

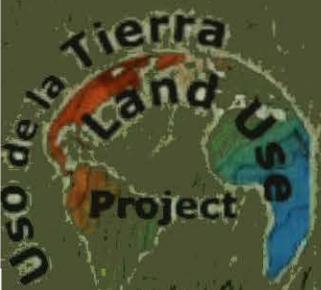
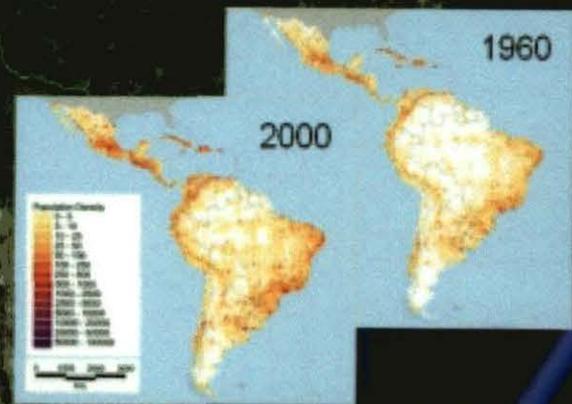
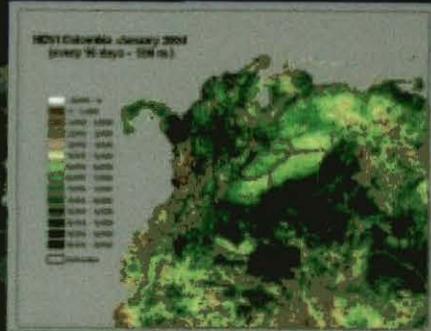
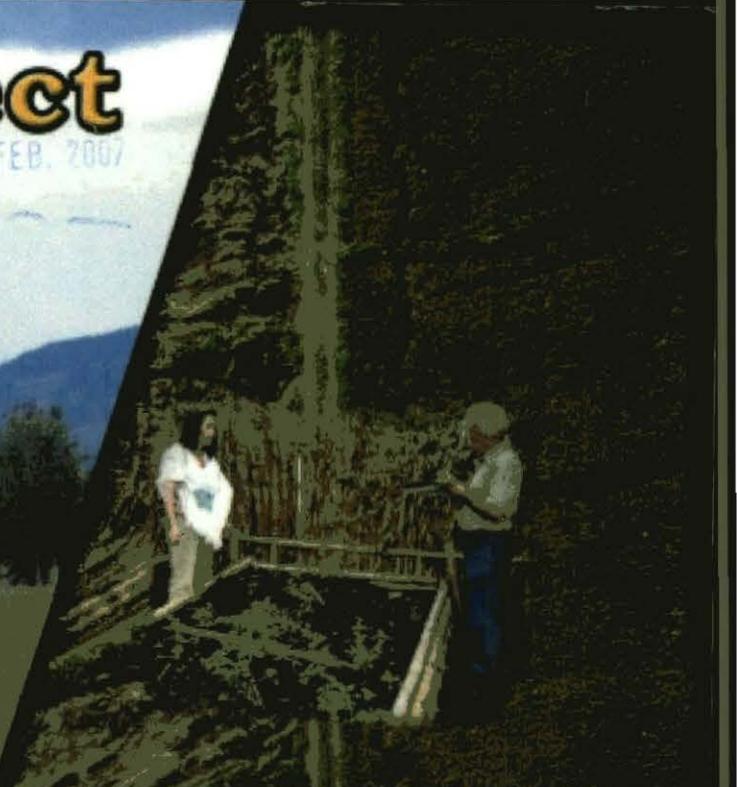
# Land Use Project

J 6 FEB. 2007

## Summary PE-4

## Annual Report

## 2005



# Land Use Project - PE4

## Summary

### Annual Report 2005



# ANNUAL REPORT SUMMARY

## Project PE-4: LAND USE IN LATIN AMERICA

### Project descriptions and logframe (mtp 2005 – 07)

#### Objective

The land use project provides high quality spatial information that provides the basis for better decisions about agricultural land use change. Information at national or global scale is necessary for research to achieve significant impact. Sound decisions for change are essential to reverse the downward spiral of poverty, and are made at a local scale by individual farmers; at regional scale by national ministries or at global scale by intergovernmental institutions. The definition of a 'better' decision is one that improves the well-being of stakeholders through the effective management of agricultural land resources. Such decisions are evident in individual or collective action, policies and investments.

#### Outputs

Baseline and time-series data. These provide 'feed' material for subsequent analysis, methodology development and tool development.

1. Insight of biological limitations and drivers of land use change developed from spatial analysis of agrobiodiversity.
2. Indicators of risk, resilience and vulnerability of tropical agricultural systems to external and internal stresses, determined from analysis of land use change dynamics.
3. Local information and information management systems that support specific individual and collective land management decisions.

#### Milestones

- 2005 High resolution (90m) digital terrain models processed from SRTM for tropical areas of LAC, Africa and SE Asia, and available to collaborators (June 2005)  
Data-bases of political divisions, crop types, population compiled/updated for 27 countries in LA (Dec 2005)  
Canasta software for outscaling forage adoption in LAC available (June 2005)  
Homolog method developed for out-scaling of tropical fruits. Trialed with collaborators in LA, SE Asia (Dec 2005).  
Method of modelling continental-scale geneflow demonstrated with *Araucaria sp* and published (Dec 2005)  
Impact analysis for Harvest+ CP submitted (Dec 2005)  
GEF Proposal on high resolution, national scale indicators of land degradation developed (June 2005)  
Research agenda on analysis of collective water use developed for CIAT (Dec 2005)  
Coordination of WFCP Theme 2 activities, including management of Phase 2 competitive bids (Dec 2005)

Low-cost participatory methods developed to capture farm-scale information of land productivity (June 2005)

Concept of site-specific development developed and clarified through reports, publications and conferences (Dec. 2005). 60 farming families in case studies benefit directly.

Concept of weather insurance developed and included in proposal (Dec 2005).

2006 1 km climate data base generated for pan tropical region (June 2006)

Selected crop specie databases compiled for agro-biodiversity and crop diversification research (December 2006)

Floramap v 1.3 updated to include higher resolution climate database (Dec 2006).

Marksim-DSSAT coupled method for scenario analysis (Dec 2006)

Coordination of WFCP Theme 2 activities (Dec 2006)

Methods of analyzing farm product quality in relation to management \* environment \* genotype developed and validated for coffee (June 2006).

Methods to analyze joint bio-physical and social networks developed (Dec 2006).

Site-specific production opportunities for non-commodity crops demonstrated with farmer groups in LAC (Dec 2006). 3000 farmers benefit directly.

2007 High resolution, dynamic vegetation change data base compiled from satellite imagery for pan tropical region (Dec 2007)

GxEngine prototype trialled (Dec 2007)

Indicator maps of vulnerability to natural hazards produced at regional, national and sub-national scale in 6 countries as part of GEF Ph I (Dec 2007).

Vulnerability framework developed for policy-makers and included in WB methodology (Dec 2007).

Coordination of WFCP Theme 2 activities (Dec 2007)

Methods and software to target environmental niches in hillsides made available and upscaled to 100 producer networks (Dec 2007).

Natural hazard insurance implemented through 3-5 NGO groups in LA and Africa (Dec 2007).

## **Collaborators**

Water for Food Challenge Program, ICRAF, CIP, ILRI, ECLAC, WWF-US, Univ. Guelph (Canada), IICA (Costa Rica), IILA (Italy), IIASA (Austria), WRI (USA), RIVM (Netherlands), TCA (Amazonian Cooperation Treaty), Earth Council (Costa Rica), World Bank; NARS, GOs, and NGOs in Latin America: DNP, IGAC, MinAmbiente, IDEAM, CARDER (Colombia); Ministry of the Environment, EMBRAPA (Brazil); IVITA, INIAA (Peru); INIAP (Ecuador), FNC (Colombia), GTZ (Germany), Private sector.

## **CGIAR system linkages**

Protecting the Environment (60%); Improving Policies (20%); Enhancement & Breeding (10%); Saving Biodiversity (10%). Contributes to the Ecoregional Program for Tropical Latin America.

## **CIAT project linkages**

GIS studies assist SB-1, SB-2, IP-1, IP-3, IP-5, IP-6 and PE-2; model development with PE-3, PE-6, and BP-1.

NARRATIVE SUMMARY	MEASURABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p><b>Goal</b></p> <p>To support agricultural development by providing spatial information that is <i>novel, significant</i> and <i>actionable</i> and thereby reduces the risk to agricultural development in the tropics.</p>	<p>Risk recognized as a reducible factor.</p> <p>Information adopted by decision makers.</p> <p>CIAT, CGIAR, or other collaborating research institutional activities enhanced by the ability to target activities.</p>	<p>Policy, projects, or funding strategies modified identifiably to include spatial information.</p> <p>Research portfolios modified identifiably by targeting or pre-selection.</p> <p>Risk management strategies, based on spatial information, included in development projects.</p>	
<p><b>Purpose</b></p> <p>Our goal is to provide spatial information that enables better decisions about agricultural land use change. Such information is derived from analyses at the local, regional and global scale and provided to individual farmers or the associations and organizations that work with and for them.</p>	<p>Decision makers use spatial information to reduce risk.</p>	<p>Documented case studies at farm, national, and regional scales.</p> <p>Published methods of generalizing improved decision making, using spatial information of land use.</p>	<p>That uncertainty significantly obstructs land use decisions at a range of scales.</p> <p>That spatial variation introduces significant uncertainty to these problems.</p> <p>That relevant spatial information can be generated in a cost-effective manner.</p>
<p><b>Output 1</b></p> <p>Baseline and time-series data for subsequent analysis performed.</p>	<p>Population, crop, and selected databases generated.</p> <p>Detailed climate data sets developed for modelers.</p> <p>Detailed future climatic data sets used to predict climate change effects.</p>	<p>Information available at CIAT.</p> <p>Selected information downloadable at CIAT Web site.</p>	<p>Information can be delivered to analysts and decision makers.</p>
<p><b>Output 2</b></p> <p>Insights to biological limitations and drivers of land use change developed from spatial analysis of agrobiodiversity</p>	<p>Threats of global climate change (GCC) to regional crop production defined for regions. Threats of climate change in specific environments to plant genetic resources defined.</p> <p>Opportunities for improved genetic resource management defined for regions.</p>	<p>Maps and databases completed.</p> <p>Models developed, calibrated, verified, and published.</p> <p>Projects developed to apply models.</p>	<p>Sufficient data are available to generate insights.</p>
<p><b>Output 3</b></p> <p>Indicators of vulnerability and degradation risks of land use systems determined from analysis</p>	<p>Indicators of vulnerability adopted by policy agencies.</p> <p>Spatial information on vulnerability used to reduce</p>	<p>Methods of vulnerability assessment published with case study at national or regional scale by June 2004.</p>	<p>Sufficient data are available to generate insights.</p>

NARRATIVE SUMMARY	MEASURABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
of land use change in tropical developing countries	investment risks in at least one country case study. Practical risk management tools produced.	<i>Ex ante</i> analysis of the benefits of risk reduction published. Risk management tools adopted by users.	
<b>Output 4</b> Information provided at local and farm-scale that supports individual land management decisions	Strengths and weaknesses, overlaps and gaps identified between farmer and scientist knowledge with respect to locally (e.g., declining soil fertility) and globally rooted resource-base management problems (e.g., climate change). Farmer-to-farmer decision-support network established.	Case study documented of farmers generating information and merging with “hard” data on natural land resources.  Network of farmer support initiated, including a minimum of 200 users at second-order organization level. Generated methods and tools documented and disseminated.	Sufficient data are available to generate insights. Local structures enable network establishment.

## CGIAR OUTPUT TEMPLATE

Output	Output Target 2005	Category	Achieved (yes or no)
Baseline and time-series data for subsequent analysis performed.	Population, crop, and selected databases generated.	Other: Databases	Yes
	Detailed climate data sets developed for modelers.	Other: Databases	Yes. But improvement possible with more data.
	Detailed future climatic data sets used to predict climate change effects.	Other: Databases	Yes
Insights to biological limitations and drivers of land use change developed from spatial analysis of agrobiodiversity	Threats of climate change in specific environments to plant genetic resources defined.	Policy strategies	Yes
	Opportunities for improved genetic resource management defined for regions.	Policy strategies	Partially. Still ongoing.
Indicators of vulnerability and degradation risks of land use systems determined from analysis of land use change in tropical developing countries	Indicators of vulnerability adopted by policy agencies.	Capacity, Policy strategies	Yes.
	Spatial information on vulnerability used to reduce investment risks in at least one country case study.	Policy strategies	Yes
Information provided at local and farm-scale that supports individual land management decisions	Strengths, weaknesses, overlaps, gaps identified between farmer - scientist knowledge with respect to resource-base management problems.	Materials	Partially. Still ongoing.

## RESEARCH HIGHLIGHTS 2005

- Opportunities for improved genetic resource management defined for regions: The Homologue software has been released as Beta version. Homologue was developed jointly with the Tropical Fruits Project. The software defines the probability for any selected location in the tropics to exhibit climatic and soil conditions similar to those of locations that are known to have favorable growing conditions for specific crops of interest.
- Practical risk management tools produced: We developed, implemented and tested together with colleagues of the CIAT Agro-Enterprise Project concepts for drought insurance. The methodology integrates crop growth modeling with climate simulation. The concepts have been successfully demonstrated in case studies in Central America and Southeast Asia.
- Detailed climate data sets developed for modelers: We contributed significantly to the generation of very high-resolution climate data. Various climatic variables have been generated for further use. An article in an international has been published to document the methodology and the data.

## INDICATORS

### Papers in Refereed Journals

- Farrow, A.; Larrea, C.; Hyman, G.G.; Lema, G. 2005. "Exploring the spatial variation of food poverty in Ecuador." *Food Policy*. 30:510-531.
- Ferguson, M.E.; Jarvis, A.; Stalker, H.T.; Williams, D.E.; Guarino, L.; Valls, J.F.M.; Pittman, R.N.; Simpson, C.E.; Bramel, P. 2005. "Biogeography of wild *Arachis* (Leguminosae): distribution and environmental characterisation." *Biodiversity and Conservation*. 14:1777-1798.
- Hijmans, R. J.; Cameron, S. E.; Parra, J. L.; Jones, P. G.; Jarvis, A. (2005) Very high resolution interpolated climate surfaces for global land areas. *International Journal Of Climatology*, 25, 1965-1978.
- Hyman, G.G.; Larrea, C.; Farrow, A.. 2005. "Methods, results and policy implications of poverty and food security mapping assessments." *Food Policy*. 30:453-460.
- Jarvis, A.; Williams, K.; Williams, D.; Guarino, L.; Caballero, P.; Mottram, G. (2005) Use of GIS for Optimizing a Collecting Mission for a Rare Wild Pepper (*Capsicum flexuosum* Sendtn.) in Paraguay. *Genetic Resources and Crop Evolution*, 52, 671-682.
- Otero, M., Rubiano, J. Lema, G and Soto, V. 2006 Using similarity analyses to scale out research findings similarity analysis. *Water International*. Special Issue on Scales and Water Resources Management. (In press).
- Peters, M.; Hyman, G.G.; Jones, P.G. 2005. Identifying areas for field conservation of forages in Latin American disturbed environments. *Ecology and Society* 10(1):1-14
- Rubiano, J.; Quintero, M., Estrada, R.D., Moreno, A. 2006. Mult-scale Análisis for Promoting Integrated Watersheet Management. *Water International*. Special Issue on Scales and Water Resources Management. (In press).
- White, D.; Arca, M.; Alegre, J.; Yanggen, D.; Labarta, R.; Weber, J.; Sotelo, C. & Vidaurre, H. 2005. Alternatives to Slash-and-Burn (ASB) in Peru: Challenges, Research, and Impact. In: *Slash and Burn Agriculture: The Search for Alternatives*. Columbia University Press.

White,D.; Laberta, E. L. 2005. Technology Adoption by Resource-poor Farmers: Considering the Opportunity Costs of Peak-season Labor. *Agricultural Systems* 85(2): 183-201.

## Book Chapters

- Bunundschuh, J.; Winograd, M.; Day, M.; Alvarado, G. Regional geographical, social, economic, and environmental framework and developments, Chapter 1, *Central America: Geology, Resources and Hazards*, Balkema Publisher Co, The Netherlands. (In Press)
- Degen, B., Jarvis, A. & Vinceti, B. (2004). Modelling the biological processes: from genes to ecosystems. In: Vinceti,B.; Amaral,W.; Meilleur,B. (eds). *Challenges in managing forest genetic resources for livelihoods: some examples from Brazil and Argentina*. IPGRI, Rome, Italy. p. 71-90.
- Downing, T.; Patwardhan, A.; Klein, R.; Mukhala, E.; Stephen, L.; Winograd, M.; Ziervogel, G. 2005. Assessing Vulnerability for Climate Adaptation, Chapter 3, In: Lim, B.; Spanger-Siegfried,E. (eds). *Adaptation Policy Framework for Climate Adaptation: Developing Strategies, Policies and Measures*. UNDP, Cambridge University Press, Cambridge, UK. p. 61-90.
- Jarvis, A.; Mulligan, M. The climate of cloud forests. In: Bruijnzeel, L.A.; Juvik, J.; Scatena, F.N.; Hamilton, L.S; Bubb, P. (eds.). *Forests in the mist: Science for conserving and managing tropical montane cloud forests*. University of Hawaii Press, Honolulu, US. (In Press)
- Jarvis, A.; Yeaman, S.; Guarino, L.; Tohme, J. (2005). The role of geographic analysis in locating, understanding, and using plant genetic diversity. *Methods in Enzymology* (eds J. N. Abelson & M. I. Simon), pp. 279-298. Division of Biology, California Institute of Technology, Pasadena, California.
- Mulligan, M.; Torres, E.; Jarvis, A.; Gonzalez, J. Field and laboratory measurement of rates of cloud interception by epiphytes, leaves and fog collectors. In: Bruijnzeel, L.A.; Juvik, J.; Scatena, F.N.; Hamilton, L.S.; Bubb, P. (eds.). *Forests in the mist: Science for conserving and managing tropical montane cloud forests*. University of Hawaii Press, Honolulu, US. (In Press)
- Winograd M. 2005, Propuesta para una agenda de investigación en tecnología y manejo integrado de recursos naturales, Capitulo 3, FONTAGRO, Washington, D.C. p. 107-163. Documento de Trabajo # 4.
- Yeaman, S.; Jarvis, A. (2004). Environmental heterogeneity shapes genetic diversity through gene flow in *Araucaria araucana* forest ecosystems in Argentina. In: Vinceti,B.; Amaral,W.; B. Meilleur (eds). *Challenges in managing forest genetic resources for livelihoods: some examples from Brazil and Argentina* pp. IPGRI, Rome, Italy. p. 211-217.
- Ziervogel, G.; Cabot, C.; Winograd, M.; Segnestam, L.; Wilson, K.; Downing, T. Vulnerability assessments and risk maps in Honduras before and after hurricane Mitch: Protecting the vulnerable. In: Stephen, L.; Downing, T. E.; Rahman, A (eds). *Approaches to vulnerability: Food systems and environments in crisis*. Earthscan, London. (In Press)

## Books

- Jarvis, A. 2005. Terrain Controls on the Distribution of Tree Species Diversity and Structure in Tropical Lowland and Tropical Montane Forest. Thesis (PhD). University of London, King's College London Department of Geography. 438p.
- Maxted, N., Mabuza, P., Moss, H., Padulosi, S., Jarvis, A. & Guarino, L. (2004) An ecogeographic study: African *Vigna*. International Plant Genetic Resources Institute, Rome, Italy. 454 p.

## Workshop and Conference Papers/Presentations

- ENDA & CIAT (Winograd, M.). 2005. Vulnerability and Adaptation Training and Capacity Building Activities and Tools. Climate change capacity development (C3D) Project (Mind, Sri Lanka, ENDA, Senegal and ERC, South Africa with UNITAR), Side Event, COP 11 Conference, December 6, Montreal, Canada.
- Farrow, A. 2005. From Root Rots to Packet Tracking: Spatial Analysis for CIAT-Africa. CGIAR-Consortium for Spatial Information (CSI) meeting, 17-21 October, Nairobi, Kenya.
- Farrow, A. 2005. MarkSim a Spatial Weather Generator: the Theory, its Structure, Function, Outputs and Limitations. Investing in rain-fed farming systems of sub-Saharan Africa: Evaluating the agricultural implications of current climatic variability and planning for future climate change, 24–26 May, Nairobi, Kenya.
- Farrow, A. 2005. The Role of GIS and Spatial Analysis. Exploring the multiple potentials of soybeans in enhancing rural livelihoods and small industry in East Africa, 28– 29 January, Nairobi, Kenya.
- Hyman, G. 2005. Deforestation bow waves in the Central Peruvian Amazon. International Symposium, “The Stability of Rainforest Margins: Linking Ecological, Economic and Social Constraints of Land Use and Conservation”, 19-23 September. Georg-August-University of Goettingen, Germany.
- Hyman, G. 2005. Desarrollo Sostenible en América Latina y El Caribe, a Escalas Local, Nacional y Regional. Presentation to Kellogg Foundation representatives meeting in CIAT, 18 February, Cali, Colombia.
- Hyman, G. 2005. Priority Setting for Biofortification Strategy. Presentation to the HarvestPlus – AgroSalud Linkage External Review, 9 August, Cali, Colombia.
- Hyman, G. 2005. Geographic Analysis for Targeting Biofortified Beans. Presentation to AgroSalud specialists in bean improvement in Latin America, 18 August, Cali, Colombia.
- Hyman, G. 2005. Prospects for Estimating Habitat Change in Latin America and the Caribbean Using Land Cover and Population Data: 1950-2000. 6<sup>th</sup> Open Meeting on the Human Dimensions of Global Environmental Change Research Community, 9-13 October. University of Bonn, Germany.
- Jarvis, A. 2005. Conservation and Use of Plant Genetic Resources - Spatial Analysis for Targeting, World Conservation Monitoring. Centre (WCMC) International Seminar, June, Cambridge, United Kingdom.

- Jarvis, A. 2005. Spatial Analysis of Plant Genetic Resource Distribution: Providing Information for Targeting Ex Situ Collection and In Situ Conservation. Society for Conservation Biology ConBio2005 Conference, 11-15 July University Nacional de Brasil, Brasilia.
- Jarvis, A. 2005. Uso de Datos Espaciales para la Predicción en Agricultura y Ciencias Ambientales. Seminario sobre la Agricultura de Precisión en Colombia Corporación Biotec, Cali, Colombia.
- Jones, P.G.; Thornton, P.K.; Jarvis, A.; Beebe, S. 2005. How the CGIAR should respond to climate change. Paper presented at World Conference on Disaster Reduction, 18-22 January, Kobe, Hyogo, Japan.
- LãLabarta,R. & White,D. 2005. Criterios e Instrumentos para Avaliação de Sistemas Agroflorestais: Rentabilidade Económica. International Workshop Iniciativas Promissoras e Fatores Limitantes para o Desenvolvimento de Sistemas Agroflorestais como Alternativa a Degradação Ambiental na Amazônia. 19-28 January, Belem, Brazil.
- Laderach, P. & Oberthür, T. 2005. Experiencias sobre las Necesidades y la Precisión de Medidas para Determinar la Calidad de Café Especial en Taza. III Simposio Internacional de Café y Cacao CUBACAFE'05, 16 al 18 de Noviembre, Santiago de Cuba.
- Laderach, P.; Collet ,L., & Pohlan, J. 2005. Caracterización de la Calidad de Taza y su Interacción con las Condiciones del Ambiente en el Cauca, Colombia. III Simposio Intenacional de Café y Cacao CUBACAFE'05, 16 al 18 de Noviembre, Santiago de Cuba.
- Niederhauser, N. & Oberthür, T. 2005. Information Management for Agricultural High Value Product Supply Chains. Deutscher Tropentag Stuttgart The Global Food & Product Chain Dynamics, Innovations, Conflicts, Strategies, 11 – 13 October, University of Hohenheim, Stuttgart-Hohenheim.
- Oberthür, T. 2005. Connecting People, Markets and Environment through Niche Management. International Workshop of the Diversification Agriculture Project Alliance, 21-23 February Workshop in CIAT, Cali, 23-26 February Fieldtrip to coffee & honey producing project zones in Huila, Colombia
- Oberthür, T. 2005. Product Differentiation in Supply Chains of High Value Crops. Workshop with CIRAD Tree Crop Department.
- Quintero,M.; Estrada, R., Rubiano,J. & Giron, E. 2005. Measurement and Valuation of Water-Related Environmental Services. Special Session “Payment for Environmental Services” in the “Water for Food and Ecosystems” FAO-Netherlands Conference, January 31 to February 5, The Hague, Netherlands.
- White,D. & IMAT team. 2005. Overcoming Land Degradation to Mitigate Deforestation in the Humid Tropics. August, Catholic Relief Services. Baltimore USA.
- White,D.; Labarta,R. & Leguia,E. 2005. New Agricultural Technologies: Are Subsistence Farmers to Busy to Adopt them?. Development Forum. November BOKU University, Vienna, Austria.
- Winograd M. 2005. Vulnérabilité et Adaptation : les éléments de base pour passer de la théorie à la pratique. Atelier International de Formation de Formateurs sur Vulnérabilité et Adaptation aux Changements Climatiques, 5-7 July, ENDA, Dakar, Senegal.
- Winograd M. and B. Fall. 2005. Concepts, méthodes et outils pour évaluer la vulnérabilité et les stratégies d'adaptation. Atelier International de Formation de Formateurs sur Vulnérabilité et Adaptation aux Changements Climatiques, 5-7 July, ENDA, Dakar, Senegal.

- Winograd, M. 2005. Vulnérabilité et adaptation: Le contexte général. Atelier International de Formation de Formateurs sur Vulnérabilité et Adaptation aux Changements Climatiques, 5-7 July, ENDA, Dakar, Senegal.
- Winograd, M. & Thomas, J.P. 2005. Capacity Building on Climate Change: Vulnerability and Adaptation Component. Capacity Building for Sustainable Development and Climate Change, MIND training of trainers workshop, May 30-Jun 2, MIND, Colombo, Sri Lanka.
- Yeaman, S. & Jarvis, A. 2005. Maintenance of Diversity in a Heterogeneous Environment: Landscape Predicts Variance within Populations of Lodgepole Pine (*Pinus contorta*). Evolution 2005 Conference, 10th-14th June, University of Alaska, Fairbanks.

### **Technical Reports and Information Products**

- CIAT, SEI, ENDA and UNITAR. 2005. Fiches Techniques pour l'Appui du Processus PANA/Technical Sheets to Support NAPA Process, UNITAR, Geneve, Switzerland. 8p.
- ENDA en collaboration avec CIAT, SEI et UNITAR. 2005. Compte Rendu de l'Atelier de Formation de Formateurs sur Vulnérabilité et Adaptation aux Changements Climatiques/Train of Trainers Workshop Report on Vulnerability and Adaptation Assessment, ENDA-TM, Dakar, Senegal. 25 p.
- Jones, P. G.; Díaz, W.; Cock, J. 2005. Homologue: A Computer System for Identifying Similar Environments Throughout the Tropical World. [CD-ROM] Version Beta a.0 2005. Series International Center for Tropical Agriculture.
- Jones, P. G.; Gladkov, A. 2005. FloraMap: A Computer Tool for Predicting the Distribution of Plants and Other Organisms in the Wild. [CD-ROM] Version 1.03 2005. Series International Center for Tropical Agriculture.
- Oberthür, T. 2006. Diversification Agriculture Project Alliance (DAPA) in Latin America. ICT Update Issue 30 Precision farming, January 2006. Series International Center for Tropical Agriculture. Available in: <http://ictupdate.cta.int/index.php/article/articleview/534/1/96/>
- Winograd, M.; Fall, B. ; Thomas, J. P. *et al.* 2005. Formation de formateurs sur l'évaluation de la vulnérabilité et les stratégies d'adaptation/Train of trainers on vulnerability and adaptation strategies assessment. [CD-ROM]. CIAT, ENDA, SEI, UNITAR, C3D Project, ENDA-TM, Dakar, Senegal.

## SPECIAL PROJECTS/DONOR CONTRACTS

### New proposals approved in 2005.

Project	Donor	Starting date	Total value US\$	Partners	CIAT
Climate Change Capacity Development	ENDA/Unitar	1/1/2005	70,000		70,000
GEFME-OP12-Integrated Ecosystem	The World Bank	1/1/2005	49,580	-	49,580
Agreement between CIAT and CPWF for Provision of Leader of Basin Focal Projects	CP	4/5/2005	86,800	-	86,800
Catalogue of Poverty Mapping for Seven Countries-CIESIN	Columbia University	1/2/2005	22,054	-	22,054
Analyses of Coffee Quality and Production System Characteristics in the Nariño and Cauca Departments of Colombia	Federación Nacional de Cafeteros	16/01/2006	30,875	-	30,875
Introducing More Precise Agricultural Management In Tropical Farming Systems	Dupont	2006	16,705	-	16,705
GEF-UNEP project	GEF	2006	700,000	487,000	213,000
Topographic data	Various	2005	15,500	-	15,500
Data license for SRTM data.	Microsoft Corporation	20/12/2005	35,000	-	35,000
Impact Assessment of CP	CP	2005	900,000	-	900,000
			<b>1,926,514</b>	<b>487,000</b>	<b>1,439,514</b>

**Ongoing special projects in 2005, initially funded in previous years.**

<b>Project</b>	<b>Donor</b>	<b>Starting date</b>	<b>Total value US\$</b>	<b>Partners</b>	<b>CIAT</b>
Challenge Program on Water and Food (CPWF) Theme 2	IWMI	1/11/2002	169,777	14,000	155,777
New opportunities for hillside farmers: Matching product quality, environment and market demand for high-value agricultural products	GTZ	1/1/2005	544,649	139,869	404,780
A system of drought insurance for poverty alleviation in rural areas	GTZ	1/10/2004	21,036	-	21,036
Land Systems Analysis Tool for Tropical Lowlands	CGIAR (ICT-KM Program)	1/6/2004	18,340	-	18,340
Spatial trade-off analyses in upland systems of Southeast Asia and East Africa	Austria	1/1/2005	142,389	48,000	94,389
Climate Change Capacity Development	ENDA/Unitar	1/1/2005	70,000		70,000
GEFME-OP12-Integrated Ecosystem	The World Bank	1/1/2005	49,580	-	49,580
Agreement between CIAT and CPWF for Provision of Leader of Basin Focal Projects	CP	4/5/2005	86,800	-	86,800
			<b>1,102,571</b>	<b>201,869</b>	<b>900,702</b>

## CAPACITY BUILDING 2005

### List of courses & seminars, dates, place, subject, number of trainees

Date	Course & Seminars	Place	Subject	Number of trainees
16-18 November	III Simposio Intenacional de Café y Cacao. P. Laderach	Santiago de Cuba	CUBACAFE'05. Coffee and Cacao conference	1
11-13 October	Deutscher Tropentag Stuttgart. T. Oberthur & N. Niederhauser	University of Hohenheim, Germany	The Global Food & Product Chain Dynamics, Innovations, Conflicts, Strategies.	2
9-13 October	6 <sup>th</sup> Open Meeting, G. Hyman	University of Bonn, Germany	Human Dimensions of Global Environmental Change Research Community	1
19-23 September	International Symposium. G. Hyman. The Stability of Rainforest Margins	University of Goettingen, Germany	Linking Ecological, Economic and Social Constraints of Land Use and Conservation	1
15-18 June	Conference Open Source Num3/EOGEO. E. Barona	Minneapolis, Minnessota, USA	GeoSpatial 05 Conference	1
20-22 July	VI Simposio Latinoamericano IESA – D.White & M. Otero	Universidad de Caldas, Manizales	Conference participation	2
16-18 March	Seminario sobre servicios financieros rurales. J. Díaz	Oaxaca, México	Presentation / revision of drought insurance concepts	1
9-12 May	Workshop 2005: J. Díaz & M. Lundy. Innovative Agricultural Production Risk Management Instruments in Central America	Antigua, Guatemala	Opportunities and Challenges for Reaching the Rural Poor	2
7-10 March	Training period with colleagues. T. Oberthur	Universities Siena and Pescara, Italy	Statistical analyses of sampling designs for product quality research	1
17-18 May	Conference of International Center for Advanced Mediterranean Agronomic Studies (CIHEAM). S. Cook	Zaragoza, España	Presentation of research results	1
June	Centre (WCMC) International Seminar. A. Jarvis	Cambridge, United Kingdom	Presentation of research results	1
11 <sup>th</sup> -15th July	Society for Conservation Biology ConBio2005 Conference. A. Jarvis	University Nacional of Brasil, Brasilia	Presentation of research results	1
10-14 June	Evolution 2005 Conference. A. Jarvis	University of Alaska, Fairbanks	Presentation of research results	1
September-November	Curso a distancia de Modelos de Simulación de Cultivos. J. Díaz		Course attendance	1
1-5 October	Entrenamiento Universidad Pescara, Italia. L. Collet	Italia	Training in statistical analyses	1
October-November	English Courses. L. Torres & L. Rojas	Palmira, Colombia	English classes	2

**List of NARS visiting scientists, institutions, dates of stay, subject**

Name	Institution	Dates of stay	Subject
Teddy Marcelo Siles & Juan Carlos Chive	Museo de Historia Natural Noel Kempff Mercado	5	-
EMBRAPA	Luis Bassoi	-	-
Winston Andah	WRC (Ghana).	-	-
Phillipe Cecchi	CNRS (Burkina Faso)	-	-

**List of MS & PhD students being supervised**

Yolanda Rubiano, PhD. University Nacional, Palmira, Colombia  
 Daniel Jiménez R, PhD. Candidate in Biological Sciences- GHENT University  
 John A. Ocampo, Ph.D. Candidate Biología Integrativa, Université Montpellier II, France  
 Juergen Piezcascek, PhD. Candidate Agriculture, University of Bonn, Germany  
 Peter Laderach, PhD Candidate at Rheinische-Friedrich Wilhelm Universität Bonn, Germany  
 Natasha Pauli, PhD. Candidate in Geography, University of Western Australia  
 Reinhild Bode, PhD. Candidate in Agricultural Sciences, Humboldt University of Berlin  
 Clemens Bertschler, MSc. Information and Communication Engineering, Vorarlberg University of Applied Sciences  
 Marcela Estrada, MSc. Candidate Ciencias Agrarias, Universidad Nacional, Medellin, Colombia  
 Dario Castañeda, MSc. Candidate Ciencias Agrarias, Universidad Nacional, Medellin, Colombia  
 Fernando Rodríguez Camayo, MSc. Candidate, Business Administration Univesidad del Valle, Cali, Colombia  
 Ramiro Cuero, MSc. Candidate Physics, Universidad del Valle  
 Karl Atzmanstorfer, MSc. Candidate Applied Geoinformatics, University of Salzburg, Austria  
 Maria Miguel Ribeiro, PhD. Candidate, BOKU University Vienna

**FOR THE IP PROJECTS A LIST OF VARIETIES & COUNTRIES FOR VARIETAL RELEASES.** Not applicable for PE4

**SUMMARY 2005 BUDGET PREPARED BY FINANCES.**

**ACTUAL EXPENDITURES 2005**

**Project PE4: Geographical Information and Land Use Change**

SOURCE	AMOUNT US\$	PROPORTION (%)
Unrestricted Core	677,739	44%
Restricted Core		0%
		0%
<b>Sub-total</b>	<b>677,739</b>	<b>44%</b>
Special Projects	610,096	40%
Water and Food CP	251,986	16%
<b>Total Project</b>	<b>1,539,821</b>	<b>100%</b>

