe poverty and the key crops that people in these zones depend on. New CIAT research for the GCP aims to better characterize target areas, to understand the temporal dynamics of drought for each focus crop and to support the development of a variety testing network that brings technology to national agricultural research systems and farmers.

A searchable database was developed to provide the GCP research community with an extensive data set on crop production, drought, soil constraints, population and poverty for 63 farming system regions across the developing world. Users can estimate the spillover potential of an improved variety targeted to a specific country.

Crop specific drought maps were constructed for GCP target crops, including rice, beans, maize and others. The maps build on the failed seasons algorithm for estimating drought probability. The new work includes drought estimates based on the water requirements of each crop for 20-day periods throughout the growing season. Our aim is to help breeders focus their efforts by developing varieties that address a particular drought stage (eg. initial, mid-season, maturity).

CIAT research supports the GCP Phenotyping Network by assessing cultivar trial sites in Latin America, Africa and Asia. Our effort focuses on how representative a site is compared to the target zones for new cultivars. We provide information that helps a crop improvement program design their testing scheme, seeking to avoid duplication of similar sites, or discover genotype by environment interactions from a sample of sites that cover the target population of environments.

#### **3.2 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](http://www.ecosystemsandpoverty.org/wp-content/uploads/2008/05/espa-aa-final-report-_small-version_.pdf).

### **3.3 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.

### **4. Project 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.

## 5. 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
- Watts, J.; Horton, D.E.; Douthwaite, B.; La Rovere, R.; Thiele, G.; Prasad, S.; Staver, C. 2008. Transforming impact assessment: Beginning the quiet revolution of institutional learning and change. *Experimental Agriculture* 44:21-35.

### **Books and monographs**

- Estrada, R.D.; Holmann, F.J. 2008. Competitividad de los pequeños productores de leche frente a los tratados de Libre Comercio en Nicaragua, Costa Rica y Colombia. Centro Internacional de Agricultura Tropical (CIAT); International Livestock Research Institute (ILRI), Cali, CO. 74 p. (Documento de trabajo no. 207)
- Estrada, M. 2008. Evaluación de Estrategias de Manejo Especifico por Sitio para el Mejoramiento de la Calidad de Taza de Cafe (*Coffea arabica* L.). Tesis (M.Sc.). Universidad Nacional de Colombia, Maestria en Ciencias Agrarias. Medellín, Antioquia, CO. 81p.
- Monserrate, F. 2008. Análisis del Proceso de Biofortificación de Variedades de Fríjol (*Phaseolus vulgaris* L.) Andino de Comercial "Calima "en Colombia. Tesis (Ingeniero Agrónomo). Universidad Nacional de Colombia, Facultad de Agronomía, Bogota, DC, CO. 91 p.
- Laderach, P.; Jarvis, A.; Ramírez, J.; Fisher, M.J. 2008. Predictions of land use changes under progressive climate change in coffee growing regions of the AdapCC project: Final report Chiapas, Mexico, Cali, Colombia: October 2008[on line]. Centro Internacional de Agricultura Tropical (CIAT), Cali, CO. 65 p.

- Laderach, P.; Jarvis, A.; Ramírez, J.; Fisher, M.J. 2008. Predictions of land use changes under progressive climate change in coffee growing regions of the AdapCC project: Final report Nicaragua, Cali, Colombia: October 2008 [on line]. Centro Internacional de Agricultura Tropical (CIAT), Cali, CO. 62 p.
- Laderach, P.; Jarvis, A.; Ramírez, J.; Fisher, M.J. 2008. Predictions of land use changes under progressive climate change in coffee growing regions of the AdapCC project: Final report Piura, Peru, Cali, Colombia: October 2008 [on line]. Centro Internacional de Agricultura Tropical (CIAT), Cali, CO. 66 p.
- Laderach, P.; Jarvis, A.; Ramírez, J.; Fisher, M.J. 2008. Predictions of land use changes under progressive climate change in coffee growing regions of the AdapCC project : Final report Veracruz, Mexico, Cali, Colombia: October 2008 [on line]. Centro Internacional de Agricultura Tropical (CIAT), Cali, CO. 66 p.
- Pauli, N. 2008. Environmental influences on the spatial and temporal distribution of soil macrofauna in smallholder agroforestry system of western Honduras. Thesis (PhD). The University of Western Australia, School of Earth and Geographical Sciences Doctor of Philosophy, Australia. 333 p.
- Piechazek, J. 2008. Implications of Quality-Based Agri-Food Supply Chains on Agri-Social Systems: The Case of Smallholder Coffee Growers in South Colombia. Thesis (PhD). Hohen Landwirtschaftlichen Fakultät der Rheinischen-Wilhelms-Universität Bonn. 300 p.
- Quintero, M.; Holmann, F.; Estrada, R.D. 2008. Ex ante Analysis of Legumes: The Dilemma of Using Legumes as Forage for Animal Nutrition during the Dry Season or as Green Manure for Soil Improvement. Documento de Trabajo. CIAT, Cali, Colombia.
- Rodríguez, F. 2008. Caficultores de Pequeña Producción Asociados Ingresando en Mercados de Alto Valor. Tesis (M.Sc.). Universidad del Valle, Facultad de Ciencias de la Administración, Santiago de Cali, Valle del Cauca, CO. 269p.

### **Book chapters**

- Börner, J.; Hohnwald, M.; Vosti, S.A. 2008. Critical analysis of options to manage ecosystem services in the Amazon/Andes Region. In: Coelho, A.B.; Teixeira, E.C; Braga, M.J. (eds.). A Situation Analysis to Identify Challenges to Sustainable Management of Ecosystems to Maximise Poverty Alleviation: Securing Biostability in the Amazon/Andes (ESPA-AA). Recursos Naturais e Crescimento Econômico. Vicoso Federal University, Vicoso, MG, Brazil. p. 1-29
- Börner, J.; Hohnwald, M.; Vosti, S.A. 2008. From natural resource to pro-poor ecosystem service management in the Amazon: How to make the right choices? [abstract] . In: Tielkes, Eric. (ed.). Competition for resources in a changing world: New drive for rural development: Book of abstracts, Tropentag 2008. University of Hohenheim, Centre for Agriculture in the Tropics and Subtropics, Hohenheim, DE. p. 505.

- Cook, S.E.; Jarvis, A.; Gonzalez, J.P. 2008. A New Global Demand for Digital Soil Information. In: Hartemink, A.E.; McBratney, A.; Mendonça-Santos, de Lourdes (eds.). *Digital Soil Mapping with Limited Data*. Edited by M. Springer Netherlands. p. 31-41.
- Dulloo, M.E.; Labokas, J.; Iriondo, J.M.; Maxted, N.; Lane, A.; Laguna, E.; Jarvis, A.; Kell, S.P. 2008. Genetic Reserve Location and Design. 2008. In: Iriondo, J.M.; Maxted, N.; Dulloo, M.E. (eds.). *Conserving Plant Genetic Diversity in Protected Areas*, CAB International, London, p. 23-64.
- Gonzalez, J.P.; Jarvis, A.; Cook, S.E.; Oberthür, T.; Rincon-Romero, M.; Bagnell, J.A.; Dias, Bernardine M. 2008. Digital Soil Mapping of Soil Properties in Honduras Using Readily Available Biophysical Datasets and Gaussian Processes. In: Hartemink, A.E.; McBratney, A.; Mendonça-Santos, de Lourdes (eds.). Springer Netherlands. *Digital Soil Mapping with Limited Data*. p. 367-380.
- Hijmans, R.J.; Jarvis, A.; Guarino, L. 2008. Climate envelope modeling: Inferring the range of species. In: Gibbs, J.P., Hunter, Jr M.L.; Sterling, E.J. (eds.). *Problem-solving in conservation biology and wildlife management (2nd edition)*. Blackwell, UK. p. 244-254.
- Kaaria, S.K.; Sanginga, P.; Njuki, J.; Delve, R.; Chitsike, C.; Best, R. 2008. Enabling rural innovation in Africa. In: Scoones, Ian; Thompson, John. *Farmer First Revisited; Innovation for Agricultural Research and Development*. Practical Action Publications, London.
- Meijer, M.; Rodriguez, I.; Lundy, M.; Hellin, J. 2008. Supermarkets and small farmers - the case of fresh vegetables in Honduras. In: McCullough, Ellen; Pingali, Prabhu; Stamoulis, Kostas (eds.). *The Transformation of Global Agrifood Systems: Supply Chains, Globalization and Smallholder Farmers*. Earthscan Publications Ltd. London, UK. 416 pp.
- Mulligan, M.; Rubiano, J.; White, D.; Hyman, G.; Saravia, M. 2008. Participatory modeling and knowledge integration - Basin Focal Project (BFP Andes): concepts and advances. In: Humphreys, E.; Bayot, R.S.; van Brakel, M.; Gichuki, F.; Svendsen, M.; Wester, P.; Huber-Lee, A.; Cook, S.; Douthwaite, B.; Hoanh, C.T.; Johnson, N.; Nguyen-Khoa, S.; Vidal, A.; MacIntyre, I.; MacIntyre, R. (eds.). *Fighting Poverty Through Sustainable Water Use: Volumes I, II, III and IV. Proceedings of the CGIAR Challenge Program on Water and Food 2nd International Forum on Water and Food, Addis Ababa, Ethiopia, November 10—14, 2008. The CGIAR Challenge Program on Water and Food, Colombo*. 183p.
- Njuki, J.; Kaaria, S.K.; Sanginga, P.; Kaganzi, E.; Magombo, T. 2008. Linking smallholder farmers to markets through community agro-enterprise development: experiences from Uganda and Malawi. In: Scoones, Ian; Thompson, John. *Farmer First Revisited; Innovation for Agricultural Research and Development*. Practical Action Publications, London.
- Pérez, S.A.; Tegbaru, A.; Kantengwa, S.; Farrow, A. 2008. Village Information and Communication Centres in Rwanda. In: Sanginga, P.; Waters-Bayer, A.; Kaaria, S.; Njuki, J.; Wettasinha, C. (eds.). *Innovation Africa: enriching farmers' livelihoods*. Earthscan, London.

## **Papers presented at formal conferences and workshop with external attendance**

- Börner, J.; Wunder, S. 2008. The potential of payments for forest environmental services in the Brazilian Amazon: Insights from a macro-scale spatial analysis. In: 10th Biennial International Society for Ecological Economics (ISEE), 7-11 August, Nairobi, Kenya.
- Börner, J.; Porro, R.; Jarvis, A. 2008. Securing Social and Biostability in the Andes/Amazon: A Pan Amazonian Situation Analysis of Ecosystem Services and Wellbeing. In: International Scientific Conference Amazon in Perspective: Integrated Science for a Sustainable Future, November 17-20, 2008, Manaus, Brazil. At: [www.lbaconferencia.org](http://www.lbaconferencia.org)
- Börner, J.; Mendoza, A. 2008. Secondary forest valuation on family farms with different technology access in the Eastern Brazilian Amazon: Can conservation incentives compete with opportunity costs in slash-and-burn agriculture?. In: International Scientific Conference Amazon in Perspective: Integrated Science for a Sustainable Future, November 17-20, 2008, Manaus, Brazil. At: [www.lbaconferencia.org](http://www.lbaconferencia.org)
- Castro, A.; Rivera, M.; Ferreira, O.; Pavon, J.; García, E.; Amezcua, E.; Ayarza, M.; Barrios, E.; Rondon, M.; Pauli, N.; Baltodano, M.E.; Mendoza, B.; Welchez, L.A.; Cook, S.; Rubiano, J.; Johnson, N.; Rao, I. 2008. Is the Quesungual System an option for smallholders in dry hillside agroecosystems?. In: Proceedings of the CGIAR Challenge Program on Water and Food 2nd International Forum on Water and Food, November 10-14, Addis Ababa, Ethiopia. Available at [www.waterandfood.org](http://www.waterandfood.org)
- Cook, S.; Harrington, L.; Huber-Lee, A. 2008. Water and food in river basins in Africa, Asia, and Latin America: A comparative analysis. In: Humphreys, E.; Bayot, R.S.; van Brakel, M.; Gichuki, F.; Svendsen, M.; Wester, P.; Huber-Lee, A.; Cook, S.; Douthwaite, B.; Hoanh, C.T.; Johnson, N.; Nguyen-Khoa, S.; Vidal, A.; MacIntyre, I.; MacIntyre, R. (eds). Fighting Poverty Through Sustainable Water Use: Volumes I, II, III and IV. In Proceedings of the CGIAR Challenge Program on Water and Food 2nd International Forum on Water and Food, Addis Ababa, Ethiopia, November 10-14, 2008. The CGIAR Challenge Program on Water and Food, Colombo. 183 p.
- Cook, S. E. 2008. The Basin Focal Projects of the CPWF. Keynote Paper. In: 2nd International Forum on Water and Food, Addis Ababa, Ethiopia, November 10-14, 2008. The CGIAR Challenge Program on Water and Food, Colombo. 183 p.
- Cook, S.; Fisher, M.; Woolley, J. 2008. Meeting the Food and Water Crises. Invited Paper In: Syngenta Science Matters. Ascot, UK. 8 September 2008.
- Cook, S.; Fisher, M.; Woolley, J. 2008. Water agriculture and poverty- the CGIAR Challenge Program on Water and Food. In: Special Sessions. XIIIe World Water Congress. Montpellier, Sep 2008.

- Farrow, A. 2008. What is Vulnerability to Food Insecurity and why do we want to map it?. In: Mapping for Food Security Workshop at Joint Research Centre of the European Commission, Ispra Italy, 5<sup>th</sup> November 2008.
- Hyman, G.; Geerts, S.; Shrestha, N; Raes, D. 2008. Environmental assessment for phenotyping network. Poster In: Annual Research Meeting of the Generation Challenge Program. 16-20 September. Bangkok, Thailand. Available from [http://www.generationcp.org/UserFiles/File/ARM-2008-Posters\\_Theme-4/4.17\\_Hyman\\_Environmental%20assessment%20for%20phenotyping%20network.pdf](http://www.generationcp.org/UserFiles/File/ARM-2008-Posters_Theme-4/4.17_Hyman_Environmental%20assessment%20for%20phenotyping%20network.pdf).
- Jarvis, A. 2008. Impacto de cambio climático en Colombia: Implicaciones para la agricultura y el manejo de los recursos naturales. In: VIII Encuentro de Estudiantes de Ingeniería Ambiental, Sanitaria y Áreas Afines, Universidad Nacional de Colombia, Palmira (Colombia) 9-11 Oct 2008.
- Jarvis, A. 2008. Agua, alimentación, pobreza y el potencial de los servicios ecosistémicos: del mundo a la región a lo local. In: Cumbre Interamericana del Agua y la Tierra, CORFIAGUA, Medellín, Colombia, Oct 2008.
- Jarvis, A. 2008. Modelling distribution impact with relation to agricultural biodiversity. In: FAO Expert Meeting on Agricultural Biodiversity, Rome (Italy), 28-29 Feb 2008.
- Jarvis, A. 2008. Modelling distribution impact in relation to agricultural biodiversity. In: FAO Expert Meeting: Climate Change Adaptation and Mitigation, Rome (Italy), 5-7 March 2008.
- Jarvis, A.; Gamboa, D.E. 2008. Cambio climático, agricultura y agua en los Andes: los tres mitos y medio. In: Foro Andino del Agua y la Alimentación, Challenge Program on Water & Food, Bogotá, Colombia, 29-31 Ene 2008.
- Jarvis, A.; Ramirez, J.; Guevara, E.; Zapata, E. 2008. Global impacts and implications of climate change on banana production systems. In: 18 International Meeting ACORBAT, Guayaquil, Ecuador, 10-14, Nov 2008. 18 p.
- Jarvis, A.; Ramirez, J.; Zapata, E.; Guevara, E. 2008. Use of GBIF data for conserving and adapting agricultural biodiversity in the face of climate change. In: 15th meeting of the Global Biodiversity Information Facility. Arusha, Tanzania, 1-7 Nov 2008.
- Laderach, P.; Jarvis, A.; Ramírez, J. 2008. The impact of climate change in coffee-growing regions. In: Taller de adaptación al cambio climático en las comunidades cafetaleras de la Sierra Madre de Chiapas, 16-28 de noviembre del 2008, Tuxtla Gutiérrez, Chiapas. Mexico. p. 1-5
- Mulligan, M.; Rubiano, J.; White, D.; Hyman, G.; Saravia, M. 2008. Participatory modeling and knowledge integration - Basin Focal Project (BFP Andes): concepts and advances. In: Humphreys, E.; Bayot, R.S.; van Brakel, M.; Gichuki, F.; Svendsen, M.; Wester, P.; Huber-Lee, A.; Cook, S.; Douthwaite, B.; Hoanh, C.T.; Johnson, N.; Nguyen-Khoa, S.; Vidal, A.;

- MacIntyre, I.; MacIntyre, R. (eds.). Fighting Poverty Through Sustainable Water Use: Volumes I, II, III and IV. Proceedings of the CGIAR Challenge Program on Water and Food 2nd International Forum on Water and Food, Addis Ababa, Ethiopia, November 10—14, 2008. The CGIAR Challenge Program on Water and Food, Colombo. 183p.
- Quintero, M.; Comerford, N.; Estrada, R.D. 2008. Is soil carbon sequestration part of the bundle of ecosystem services provided by conservation agriculture in the Andes?. In: “Second international forum on Water and Food (IFWF2)”, Addis Ababa, November 3-17.
- Ramirez, J; Jarvis, A; Van den Bergh, I. 2008. Presión de la Sigatoka Negra y Distribución Espacial de Genotipos de Banano y Plátano: Resultados de 19 Años de Pruebas con Musáceas. In: 18 International Meeting ACORBAT, Guayaquil, Ecuador, 10-14, Nov 2008. 92p.
- Rubiano, J.; Cook, S.; Douthwaite, B. 2008. Adapting to change—how to accelerate impact. . In: Humphreys, E.; Bayot, R.S.; van Brakel, M.; Gichuki, F.; Svendsen, M.; Wester, P.; Huber-Lee, A.; Cook, S.; Douthwaite, B.; Hoanh, C.T.; Johnson, N.; Nguyen-Khoa, S.; Vidal, A.; MacIntyre, I.; MacIntyre, R. (eds). Fighting Poverty Through Sustainable Water Use: Volumes I, II, III and IV. Proceedings of the CGIAR Challenge Program on Water and Food 2nd International Forum on Water and Food, Addis Ababa, Ethiopia, November 10-14, 2008. The CGIAR Challenge Program on Water and Food, Colombo. 183p.
- Rubiano, J.; Peralta, A.; Johnson, N. 2008. Scaling-up in watershed management research projects. In: Humphreys, E.; Bayot, R.S.; van Brakel, M.; Gichuki, F.; Svendsen, M.; Wester, P.; Huber-Lee, A.; Cook, S.; Douthwaite, B.; Hoanh, C.T.; Johnson, N.; Nguyen-Khoa, S.; Vidal, A.; MacIntyre, I.; MacIntyre, R. (eds). Fighting Poverty Through Sustainable Water Use: Volumes I, II, III and IV. Proceedings of the CGIAR Challenge Program on Water and Food 2nd International Forum on Water and Food, Addis Ababa, Ethiopia, November 10—14, 2008. The CGIAR Challenge Program on Water and Food, Colombo. 183p.
- Rubiano, J.; Soto, V.; Rajasekharan, M.; Cook, S.; Douthwaite, B.; Idupulapati, Rao.2008. Extrapolation Domain Analysis – A method to estimate potential global impacts of research projects Poster In: Challenge Program on Water and Food 2nd International Forum on Water and Food, Addis Ababa, Ethiopia, November 10—14, 2008. The CGIAR Challenge Program on Water and Food, Colombo.
- Rudebje, P. R.; Baidu-forson, J.; Van schagen, B.; Jarvis, A.; Staver, C.; Hodgkin, T. 2008. Agrobiodiversity and climate change: what do students need to know? In: 2nd ANAFE International Symposium: Mainstreaming climate change into Agricultural Education: Tools, Experiences and challenges. 28th July-1st August, 2008, University of Malawi.
- Schepp, K.; Laderach, P. 2008. Adaptación para los pequeños productores de café al cambio climático: Presentación de los resultados intermedios y experiencias del proyecto piloto AdapCC: Una cooperación pública-privada entre Cafédirect y la GTZ. In: International workshop SIAASE Adaptation to climate change: The role of ecosystem services, 3-5

November 2008, CATIE, Costa Rica. Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), Turrialba, CR. p. 1-2

Tovar, C.; Wood, S.; Hyman, G. 2008. From attractiveness to feasibility: assessing national capacity to adapt, deliver and adopt GCP technologies. In: Annual Research Meeting of the Generation Challenge Program. 16-20 September. Bangkok, Thailand. Available from [http://www.generationcp.org/UserFiles/File/ARM-2008-Posters\\_Theme-4/4.15\\_Tovar\\_Indicators%20of%20attractiveness%20and%20feasibility%20of%20GCP%20technologies\\_Rcd-16Sep.pdf](http://www.generationcp.org/UserFiles/File/ARM-2008-Posters_Theme-4/4.15_Tovar_Indicators%20of%20attractiveness%20and%20feasibility%20of%20GCP%20technologies_Rcd-16Sep.pdf).

van Zonneveld, M.; Jarvis, A.; Dvorak, W.; Koskela, J.; Vinceti, B.; Snook, L. 2008. Impact of climate change on distribution and performance of tropical pine species in Central America and Southeast Asia. p. 257. In: International Conference on Adaptation of Forests and Forest Management to Changing Climate with Emphasis on Forest Health: A Review of Science, Policies and Practices. Umea (Sweden), 25-28 Aug 2008. Swedish University Agricultural Science (Sweden).

van Zonneveld, M.; Leibing, C.; Dvorak, W.; Jarvis, A. 2008. Conservación de poblaciones naturales de pinos centroamericanos en el contexto del cambio climático. In: Seminario Internacional Bosques Tropicales y Desarrollo, Jardín Botánico de Medellín Joaquín Antonio Uribe, Medellín, Colombia, 8-21 Nov 2008. Jardín Botánico de Medellín, Colombia.

Waddington, S.; Dixon, J.; Li, X.; Hyman, G.; de Vicente, C. 2008. Assessing production constraints and opportunities for GCP priority food crops and farming systems. Poster In: Annual Research Meeting of the Generation Challenge Program. 16-20 September. Bangkok, Thailand. Available from

[http://www.generationcp.org/UserFiles/File/ARM-2008-Posters\\_Theme-4/4.3\\_Stephen-Waddington\\_Assessing%20production%20constraints%20and%20opportunities%20for%20GCP%20priority%20food%20crops%20and%20farming%20systems.pdf](http://www.generationcp.org/UserFiles/File/ARM-2008-Posters_Theme-4/4.3_Stephen-Waddington_Assessing%20production%20constraints%20and%20opportunities%20for%20GCP%20priority%20food%20crops%20and%20farming%20systems.pdf)

Walker, T. M.; Maredia, Kelley, T.; La Rovere, R.; Templeton, D.; Thiele, G.; Douthwaite, B. 2008. Strategic Guidance for Ex-Post Impact Assessment of Agricultural Research. In: Standing Panel on Impact Assessment, CGIAR Science Council. Rome, Italy.

### **Articles in international newsletters or other scientific series**

Douthwaite, B.; Alvarez, B.S.; Thiele, G.; Makay, R. 2008. Participatory Impact Pathways Analysis: A practical method for project planning and evaluation. ILAC Brief 17, Bioversity, Rome

Kaaria, S.K.; Njuki J. M.; Abenakyo' A.; Delve, R.; Sanginga, P. 2008. Enabling rural innovation: empowering farmers to take advantage of market opportunities and improve livelihoods. In: Sanginga, P., Waters-Bayer, A., Kaaria S., Njuki, J., and Wettasinha C. (eds). Innovation Africa: enriching farmers' livelihoods, Earthscan, London

Njuki J. M.; Kaaria, S.K.; Sanginga, P.; Murithi, F.M.; Njunie, M.; Lewa, K.K. 2008. Building capacity for participatory monitoring and evaluation: integrating stakeholders' perspectives. In: Sanginga, P.; Waters-Bayer, A.; Kaaria S.; Njuki, J.; Wettasinha C. (eds). Innovation Africa: enriching farmers' livelihoods, Earthscan, London

Sanginga, P.; Waters-Bayer, A.; Kaaria, S.; Njuki, J.; Wettasinha C. (eds) 2008. Innovation Africa: enriching farmers' livelihoods, Earthscan, London. 384 p,

Thornton, P.; Jones, P.; Farrow, A.; Alagarswamy, G.,; Andresen, J. 2008. Crop Yield Response to Climate Change in East Africa: Comparing Highlands and Lowlands. In: Mountainous Regions: Laboratories for Adaptation. Germany: IHDP UPDA. Issue 2. p 23-26

Wunder, S.; Börner, J.; Tito, M.R.; Pereira, L. 2008. Pagamentos por serviços ambientais: Perspectivas para a Amazônia. Ministério do Meio Ambiente, Série Estudos 10, Brasília, Brazil. 131 p.

## 6. 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
<b>Total</b>		<b>914,717</b>	<b>623,443</b>

## 7 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

### 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

## 8. Summary budget

Actual Expenditures 2008

Outcome Line PA-2: Risk & Climate Change

SOURCE	Agroecosystems Resilience		Total US\$	(%)
	HQ + LAC	Asia + Africa		
Unrestricted Core	539,005		539,005	9%
Restricted Core C.E			0	0%
<b>Sub-total Core</b>	<b>539,005</b>	<b>0</b>	<b>539,005</b>	<b>9%</b>
<b>Restricted</b>				
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%
<b>Sub Total Restricted</b>	<b>2,767,903</b>	<b>1,921,651</b>	<b>4,689,553</b>	<b>79%</b>
<b>Direct Expenditures</b>	<b>3,306,907</b>	<b>1,921,651</b>	<b>5,228,558</b>	<b>89%</b>
Non Research Cost	425,730	247,393	673,123	11%
<b>Total Expenditures</b>	<b>3,732,637</b>	<b>2,169,044</b>	<b>5,901,681</b>	<b>100%</b>