Centre de Coopération Internationale en Recherche Agronomique pour le Développement
C I RA D

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Rapport de Mission en Colombie

du 02 au 13 octobre 2005

Jacky GANRY
Directeur adjoint, chargé des affaires scientifiques, Département Flhor

Rapport de mission en Colombie
du 2 au 13 octobre 2005

INTRODUCTION

La présente mission avait pour objet :

- la participation à la réunion CG/GFGAR sur High Value Crops les 3-5 Octobre 2005

- la participation à la Réunion CIO-CIAT les 10-11 Octobre 2005

- la rencontre à Bogota de partenaires clés le 6 Octobre 2005, avec Jorge Diaz.

RESUME

1. L'atelier GFAR-GCRAI, organisé par le CIAT a permis de faire des avancées importantes sur le concept de Productions à Haute Valeur Ajoutée (HVPs), ciblé sur les populations les plus pauvres, comme base de programmation au sein du GCRAI et en partenariat avec le GCRAI. Les fruits et légumes occupent une place très importante comme HVPs.

2. La réunion de concertation CIO-Ciat qui a suivi a permis, en s'appuyant sur la dynamique générée par l'atelier HVPs, de préciser des pistes de partenariat avec le CIAT sur Fruits, bénéficiant de la création récente en son sein d'un programme Fruits.

3. Une journée passée à Bogota a permis des contacts importants avec ICA, CORPOICA, FNCC et PBA à BOGOTA, avec des pistes de partenariat et financements liés sur plantain et agrumes en particulier.

Principales Personnes rencontrées :

Atelier HVC CG/GFAR : voir liste des participants (Annexe 1)

Réunion CIO-CIAT : voir liste participants (Annexe 2)

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- Jorge E. Gomez Galué, Sous-Directeur, Protection et Regulation Agricole (jorge.gomez@ica.gov.co)

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- Herberth Matheus Gomez, Coordinateur Fruits, groupe Epidémiologie Agricole (herberth.matheus@ica.gov.co) ;

FNCC : Edgar Echeverri, Directeur Technique (edgar.echeverri@cafedecolombia.com)

PBA : Andres Laignelet, Directeur (alaignel@colciencias.gov.co)
Alfredo Jarma, Technicien

CORPO-ICA : Tito DIAZ, Directeur Scientifique (ediaz@corpoica.org.co ou titodiaz@hotmail.com)

1) Atelier CG-GFAR : High-Value Productions

Cet atelier fait suite à une commande conjointe du GFAR et du CGIAR dont le Conseil scientifique a fait de HVP la 3° priorité du CG après les Ressources Génétiques et l'amélioration des plantes.
Cet atelier a été suivi par 36 participants originaires de divers continents et institutions.
Le Ciat a été chargé de son organisation.

Les objectifs fixés étaient :

- construire une vision partagée du concept HVP, surtout en relation avec les populations les plus pauvres ;
- examiner les diverses stratégies envisageables pour relier les petits producteurs aux marchés à Haute Valeur Ajoutée ;
- définir les grandes lignes d'un « agenda » partagé de recherche sur HVPs ;
- explorer les alliances potentielles, incluant l'implication des bailleurs de fonds.

La présence active du Président de l'ISHS, Norm Looney, a été très lourde de sens. Il en est de même de celle du DG de l'AVRDC, T. Lumpkin.

Les discussions en séances plénières et ateliers ont été très riches et ont permis de cadrer ce nouvel enjeu dans la ligne des objectifs fixés.
En particulier la dynamique ainsi générée a permis d'alimenter la réunion CIO-CIAT qui a suivi.
Les proceedings de cet atelier sont confiés à Rupert Best du GFAR et pourront donner lieu à publication, éventuellement dans Acta Horticulturae de l'ISHS.

2) Réunion de concertation CIO-CIAT :

21) Programme :

Agenda CIAT-CIO Meeting, October 10-11, Cali Colombia

October 9, Sunday : Arrival

October 10, Monday :

8:15-8:30 Welcome and Overview of CIAT-CIO Partnership J. Voss

8:30-8:50	Recent Developments in CGIAR and French International Agricultural Research Systems	Y.Savidan
8:50- 9:10	CIRAD Strategy Overview & Implications for Partnerships with CGIAR	C. Hoste
9:10 - 9:30	IRD Strategy Overview & Implications for Partnerships with CGIAR	H. Palmier/ A. Poulet
9:30- 9:50	INRA Strategy Overview & Implications for Partnerships with CGIAR	M. Dodet
9:50-10:10	Discussion	
10:10-10:40	Coffee	
10:40-11:00	Overview of Rice Research Strategy & CIAT-CIO Partnership	L. Calvert/ A. Ghesquiere
11:00- 11:15	Achievements and Future Plans in Rice Research	M. Chatel
11:15-11:30	Achievements and Future Plans in Participatory Breeding	G. Trouche
11:30-11:45	Achievements and Future Plans in Rice Research	M. Lorieux
11:45-12:00	Achievements and Future Plans in Rice Research	J. Tohme/ A. Ghesquiere
12:00-12:30	Discussion	
12:30-14:00	Lunch	
14:00-14:15	Achievements and Future Plans in Soils Research	E. Barrios
14:15-14:30	Achievements & Future Plans in Rural Innovation	Rogelio Pineda
14:30-14:45	Update on Results of High Value Crop Meeting	A. Gonzalez
14:45-15:00	High Value Research on Cassava	H. Ceballos
15:00-15:20	Discussion	
15:20-15:30	Coffee	
15:30-17:00	Presentation and Discussion ,New Areas for Potential Collaboration with Ciat Project Managers	
	Reproductive ecology of Cassava	M.Fregene
	High Value Crops	J.Ganry/A.Gonzales
	Participatory Research,	G.Trouche
	Green-Land Use collaborations	JP Müller
	Capacity Building	A.Poulet/E.Hesse
17:00 –18:00	Reception in Samper Room	

October 11, Tuesday

8:00 – 9:30 Presentation and discussion of Naw Areaas for Potential Cooperation

9:30-11:00 Discussión on CG Challenge Programs
11:00-11:30 Operating modes of collaboration

11:30-12:30 Working Groups

12:30-14:00 Lunch

14:00-16:00 Plenary Summary and Conclusions on Future Directions

22) Principales conclusions

Le projet de compte rendu rédigé par D. Pachico, DDG du Ciat résume les principales conclusions. Sont rajoutées quelques remarques pour une meilleure appropriation en interne.

I. Main Research Themes for Future Collaboration :

I.1) Rice research has long been a topic of intense cooperation involving both CIRAD and IRD, and this is seen as a continued major priority for the future. This ongoing cooperation is covered by existing specific agreements, and there is every expectation at this time that these agreements will essentially continue 2006-2007, though CIAT remains interested in expanding cooperation in molecular studies of rice pathogens, in particular, bacterial blight. Further joint opportunities in the Generation Challenge Program will be explored. Lee Calvert would be responsible from CIAT's side for the continued evolution of this cooperation and N. Ahmadi from CIRAD.

I.2) High value crops is a new priority area for the CGIAR, and it is an area in which the French research institutes have a long track record and very great expertise. Very productive discussions were held between Jacky Ganry of CIRAD and Alonso Gonzalez of CIAT on fruits *(suite à donner: M.Jannoyer et UPR PFI: J.Y. Rey)*. There was agreement in principle to prepare a proposal for submission to the Sub-Saharan African Challenge Program (entre autres), with CIRAD as lead institute and involving CIAT fruits, agroenterprises & TSBF.(cf annexes: presentation activités Flhor pour collaboration et conclusions groupe de travail HVP) A particluarly promising option for collabortion was identified as research Cryopreservation methodologies for tropical fruits germplasm.
(suite à donner:: F.Engelmann)

I.3) Rural Innovation presents opportunities for new collaborations in addition to the very satisfactory progress in IRD/CIAT joint work in Bolivia. The first priority for new initiatives would be on **co-modelling of value chains, linked to work on fruits, focusing on how organizational aspects of a market chains affect the capacity of the poor to compete and to benefit from new market opportunities**. Jean-Pierre Muller (CIRAD/Green) and Jacqui Ashby (CIAT/RII) are following up.

Autres pistes (cf Shaun Ferris/Annexe : impact des productions HVC et technologies post-récolte adaptées au Vietnam, Colombie et Mali ; Intelligence économique pour les filières HVCs, etc...*(à suivre P. Moustier, L. Temple, M. Reynes, Upr 77, Upr 27, en liaison avec Green (JP Müller) et ODM)*

Second, a study on participatory plant breeding comparing experiences in Africa and Latin America of CIRAD, CIAT and other agencies is under consideration for further development by Jacques Lancon and CIAT/RII.*(à suivre par Upr 75)*
Third, a study comparing and contrasting experiences with participatory methods for natural resource management research, to be followed up by Jean-Pierre Muller of CIRAD/Green and likely Nina Lilja of CIAT/PRGA. In addition, there was agreement to explore the

organization of a video conference on agro-enterprises and high value crops, to be organized by Shaun Ferris of CIAT and Yves Savidan of Agropolis.

I.4) Soils research already involves a collaboration between CIRAD-Forêt and CIAT TSBF Africa. There is clear intent to continue this for another two years, with a focus on soil biology. Likewise, a joint IRD-CIAT/TSBF effort for Latin America is in an advanced stage of discussion, between Patrick Lavelle of IRD and J Voss of CIAT.

I.5) Various: Apart from these three major strategic themes, several other initiatives are in different stages of development, from scientist to scientist exploration to preliminary brainstorming. Among these possiblities are food quality research drawing on CIRAD capabilities to work on high value cassava and tropical fruits (H. Ceballos & Dominique Dufour) *(à suivre par Max Reynes, UPR24)* ; research on nematodes (Segent Kelemu, CIAT & Harry Palmier, IRD) ; a student to work on crop health research at CIAT ; research on seed systems (Jacques Lancon, CIRAD & Louise Sperling, CIAT); Martin Fregene and Dr. Mc Key on cassava biotech; valorisation des hampes de banana : lixiviado (Elisabeth Alvarez) *(à suivre par T. Lescot)*.... Etc.

II. ALTERNATIVE MODES OF COLLABORATION

II.1) Secondment of Scientists has long been the major mode of research collaboration, with French scientists being out-posted to CIAT projects while CIAT allocates particular CGIAR resources to projects to which French scientists are assigned. Increasingly this is being supplemented by joint fund raising efforts. This has been an extremely effective mode for executing research of joint high priority interest. French scientists have been exceptionally effective both in the quality of their research contribution and their ability to integrate into CIAT project teams. Despite the outstanding success of this mode of collaboration, and the very great interest of CIAT in continuing or even expanding it, such collaboration is quite resource intensive and as a consequence faces certain limits.

Likewise. since the late 1990's, CIAT has also had a scientist (or scientists) posted at CIRAD, Montpellier, both to conduct research of mutual interest and also to help serve as a bridge between the two institutes. While this experience has led to the achievement of some important work,. It has not proven so effective for institutional articulation that it can be justified to continue on that basis.

Thus, despite the high effectiveness of this collaboration mode, it is important to emphasize other modes more in the future : privilégier les missions d'appui

II.2) Challenge Programs are a significant new feature in the CGIAR that provides new opportunities for CIO-CIAT collaboration. These have demonstrated their effectiveness through joint proposal development IRD/CIAT for the Generation Challenge Program. Similar efforts in the Water CP have made less progress to date, but both parties are commited to pursuit of further such opportunities in the future. There was strong consensus on the need to work closely together for the Sub-Sahara Africa CP. The Harvest Plus bio-fortification CP (principalement soutenu par la Fondation B&M. Gates) has attracted less interest in France, à l'exception du FIhor, but Joe Tohme of CIAT/H+ will visit France again in 2006 to explore whether interest can be stimulated. (Une rencontre avec J. Tohme a permis d'identifier des pistes de collaboration avec l'UPR Tropiqual (24) sur des champs non couverts par le CG dans le CP Harvest+, à savoir l'amélioration de la diète alimentaire au Sud par les Fruits et légumes frais et transformés.)
More broadly, joint development of proposals needs to be a primary mode of collaboration for the future. All institutions are facing growing pressures for resource mobilization to finance their core research agenda. While the CGIAR Challenge Programs offer one such promising avenue, the French institutions have opportunities for European funding which could also be a promising basis for collaboration.

3) Visites à Bogota- 7 0ctobre 2005

Le programme de visite avait été élaboré par Jorge DIAZ, qui m'a accompagné tout au long de la journée.
Je tiens à l'en remercier très vivement.

31) ICA : Entretiens avec :

- Jorge E. Gomez Galué, Sous-Directeur, Protection et Regulation Agricole ;

- José R. Galindo Alvarez, Coordinateur National, Groupe de Contrôle et Eradication des Risques Phytosanitaires ;

- Herberth Matheus Gomez , Coordinateur Fruits, groupe Epidémiologie Agricole.

Points essentiels : Demande forte de coopération sur Certification Agrumes et bananiers (cf annexe 1)

a) Certification Agrumes : Contraintes phytosanitaires fortes mais mal identifiées pour une production d'environ 60.000 ha

Besoins : Identifier et caractériser les contraintes phytosanitaires
Indexation et certification du matériel végétal
Gestion intégrée des vergers : IPM/PFI, durabilité des résistances,...

Acteurs et partenariats :

FedeCitricos qui gère une taxe parafiscale alimentant le « Fundo de Fomento Citricola

ICA
(volet indexation/certification)
AVASA, Espagne

b) Certification bananiers : prévention essentiellement contre Bunchy-Top (BBTV), BSV et Maladie de Moko (*Ralstonia sol.*)

Acteurs et partenariats : FedePlatano
ICA
CorpoICA
Corporacion PBA

Suite à donner *: ICA rédige un relevé de conclusion de la réunion et l'envoie au Cirad ainsi qu'aux divers partenaires pour mise en œuvre. Proposition d'un MOU.*

Financements potentiels :

- *Fond de développement des Citrus*
- *Fonds compétitif Banque Mondiale géré par MinAgri*
- *Fontagro*

32) Fédération des Cafeteros (FNCC)
Entretien avec Edgar Echeverri, Directeur Technique de la FNCC

Points essentiels :

Intérêt manifesté pour :

- Plantain qui occupe une place importante dans toute la zone caféière centrale,
- Forêt très important au plan environnemental (érosion), et valorisation des espèces natives ;
- Agrumes : des plantations de type commercial existent depuis les années 90, avec 2 variétés de mandarinier, une variété d'orange (Valencia) et une variété de lime Tahïti. Le PG actuellement utilisé est essentiellement Cléopatre.
- Macadamia avec décorticage des noix. Une marque est développée : « Del Alba »

Mais la FNCC ne dispose d'aucun moyen pour travailler sur ces productions dans la mesure où tous les fonds cafeteros sont dédiés exclusivement au Café depuis une dizaine d'années (crise du café).

33) PBA (Programme Biotechnologie Agricole) :

Andres Laignelet, Directeur
Alfredo Jarma, Technicien

- Suite à la dernière visite de T. Lescot et P.Y. Teycheney, très fort intérêt pour adopter la technique « PIF » développée par le Carbap pour une micro-propagation in vivo des plantains. Très stratégique pour la Colombie. Souhaite développer une coopération Sud-Sud, pouvant impliquer l'Equateur ;
- Importance du problème BSV et autres virus. Plan national de Certification. A développer en partenariat avec Equateur dans une deuxième phase. Objectif principal : multiplier du matériel végétal sain pour augmenter les rendements ;
- Voir possibilités FONTAGRO pour ces deux volets autour d'une dynamique régionale Colombie- Pérou-Bolivie-Equateur, pouvant s'appuyer sur le projet Preduza (Programme de développement rural) soutenu par la coopération Hollandaise. Personne contact : Daniel DANIAL de Wageningen (daniel.danial@wur.nl ou ddanial@ciatfza.org.ec – tel : 0317-415099)
  (à suivre par F. Cote/T. Lescot)

34) CORPO-ICA

Rencontre avec Tito DIAZ, Directeur Scientifique (ediaz@corpoica.org.co ou titodiaz@hotmail.com)

Examen des principales pistes de coopération possibles dans le domaine horticole :

a) Certification du matériel de plantation pour agrumes, bananiers et plantains *(à suivre par P.Ollitrault et F.Cote)*

b) Recherches sur manguier : relations entre les facteurs écophysiologiques et la qualité du fruit. Floraison, conduite agronomique, stade de récolte et qualité. *(à suivre par M.Jannoyer/J.Y. Rey)*

c) Recherches sur les qualités nutritionnelles des fruits et légumes d'intérêt *(à suivre par M. Reynes)*

Certains de ces points pourront être traités dans le cadre d'un partenariat Cirad-Corpolca-Ciat.

Il apparaît possible de mobiliser des fonds auprès du Ministère de l'Agriculture Colombien et auprès d'Ecos en France pour organiser un séminaire en Colombie sur le thème de la création de valeur ajoutée dans les filières fruits et légumes en Colombie.
Dans ce séminaire seraient abordés les problèmes de certification phytosanitaire du matériel de plantation, de valeur nutritionnelle et aliments fonctionnels, des marchés potentiels pour les fruits et légumes, de certification d'origine, etc,...avec impact sur la pauvreté, entre autres.
Ce serait l'occasion de signer un accord cadre entre Corpolca et Cirad. *(à suivre par R. Hugon)*

4) Visite de terrain dans la zone de Cali - 8 Octobre 2005

Cette visite a été organisée à la demande du nouveau Président du Ciat : Yves Savidan

Participants :

Yves Savidan, Agropolis
J.P. Müller, Cirad-Green
J. Ganry
Carlos F. Ostertag - CIAT
Carlos Chilito – CIAT

- CIPASLA : Comité Agro-industriel de Pescador ; Projet de services développement des Affaires Rurales ;

- Visite de l'usine d'amidon de manioc TODOYUCA à Pescador. Rencontre de Jesus Trujillo, Directeur : très bonne perception de l'appui apporté par le Cirad : G. Chuzel, N. Zakhia, D. Dufour ;

- Visite de l'usine de panella de la Communauté de El Tablon ;

- ASOPANELA : « Association des producteurs et distributeurs de Panella :

Dans tous les cas on note une interaction forte avec l'équipe « Agro-entreprise » du CIAT, qui s'implique dans la diffusion des résultats, la formation des partenaires utilisateurs avec une approche agro-entrepreneuriale.

Liste des participants au
Workshop HVC (*High Value Product Workshop 3 – 5 October, 2005)*

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Resume des presentations

Presentation No. 1

J. Voss -- Welcome and Overview of CIAT-CIO Partnership Attacking Poverty through Rural Innovation and Environmental Reconstruction

1. CIAT's Research & Development Challenges

A. Improving Agroecosystem Management: Restoring Degraded Lands to Economic and Ecological Productivity

Approach

- Develop multiple stress-adapted crops & forages
- Identify "hot spots" and vulnerable populations
- Prioritize land use innovations
  - financial and market viability
  - environmental services to balance public objectives
- Participatory, community-based NRM
- Build capacity of stakeholders
  - affect policy and institutional change
  - scale up and out

B. Sharing the Benefits of Agrobiodiversity : To contribute to diminishing the risk of genetic collapse of crops

An Effort Along Six Fronts

- Conduct threat analysis
- Determine the spatial distribution of target species
- Improve the management of agrobiodiversity
- Generate knowledge on functional diversity
- Agrobiodiversity
  - Save
  - Increase the value
  - Share the benefits
- Training and capacity building

C. Enhancing Rural Innovation: Linking the Rural Poor to Markets and Knowledge Networks to Increase Incomes and Assets

Linking Farmers to Markets

- Groups of farmer leaders
- Market opportunities
- Participatory analysis of production-to-market chains
- Local networks of business support services

Linking Farmers to Knowledge Networks

- Community telecenters
- Groups of innovative farmers and development professionals
- Web-based information systems

How: Blending Scientific and Local Knowledge & Capacities

- Participatory approaches
- Enhanced capacity to solve problems and seize opportunities
- Research that is technically sound and locally relevant

How: Learning Alliances and Planning for Change

- Seek out partners & Negotiate terms of the alliance
- Identify good development practices
- Evaluate their contributions to improved livelihoods
- Devise improved approaches to foment rural innovation
- Build local capacity
- Document local experience and evaluate impact

How: Strengthening Rural Planning

- Facilitate group action for defining collectively a desired future
- Build different visual scenarios that show the possible routes and tradeoffs for achieving that future

What is it that we need to do differently to improve the lives of the poor?

An integrated approach towards improving and building

- Physical,
- Biological,
- Financial, and
- Social capital

2. CIAT – CIO Partnership

Major areas of on-going collaboration

- Rice Research
  - Upland Rice Breeding
  - Rice Genomics
  - Participatory Plant Breeding
- Rural Innovation
  - Rural Planning
  - Soil Biodiversity and Ecosystem Services
  - Below Ground Biodiversity
  - Land Use
  - Soils (TSBF – Kenya)

Some other areas of collaboration (past and present)

- Rice pathology
- Cassava entomology
- Bean breeding

- Cassava post harvest & agroenterprises

Potential new areas
- Sub-Saharan Africa Challenge Program
- High Value Crops
- Value-added Cassava
- Enabling Rural Innovation

Presentation No. 2

Yves Savidan

Recent Developments in the French Agricultural Research System and their Potential Impact on Collaborations with CIAT

1. Context in France
- A new law expected (late 2005), that will impact on research organizations and international collaborations
- The approval (Jan 1., 2006) of first pilot regional centres of excellence in France, one in agricultural sciences in Montpellier
- An important report on the relations between the CGIAR and France (Feb. 2005), approved by Res. Institutes managements and Ministries at September 2005 meeting in Paris

2. Evolution of French complexity…

AGROPOLIS International

Montpellier Universities

Five Brainstorming Groups :
- Research and Training
- International Relations
- Business
- Campus life
- Charter drafting

3. CGIAR-France Review (CNER, 2005)

Recommendations affecting CIAT :
- Develop together a common strategic plan for our collaboration
- Increase France's support to the CGIAR
- Encourage young scientists' engagement

4. AGROPOLIS International

Montpellier Universities
- Explore new collaborative research ideas
- Strengthen existing collaborations
- Encourage young scientists' engagement

Presentation No. 3

C. Hoste – CIRAD French Agricultural Research Centre for International Development

1. Global challenges
   - Food Security and Safety
   - Sustainability
   - Poverty
   - The environment

2. Operations based on partnerships

Activities established and implemented jointly with research and development stakeholders :
   - local communities and producer groups
   - research organizations and universities
   - state authorities and funding agencies
   - private companies
   - NGOs

3. Seven departments
   - Annual Crops (CA)
   - Fruit and Horticultural crops (FLHOR)
   - Tree Crops (CP)
   - Animal Production and Veterinary Medicine (EMVT)
   - Forestry (Forêt)
   - Territories, Environment and People (TERA)
   - Advanced Methods for Innovation in Science (AMIS)

4. Scientific Projects of CIRAD Reseach Units
   - Sustainable Development – Main Challenges
     - Improve biodiversity and agrobiodiversity management at different scales.
     - Increase, in a sustainable manner, performances of the production systems in the South, including quality of non food products.
     - Improve mechanisms of governance of markets, institutions, resources and territories.
     - Improve the quality/value of food and non food products of the different production systems.
     - Improve the management of environment and risks, including sanitary and environmental risks (deforestation, desertification, pests/diseases, climate change).

Presentation No. 4

Palmier and Poulet
IRD Institut de recherche pour le développement

- French public research institute for science and technology
- Under the joint authority of the Ministry of research, and the Ministry of Foreign Affairs (Under Secretary for Cooperation)

1. Activities

- IRD mandate is to develop scientific programs contributing to the development of countries in the South
- particular emphasis on relationships between Man and Environment

2. Three main missions
   - Research
   - Expertise
   - Capacity Building and Training

3. Scientific activities

Six Priority Topics for Development
- Environmental hazards and safety of Southern Communities
- Sustainable ecosystem management
- Continental & Costal water resources and use
- Food Security
- Health: epidemics, endemic and emerging diseases, healthcare systems
- Economic and Social change, Spatial dynamics issues (Population, migration, urbanization)

Five Scientific Departments
- Expertise and Consulting
- Support to Scientific Communities and Training
- Earth and Environment
- Societies and Health
- Living Resources

4. Partners
   - International scientific community
     - National Research and Higher Education Institutions
   - European Programs (PCRD); Regional Research & Development Institutions (NEPAD/FARA) and international organisations (WHO, WMO, FAO, UNDP, UNESCO,CGIAR etc…)
   - Private Sector (Pioneer, Syngenta, Limagrain..)

5. Collaboration with CGIAR

   ⇒ MOU with 10 IARCs + one associated Center (ICIPE)

   For 2005
   - 32,5 Men/Year (25 outposted senior scientists and 8 junior) and 21 Missions of medium duration
   - an investment of 4.108K€ (salaries & Operational expenditures) = + 20 %/2004

Four main characteristics :
- Search for critical mass of scientists involved in joint programs,
- Tripartite partnerships (IRD/NARS and Universities / IARCs)
- Emphasis on Training for national and French scientists
- Similar Operational support to scientists outposted in IARCs than in other partnerships situation.

Presentation No. 5
M. Dodet – INRA (no powerpoint)

- Huge organization
  - 14 Departments of research
  - 21 locations in France
  - Budget of 600 million Euros, 85% from the government

- 3 pillars
  - Agricultural productivity
  - Food and feed
  - Environment – functional ecology

- Originally worked only on productivity, is now moving to sustainability

- Implications of new law in France for partnerships
  - Basic science must be shared more widely among the institutions involved in agricultural research
  - Closer cooperation needed (in France and internationally)
  - Convinced that roles must be played in the international context

- Partnership with the CG: find new ways of collaborating (new targets, new methods

Presentation No. 6
Lee Calvert
Improved Rice Germplasm for Latin America and the Caribbean

1. The Outputs of the Rice Project
   - Enhanced Gene Pools
   - Integrated crop, pest, and disease management
   - Intensification of rice systems for small farmers

2. Rice Drought Tolerance
Irrigated/rainfed Upland

Transgenic Rice Resistant to RHBV From the DNA to Deployment

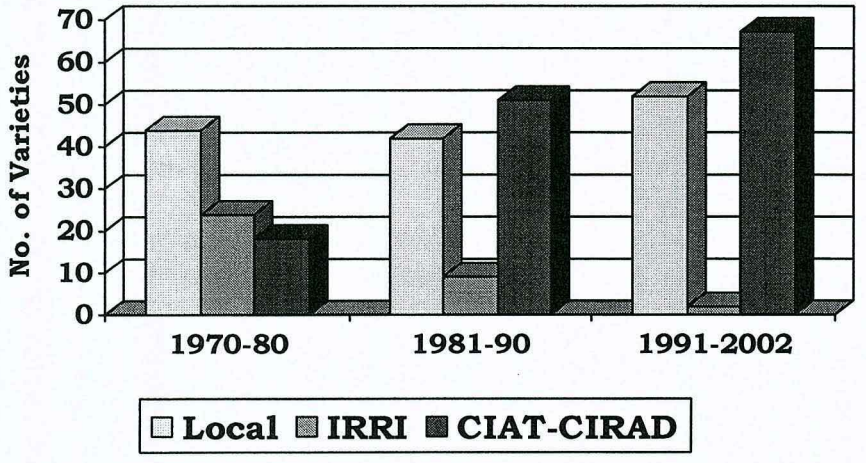
3. Rice Functional Genomics: phenotyping of a collection of T-DNA insertion lines
   - Aerobic Rice Breeding: New Activities
   - Challenge Program: 'Unlocking Genetic Resources in Crops for the Resource Poor'

   - Advanced Lines of Interspecific Crosses
     - Population Development
     - Recessive Male-sterile Gene (ms)

   - Latin America Network of Rice Breeders
     - Aerobic Rice in the Llanos of Colombia

4. Central America - CIAT/CIRAD Project-Gilles Trouche
   - Reactivating rice research collaboration
   - Participatory research: PVS and PPB

5. Number of Varieties Released in LAC By Origin, 1970-2002



6. Rice Research Benefits in Latin America and the Caribbean, 1967 - 95
   Annual flow equivalent

Consumers :	US$450 million
Producers :	US$280 million
Society :	US$800 million

Presentation No. 7

Ahmadi – Rice research at CIRAD

1. Rice related research in CIRAD (three departments involved)

   - Commodities or crops based department
     - Annual crops (rice, sorghum, roots & tubers, sugar cane, cotton,…)
     - Perennial crops (coffee, cacao, palm oil, rubber,…)
     - Fruits and legumes (banana, mango, pineapple,…)
     - Forests (natural and planted)
     - Animal husbandry and health
   - Two operational departments organized around:
     - Social sciences related to rural development (production systems, farmer Organization, public policy ,…)
     - Bio-physical sciences related to agriculture (genetics, phytopathology,…)

2. Rice breeding and crop management
   - Create new rice varieties and to identify indicators for the optimisation of cropping practices to
     - Stabilise and enhance rice yield in unfavourable rice growing ecosystems

- Reduce the gap between potential and farmers' yield and to enhance the potential yield in favourable rice growing ecosystems
- Improve grain quality and to optimise the expression of the varietal potential of qualities

• Improve methods
- Breeding rice for complex quantitative traits : population improvement
- Conceiving new cropping practices and designing plant ideotypes: integration G x E interaction in rice crop simulation models

3. Sustainable rainfed rice based cropping system
   • Mechanisms and conditions of transforming crop environment by cropping systems based on direct seeding on vegetal coverts (SCV) that enhance yield in upland rice (ULR)
   • Diversification of technical options for upland rice cultivation in SCV
   • Integrating innovations related to ULR & SCV into the farming systems and the Malagasy rice commodity chain

4. Genotype plasticity and crop performance Integrative modelling

5. Polymorphisms of interest in agriculture

6. Biology and genetics of plant-pathogen interactions for integrated protection

7. Quality of tropical foods

8. Direct seeding and cover crops

9. Challenge for the coming years
   • Making better known our methodological achievements for the benefit of a larger number of potential users (specially in Asia)
   - Population breeding
   - Hybrid rice breeding schemas
   - Breeding for blast resistance
   • Becoming a pivotal partner of the CP-Generation-SP3 "Gene Transfer and Crop Improvement"

Presentation No. 8

M. Chatel – Improved rice germplasm for Latin America and the Caribbean Highlights 2003-2005

1. Objective for the Development
   • Strengthening the rice sector
   - Producing
     * Robust high yielding varieties
     * Lower inputs requirement
   - Providing
     * Well-characterized progenitors
     * Advanced lines
     * Information and training

2. Beneficiaries and End Users
   - Research (Public and Private)
     - Rice Breeders
     - Extensionists
     - Students
   - Rice Sector
     - Rice farmers
       * Market oriented
       * Small-farmers with access to local market
       * Subsistence poor farmers
     - Millers
     - Traders
   - Consumers
     - Rice is a basic staple food (Tropics)
     - Availability and affordability
       *Urban poor
       * Subsistence farmers

3. Delivering Products
   - Breeding Methods
     - Conventional and Advanced
       * Enhanced capacity to incorporate favorable traits
   - Genetic Resources
     - Basic germplasm
     - Robust and high yielding material
       * Segregating lines
       * Advanced lines
   - Capacity building
     - Training
     - Technology transfer
       * Methods
     * Germplasm
   - Networking

4. Output 1. Conventional Crossbreeding Results 2003-2005

- Upland Variety Release (LAC)
  - Bolivia
  - Brazil
  - Colombia

5. Output 2. Composite Population Breeding

- Upland Elite Lines
  - Colombia
  - Cuba

- Upland Variety Release
  - Bolivia

- New Upland Composite Population
  Marker Asisted Recurrent Selection (MARS) Cirad-IRD/CIAT

- Lowland Elite Lines
  - Venezuela (Tropics)
  - Argentina (Sub-Tropics)
  - Chile & France (Temperate)

- Lowland Site-specific Composite Population
  Cirad-Camargue - Cirad/CIAT and INIA Chile (Cold tolerance and Aroma)
  - France & Chile

6. Output 3. Networking GRUNEGA

- Training
- Sharing Upland Germplasm
- International Workshops Conferences
- Publication with Cooperators (2003-2005)

7. Future plans

- Population improvement for drought tolerance and water use efficiency through recurrent selection.

Presentation No. 9

Trouche -- Rice and Sorghum Participatory Breeding in Central America : Strategies, achievements and future plans

1. Institutional Framework

2001
- CIAT and CIRAD willing to collaborate in Participatory Breeding
- 5th CIO-CIAT Meeting, CIAT HQ: Presentation of the Rice and Sorghum PPB project for Central America and adoption

2002
- MOU signed between CIAT and CIRAD
- Out-posting of Gilles Trouche in Nicaragua & project launching

2003
- 6th CIO-CIAT Meeting, Montpellier: Project revision
- Review of CIAT Rice Project by CIAT Board and EEC experts

2005
- Out-posting of Gilles Trouche at CIAT Headquarters, Cali

2. Project Goals (2002-2006)
- To develop and apply new participatory breeding methods
- To identify and develop new germplasm matching the needs of small and medium-scale farmers' cropping systems
- To enhance capacity of:

- NARIs in conventional and participatory breeding of rice and sorghum
- NGOs and farmers' groups to manage PPB process

3. Our principles for implementing a PPB research
   - Farmers, scientists and other stakeholders of the production chain work together for developing the new varieties
   - The key breeding stages are carried out in farmer fields ("in situ") and with farmers
   - Farmers make selection according to their own criteria
   - The minor and strategic decisions are shared between farmers and breeders all along the 5 steps in a co-building process

4. Collaborative CIRAD/CIAT Project Activities from May 2003 to September 2005-
   - Strengthening the research framework for PPB activities in Nicaragua
   - Participatory rice and sorghum breeding
   - Capacity building

5. Outputs for PPB research (2003-2005)
   - Sites and operational framework with organized and trained farmers' groups for PPB research
   - Network of partners involved in PPB actions: strengthening the existing PPB-MA network, building a PPB network in Nicaragua (in process)
   - Development of methods
   - Germplasm enhancement and variety development
   - Knowledges (5 thesis works of master and engineer)
   - Capacity building and learning

6. PVS on rice
   - Early lines for less favourable climatic conditions
   - Lines for manual cropping systems with high rainfall and low solar radiation
   - Lines for mechanized cropping systems in favourable upland conditions

7. PVS on sorghum
   - Photosensitive "millón"
   - Short-cycle white grain "tortillero" type

8. Outputs for conventional breeding:
   - Strengthening national rice program of Nicaragua
   - Strengthening national rice programs of Central America

9. Difficulties and constraints
   - Difficulty to get funds for research on rice and sorghum in CA :
     - Rice : future of the crop with TLC ?
     - Sorghum: not recognized by donors as an important food crop in CA
   - Low collaborations with CIAT social scientists

10. Future plans 2005-2007
    - Germplasm enhancement & PPB activities
    - Scientific valorization of the PPB works & validation of methods
    - Support the Meso-American PPB network for training activities and projects building

- Fund raising for new PPB projects on rice with partners in South America (Colombia, Brazil or Bolivia)
- To take advantage of the existing PPB sites in Nicaragua for other CIAT PR activities (bean, soils, cassava)

Presentation No. 10

M. Lorieux -- IRD – CIAT collaboration : Update on rice genetics and genomics research

1. What's a T-DNA line collection?
   - Insertion of DNA (about 5kb) in the nuclear genome via *Agrobacterium*
   - Generates *gene knock out*
   - Location (i.e. knocked gene) of insertion is determined for each line (sequence available)
   - Establish relation between knocked gene and phenotype
     - Several thousands of lines
     - IRD - Génoplante - CIAT collaboration

2. Phenotypic Characterization
   - Entire collection
   - Phenotypic database coupled with FST database
   - Starting point for collaborative projects
   - Seed multiplication

3. Traits
   - Germination rate
   - Viability, vigor, senescence
   - Morphology
   - Pigmentation/coloration
   - Heading & ripening
   - Panicle & seed traits
   - Lesion mimics

4. Exploring Natural Genetic Variation: Developing Genomic Resources and Introgression Lines for Four AA Genome Rice Relatives
   - Exploit genetic diversity
   - Locate genes
   - Analyze data quickly & easily

5. Purpose
   - *Oryza sativa* x wild AA-genome species
   - Chromosome Segment Substitution Lines (CSSLs)
   - Pursue development of 2 populations
   - Develop 4 new pops

6. Plans for developing new CSSL populations with wild rice as donors

7. On going crosses
   - Species validation for 51 accessions

- Crosses with 5 elite tropical *japonica:*
- Total 155 crosses

8. Results
   - Bioinformatic tools ready (PERL scripts)
   - Anchors identification on going
   - Anchors for chr. extremities tested
   - High % of PCR amplification
   - High polymorphism level
   - Screening of 64 commonly used accessions
     - database of polymorphisms (Amplicon size)
     - use in HTP agarose or Licor (CIAT) or ABI 3700 (Cornell)

9. Link with integrated map

10. Genotyping with higher throughput

11. SNPs for rice breeding
    - High throughput (multiplex)
      - For improved MAS & genotype construction
    - Higher resolution
    - Haplotype analysis, LD mapping

12. BAC libraries
    - IRGC-103544 (*O. glaberrima*)
      - With AGI (w/Rod Wing) (USAID)
    - TOG 5681 (*O. glaberrima*)
      - With IRD/CNRS (w/O. Panaud) (IRD/Genoscope)
    - Parents of the CSSL populations
    - Tool for positional cloning
    - Complete set of genetic tools for gene identification in interspecifics

13. *Oryza* - bradyrhizobium
    - Yield increase when inoculated
    - Determine the genetic bases of positive response to inoculation
    - IRD grant for a PhD student (Andrea Garavito)
    - IRD and CIAT populations
    - Partners: IRD - UM II – CIAT

Presentation No. 11

CIAT Agrobiodiversity and Biotechnology From Germplasm Bank to Farmers fields

1. CIAT Agrobiodiversity and Biotechnology Project From Germplasm Bank to Farmers fields

   Mission: Integrate genomics and cellular technologies with breeding and the conservation of genetic resources for :

   - Improve the nutritional quality of crops, achieve and sustain a continuous yield increase to meet the food needs of a rapidly growing population

- Conserve the natural resources base needed for future development
- Improve the livelihood of the rural poor who have not benefited so far from the technological advances

2. CIAT Genomic Platform
Identify gene function for use in GR conservation, transformation and breeding

3. A Latin American collaborative project funded by CIDA :
Combating Hidden Hunger in Latin America :
Biofortified Crops with Improved Vitamin A,
Essential Minerals and Quality Protein
(Rice, beans, sweet potato, cassava, QPM maize-
CIAT, CIP, Clayuca, CIMMYT, EMBRAPA)

4. Southern Africa Biotechnology Program (SABP)
Funded by USAID and coordinated by CIAT and Michigan State University

1. Generation Challenge Program
Approved competitive grant proposals

- Proposal
Development of Low-Cost Technologies for Pyramiding Useful Genes from Wild Relatives of Cassava into Elite Progenitors – PI. Tony Bellotti, Martin Fregene

  - Institutes
    * CIAT
    * EMBRAPA/CNPMF
    * CRI Ghana
    * NRCRI Nigeria
    * NAARI Uganda

  - Budget
    900K/3 years

- Proposal
Exploring Natural Genetic Variation: Developing Genomic Resources and Introgression Lines for Four AA Genome Rice Relatives. PI: Jose Tohme- Mathias Lorieux

  - Institutes
    * CIAT
    * Cornell
    * IRD
    * WARDA
    * CNPAF
    * Fedearroz

  - Budget
    900K/3 years

- Proposal

Identifying the physiological and genetic traits that make cassava one of the most drought tolerant. PI Alfredo Alves

- Institutes
* EMBRAPA/CNPMF
* CIAT
* IITA
* CU

- Budget
900KI/3 years

6. Agrobiodiversity- Biotechnology Projects in preparation with WB-GEF

• Safe deployment of transgenic plants in the neotropics
- Treaties : Convention on Biological Diversity and the International Treaty on Plant Genetic Resources for Food and Agriculture, Codex Alimentarius
- Target countries: Mexico, Costa Rica, Colombia, Peru, Brazil

- Partners: Brazil (EMBRAPA), Colombia (Humboldt, MADR),Costa Rica (UCR), Mexico (CIBOGEM), Peru, Yale University, AgBios

• Conservation and sustainable use of wild relatives of crops through an integrated understanding of functional diversity
- Treaties : Convention on Biological Diversity and the International Treaty on Plant Genetic Resources for Food and Agriculture,

- Target countries : Meso- American and Andean biological corridors

- Partners: CIAT, CONABIO, Cornell University-Institute of genomic diversity, INBIO, Institute Humboldt and Smithsonian Institution-National Museum of Natural History

7. CIAT Agrobiodiversity and Biotechnology Project
• Address real, high value problems, socially relevant
• Work with a critical mass
• Integrate genomics & cellular technologies with conservation of genetic diversity, breeding and seed systems
• Linkage to National Programs, Regional and Global Initiatives
• Strong products focus
• Develop realistic plans to move from research to products

8. A joint CIAT- IRD project on plant-pathogen interactions
A model of inter CG - CIO interaction proposed by IRD - CIAT

• Model of interaction ...past
- 1995-2004 : the Cassava Bacterial Blight project
- A joined CIAT and IRD expertise on cassava genetics and molecular pathology

• Model of interaction ... present - future

- 2003 - … : Rice - pathogen interaction
- A global and multipathogen approach with mutual interests and benefits

Presentation No. 12

A. Ghesquiere

Developing a collaborative research on BLB between CIAT, WARDA and IRD

1. Bacterial Leaf Blight disease (*Xanthomonas oryzae* pv. *oryzae (Xoo))*
   - *X. oryzae* in Africa and LA
   - *X. oryzae* in Asia
     - ✓ Genomes being sequenced
     - ✓ (Korean, Chinese, Japanese, Phil strains)
     - ✓ Several races/lineages characterized
     - ✓ *hrp* and *avr* genes characterized
     - ✓ Variability, frequence strains well known

2. Bacterial blight is causing important rice yield losses in West Africa
   In Burkina, Niger, Mali all the fields were severely infected
   Local varieties, no breeding for R to BLB

3. Main activities currently developed on Bacterial Leaf Blight by IRD and collaboration with CIAT
   - Collection of original strains/isolates of Xoo in West african Countries (Mali, Burkina Faso, Niger)
   - Genetic characterization (RFLP, rep PCR, 16S, AFLP, housekeeping genes)
   - Originality of African Strains of Xoo and Xo pv oryzicola versus Asian races
   - Pathogenicity (tested on IR24 NILs and reference rice varieties)
   - Classification of African strains in 7 races
   - Identification of differential reaction in various parents of available progenies (IR64, Azucena, Caïapo, O. glaberrima, Tog5681, IRGS103544, etc…)
   - Characterization of potential donors for Mapping and tagging resistance genes
   - Transcriptome analysis in using Nipponbare/Pxo339 incompatible reaction
   - Identification of a gene list (479 candidates) for reverse genetics and microrray experiments.
   - Evaluation of the Genoplante T-DNA insertion collection for enhanced disease susceptibility (90 tested/172 lines having insertion in candidate genes)

4. Summary of collaboration on BLB between CIAT and IRD for the last 3 years
   - Valérie Verdier and Boris Szurek : IRD Scientists at Perpignan and Montpellier (UMR LGDP M. Delseny)
   - 2 Long-stay missions in 2003 and 2004 for V. Verdier
   - C. Gonzalez : PhD student (Support and Training IRD Departement) at Perpignan University supposed to be finished in april 06
   - M. Sotto : PHD Student (Alban Program) supposed to arrive in Montpellier in the beginning of 2006

5. Envisaged activities :
   - More accurate characterization of Xoo / Xoc in Latin America and Africa
   - Analysis of the *Xanthomonas* pathogen population structure
     - ✓ Larger collection of Xoo in Africa (coll. WARDA) and Latin America (coll. CIAT)
     - ✓ What is the pathogen diversity?
     - ✓ How this diversity is distributed in time and space ?
     - ✓ What is the influence of the host and environment on the pathogen population structure ?
     - ✓ Influence/coevolution with wild rice species
     - ✓ What are the R functional genes ?
   - Genome analysis (sequencing project, 3X Genoscope)
     - ✓ More accurate understanding of bacterial pathogenesis
     - ✓ Comparative analysis (X, Xoo, Xoc), host tissue specificity
     - ✓ Functional analysis
   - Identification and Cloning of resistance genes/QTLs for durable resistance

6. Investigate genetic basis of resistance: Collaboration CIAT/IRD through GCP project

7. The BLB project : an interaction model among
   - CG centers, US Universities and IRD
   - Current IRD-CIAT collaboration
   - Generation Challenge program
   - FBF project with UC Davis
   - U. Los Andes and Nacional (Colombia)

Presentation No. 13

Edmundo Barrios and Didier Lesueur

TSBF Institute of CIAT : Achievements and Future Plans in Soils Research with French Institutions

1. Main collaborators :
   - Prof. Patrick Lavelle (IRD) Soil Biology

   - Latin America :
     - ✓ Colombian savannas (1993-1999)
     - ✓ Andean and Central American Hillsides (2001-2003)
     - ✓ Dr. Richard Joffre (CNRS-Montpellier)

   - Global :
     - ✓ Conservation and Sustainable Management of Belowground Biodiversity (BGBD) project
     - ✓ GEF funded (2003-present)

2. Hypotheses :

- H1. Biogenic structures have different physical & chemical properties.
- H2. Biogenic structures have an impact on soil biodiversity and soil functions.
- H3.Agricultural intensification has a negative impact on macrofauna communities.

3. Ecosystem engineers' activity and agricultural practices

4. Bioindicators of soil quality based and relationship to physico-chemical parameters

5. Products of collaboration:
   - 4 PhD students:
   - T. Decaens
   - J.J.Jiménez
   - L. Mariani
   - E. Velasquez
   - Publications:
   - Journal articles 18
   - Book Chapters 4
   - Book 1

6. Conservation and sustainable management of Belowground Biodiversity (GEF-UNEP)

7. Soil Biota influences the provision of ecosystem goods and services :
   - Nutrient cycling: SOM dynamics, soil C sequestration and GHG fluxes
   - Soil structure modification: infiltration, water holding capacity, water dynamics
   - Plant productivity: BNF organisms and mycorrhiza
   - Plant health: biological control of soil borne pest and diseases

8. Future Plans: IRD/TSBF-CIAT Collaboration within the Amazon Initiative
   - IRD/TSBF-CIAT proposal presented to the EU Program on tropical forest in developing countries in 2004. Will resubmit in Nov.2005.
   - Title: Strengthening local communities to valuate and benefit from Payment of Environmental Services in small scale agriculture in the Amazon.
   - Countries: Brazil, Colombia and Ecuador
   - Budget: 2 million EU for 3 years.
   - P.Lavelle (IRD), M.Rondón (TSBF-CIAT Latin America)

9. Soil functioning microbiology activities in TSBF/CIAT in Nairobi (Didier Lesueur, CIRAD)

10. Microbial priorities for TSBF/CIAT in Africa
    - Role of the soil microbial communities in nutrient recycling in agroforestry system (example of *Acacia senegal* system)
    - Characterization and function determination of below ground microorganism (example of Biological Nitrogen Fixation)

11. Necessity to set up a soil microbiology lab in TSBF-CIAT/Africa

12. Importance of Arabic Gum production for livelihoods in the drylands

13. Projects to support these research activities (*funded*)

- INCO DEV FOREAIM: Bridging restoration and multifunctionality in degraded forest landscape of Eastern Africa and Indian Ocean / Kenya, Uganda & Madagascar / March 2005 to February 2009 (CIRAD)

- CORAF GUM ARABIC: Impact of rhizobial inoculation on the gum-arabic yield in *Acacia senegal* stands or plantations and dynamic of factors in relation with the biological soil functioning / Burkina Faso, Niger & Senegal / January 2005 to December 2007 (CIRAD)

- RELMA: Coffee appellation in East Africa / Kenya, Uganda & Rwanda / 2005 and 2006 (ICRAF/CIRAD)

14. Projects to support these research activities (*in progress*)

- GEF/UNEP MSP: Mitigating soil erosion and improving biodiversity through better management of the *Acacia* species related to ecosystems / Kenya, Nigeria & Burkina Faso/ 3 years (CIAT/CIRAD)

- INCO DEV ACACIAGUM: Innovative management of *Acacia senegal* trees to improve land resource and gum-arabic production in sub-Saharan Africa / Cameroon, Kenya, Niger & Senegal/ 4 years (submitted in September 2005) (CIRAD)

- SSA/CP PLS/ EOI CIRAD « Coffee based agroforestry in Lake Kivu region »: Shade coffee: an agroforestry model to promote sustainable development / Kenya, Uganda & Rwanda (ICRAF/CIAT/CIRAD)

Presentation No. 14

Rogelio Pineda (Hubert Mazurek)

AIDeR – Integrated Approach for Regional Development

1. Objective : Rural poverty alleviation through territorial organization and planning

2. Three Main hypothesis :

- New concepts of development (economic geography) and the necessity of integration between local and global economies
  → Local development cannot be sustainable without a good regional context

- It exists a strong connection between development and innovation but innovation is not only technology transfer.
  → Innovation is the capacity of the society to generate or assimilate changes and technology.
- Territorial policies (Decentralization and land planning) are new contexts for the elaboration of Territorial Projects and are opportunities for a better governance.

3. Expected Results

- Rural transformation and process of regional integration
- Land Management

- Policies and research requirements
- Regulation parameters and innovation components
- Agricultural competitiveness ; market organization ; spatial organization

4. AIDeR Results

- *Institutional activities :*
  - ✓ Participation in the brain trust for the definition of a law on "Population and Development" (Workshops organize by the Ministry)
  - ✓ Formulation of new standard methodologies for participative land planning
- *Local and regional activities:* Realization of participative rural planning oriented toward the productive innovation.
  - ✓ Pando : 6 municipalities with agreement from prefecture and AMDEPANDO (association of municipalities) Altiplano : Municipality of Calamarca (completed)
  - ✓ Valle : Mancomunidad Cono Sur (14 rural municipalities in Cochabamba).
- *Workshop activities:*
  - ✓ Latin American Workshop on « Territory and Development », Cali
  - ✓ Workshop « Actor, Territory and Local Development : 50 años de Agrarian Reforms. Cochabamba
  - ✓ National Conference on « Territorial policies and planning for territorial management »., La Paz.
  - ✓ Second Workshop « Actor, Territory and Local Development : results of municipal activities ». CochabambaOfficial presentation of databases on land management (Web site and CD), La Paz
  - ✓ National Conference on « Territory and Constitution ». La Paz
- *Academic activities:*
  - ✓ Master « Management of Rural Development
  - ✓ Master « Geopolitics and Land Resources Management
  - ✓ Workshop on statistical mapping
  - ✓ Master « Rural Development"
  - ✓ Direction of 6 master students

5. NEXT STEPS

All these programs will go on in the next two years.
Others will be implemented according to the financing.

- CIFOR collaboration on a program for « *integrated management of forest resources - land planning and non-forest products management"*;

- A project was deposited in the European Union agency (Food Security - PASA) for the implementation of land planning management as a methodology for food security. This program, if accepted, could financed our activities for 4 years.

- Participative land planning management in the municipality of Potosi, and in 6 municipalities in South Potosi (Mancomunidad Lipez)

- A Master on « Territorial management for development » is expecting an answer from financing institutions. It associates Catholic University of Bolivia, Catholic University

of Ecuador, University of Manizales (Colombia), University of Toulouse (France), CIAT and IRD. It can start in March 2006.

Presentation No. 15
A. González
HVP Workshop

1. About 38 Participants representing:

   - Private sector
     - (International Federation of Agricultural Producers (Canada, Argentina), SAG, Colombia)
   - NGO, Independent consultants, FAO, Universities (representatives from Africa, USA, UK), CGIAR Science Council, GFAR, IPGRI, AVRDC, ISHS, IFPRI, CIRAD, CIAT

2. HVP definition is ample and not product specific.
   - Is not a commodity
   - Return higher gross margins per unit area/labour than other commodity crops.
   - Product transformation can add value to product to benefit supply chain actors.

3. How can HVP help the poor?
   - Assure poor farmers remain linked to supply chain of HVP
   - Seek mechanisms that guarantee sharing of HVP include producers
   - Investigate mechanisms that promote proportional (fair?) distribution of profits among actors of the supply chain
   - Expand local, regional, and international market for HVP

4. What are the characteristics of Pro-poor HVP ?
   - Labour intensive.
   - Grow on location where mechanization is very unlikely

5. What are the characteristics of HVP markets?.
   Collapse of markets is a high risk area for HVP. Commodities seem to have a stable, although low income over time.
   - Value of local market bigger than export market
   - Markets are variable and cultivators should be flexible
   - Role of globalization of economies affecting HVP
     - New rules and regulations (advantageous and disadvantageous)

6. What can be done to assure poor benefit from HVP?
   - It is necessary to identify which BDS services and models are available that can be relevant for the promotion of HVP
   - For effective use of BDS services, there is a need to nurture entrepreneurship among small scale farmers
   - Create guidelines for the determination of appropriate BDS for small farmers
   - Access to domestic markets for high value products.
   - Identification of demands for HVP in domestic market

- Promotion of continued growth of the local market (increase per capita consumption).

7. What is required for HVP alleviate poverty?
   - High expectations on HVP should be realistic.
     - ✓ HVP Alone are not sufficient
     - ✓ Enabling environment

8. What is the environment where HVP can prosper? (Enabling environment)
   - High level of organization is mandatory for HVP help the poor
   - Access to finances (Credit, tax breaks, Interest neutral loans)
     - ✓ Minimun assets to enter into HVP activity
   - Political stability
   - Previous knowledge (reduce risk and uncertainty: diversification)
   - High level of organization is required:
     - ✓ Identification of champions
     - ✓ Development of supply chains
     - ✓ Development of Bussiness Developent Services
       - Information access, bussiness planning, technical information.
     - ✓ Anticipation of market demands
     - ✓ Development of technologies – innovation to keep it as HVP

9. Possible areas of research in collaboration with CIRAD.
   - Genomica of "tropical fruit species". Which one?.
   - Development of molecular markers to identify disease resistant varieties.
   - Aspects of post-harvest treatment pro-poor.

Presentation No. 16
H. Ceballos
Cassava, France and CIAT

1. Industrial uses of cassava
   - Fundamental for income generation & rural development
   - A different crop with the same "bad" name

2. High value cassava (HVC)
   - Value addition of cassava products
   - France has been a key player in technologies related to quality and processing cassava roots

3. Industrial uses of cassava
   - Animal feed
   - Starches and foods
   - Alcohol for cars

4. The High Value Cassava (HVC) Project
   - Screening germplasm collection in search of HVC
   - Explorations in Central America and the Amazon basin in search of HVC

- Creation and identification of HVC through five different approaches

5. The impact of the High Value Cassava Project
   - Income generation to cassava farmers
   - Rural development (processing in village not large city)
   - Strong markets for cassava (its major bottleneck)
   - Reduced impact to the environment (the plant, not the
   - factory, does the processing)
   - South-to-south cooperation

6. The role of FRANCE in High Value Cassava
   - France has been a key player in cassava starch technology
   - France has access to cassava germplasm in Guiana
   - We hope to have large impact in the livelihood of millions of resource-limited cassava farmers, through the HVCs
   - We would be honored if France is part of the team that generates such a positive impact
   - It would make justice to contributions made by France for many years
   - We have improved our (your) starch quality laboratory, and continue collaborating with Montpellier.
   - Current research in cassava at CNRS (Doyle McKey)
   - Research in cassava pest, diseases and biotechnology?
   - We would greatly benefit renewing the starch specialist position provided by France for many years: the time to claim impact
   - Development of protocols for *in situ* molecular characterization of germplasm in exploratory trips for germplasm collection
   - Students and young scientists

Presentation No. 17

J. Ganry

Collaboration perspectives HVCs

1. Why tropical fruits ?
   - Existing international coopération on vegetable with World Vegetable Centre (AVRDC)
   - Nothing on fruits, except bananas (INIBAP)

2. Challenges
   - Fruits = High value products *(cf CG priorities + GFAR/CG workshop on HVCs)*
   - High nutritionous crops *(cf WHO/FAO initiative on the promotion of F&V for Health)*

3. Collaboration Perspectives
   - WHO/FAO Expert Consultation, 2003 and Kobe meeting, 2004:
     - ✓ Recognition of positive health effects of fruits and vegetables
     - ✓ But consumption far below the recommended 400g p*day/cap* in many DCs
     - ✓ Wordwide 2.7 millions lifes could be saved through better nutrition with F&V
4. Statement--Tropical fruits:
   - Under-researched crops and products

- Underutilization *(Often considered as luxury crops)*
- High post-harvest losses *(perishability)*
- Irregular supply *(seasonality)*
- Threatening pests and diseases

5. Goals
   - Increase consumption *(health…and well being issues)* Increase availability, affordability, acceptability
   - Income generation
   - Reduce PH losses
   - Eco-friendly production *(IFP)*
   - Certification of planting material

6. Research activities
   - Production :
     - ✓ Ecological components
     - ✓ Ecophysiology/Quality
     - ✓ Breeding,
     - ✓ IPM/ICM
     - ✓ Plant certification
     - ✓ Genetic divers. mngt
   - Post-Harvest Management :
     - ✓ PH physiology
     - ✓ Storage techniques
     - ✓ Soft/minimum processing
   - Nutrition/Health: Nutritional traits
   - Markets : Market assessment (ODM) and Agro-enterprise Management
   - End-users: Impact assessment

7. Modus operandi :
   - Joint projects with other partners in Colombia *(Ica, CorpoIca, Corp. PBA, FedePlatano, FedeCitricos….)* and in LAC Region.
   - Joint participation to GHI and FAO/WHO Initiative (IFAVA)

8. A first project……
   - Innovative technologies to reduce diseases in fruits production (banana and plantain as ex),by using biopesticides (banana flower stalks)
   - FEDEPLÁTANO received the international Innovation Marketplace Award from the CGIAR.

Presentation No. 18

C. Ostertag

Potential future collaboration between the Rural Agro-enterprise development project and French partners

1. Impact of value-added processing of low and high value crops in Vietnam, Colombia and Mali
   This project would be used to review progress work in two or three sites in at least 3 countries, to draw lessons from this and to provide a better understanding how to scale up best practices for value adding, based on crop value and contextual factors to a wider audience.

2. Development of marketing knowledge resource point
   One of the themes that was to be developed by Ph Action members was to develop a marketing and agro-enterprise knowledge centre. This has been started but needs a core team of scientists to dedicate 3-4 months in order to finalize a more comprehensive marketing for development information resource.

3. Learning Alliance –based Action research on market linkage with a focus on higher value products.
   As indicated in the HVP meeting, there are many opportunities for linking farmers to high value markets, but that they need considerable organizational support, and we need to work on organizational arrangements to enable farmers to access new markets.

4. Action research focused on scaling up several participatory methods focused on organizational and market chain strengthening (territorial approach to Rural Business Development, Market opportunity identification, GIAR, "Partners for Business Action" for strengthening business and market orientation of smallholder organizations, strengthening of rural business development services, etc.).

5. Food technology and new product development research related to traditional rural agro-industries where smallholders participate in Latin America, Africa and Asia. This research is critical for identifying points of differentiation and modernizing traditional products.

6. Pro-Poor Innovation and Marketing intelligence in market chains for high value crops
   The project will work with priority high value crop market chains already identified by established learning alliances in 4 countries to introduce a novel combination of participatory plant breeding, market intelligence and social analysis tools.

Presentation No. 19

J.P. Müller

Environment and Renewable Resources Management

GREEN

1. Research questions
   - How to support collective management processes of renewable resources and common goods ?
   - How to represent the interactions between:
     - The social and biophysical processes
     - The organization levels
     - The individual and collective behaviours

- The multiple uses of the resources
- in order to make the complexity understandable ?
- Which tools and methodologies to build a shared understanding of these interactions?
- How and in which conditions can these tools and methodologies by used to support collective management processes ?

2. The approach (1)
   - Use of multi-agent modeling for:
     - Understanding the interplay among the biophysical, social and economical dynamics
     - Land use as an outcome of these dynamics
     - Impact assessment with dynamically produced indicators
     - Scenarios exploration through simulation

   - Use of a participative approach (role-playing games) for:
     - Articulating local knowledge with expert knowledge
     - Co-construction of a shared model with the stakeholders
     - Role-playing to bridge the gap between the reality and the simulation
     - MAS as faster role-playing game for prospective studies
3. Current action plan
   - Comparative study on participative approaches
   - Survey on rules, norms and institutions for NRM
   - Institutional conditions of the application of our tools and methodologies
   - Tackling with multiple levels of organization

4. Possible collaborations
   - Exploring participative approaches to governance and their impact
   - Watershed management
   - Impact assessment of individual and collective strategies (incl. supply chain organization)
   - Capacity-building/learning organization
   - Social management of agro-biodiversity
   - Articulating local and expert knowledge

Presentation No. 20

L. R. Sanint

Agronatura, a Science Park in perspective

1. Agronatura
   - Themes, activities
     - ✓ Research, diffusion, training
     - ✓ Specialization, critical mass: the challenge of lump sum assets
     - ✓ Internationality
     - ✓ Campus mix
   - Mechanisms –
     - ✓ Synergisms
     - ✓ Leverage –
       - private, public funds

- national, regional, international (long term aid?)
- ✓ Economies of scale and of reach Agronatura and Agropolis

2. Agronatura and Agropolis
   Common themes
   - Rice in Agronatura (Palmira and Santa Rosa Stations)
     - ✓ A mix of basic, applied and adaptive research
     - ✓ Intensive training
     - ✓ Whole value chain represented in decision making
     - ✓ Funding, investment: Public, private, national, international
   - PPPs: replicate model in other commodities
   - HVP: fruits and vegetables (traceability, biotechnology, water and drought, ...)

3. FLAR:
   - Currently 16 members
   - France in FLAR: agreement with CIRAD in 1996, effective until 2001.
   - Originally, contribution in kind (Michel Vales, pathology for temperate region)
   - In 2001, FLAR asked for payment in cash to every member
   - CIRAD fee was established at USD 30,000 per year. Could not pay. From member to collaborator
   - 2005: Administrative Committee decided to invite Agropolis to join. Fee was set at USD 20,000 per year.

4. CLAYUCA: a similar model already in place since 1999.

- CIRAD and CLAYUCA

- Agropolis and CLAYUCA
  Annual fee USD 15,000

Presentation No. 21

G. Trouche

Enhancing the scientific approach and impacts of PPB in Africa and Europe

1. Development & Scientific Objectives

2. Past collaborations between CIAT and CIRAD in the field of PPB

3. Proposed activities
   - monitoring and capitalizing *experiences*
   - exploring *new fields of research*
   - submitting common *fields projects*
   - developing a network of *local experts*

4. Preliminary activity
   - On the basis of *previous collaborations* in this field of research, to identify the strength and limitations of each institution and the scope for transparent collaboration

5. Experiences
   - What are the problems (new or recurring) identified by the *practitioners* on PPB fields?
   - Organize one or several specific *workshops* gathering scientists from each institution and partners involved in field experiences focusing mainly in Europe (INRA) or in Africa (CIAT and CIRAD).
   - Potential *themes of common interest*: Managing partnership, Appraisal, Evaluation sessions, Informal Seed Systems, IPR, Seed marketing, etc.

6. New fields of research
   Potential *themes of common interest*:
   Ethics, Seed Systems, Biotech, Local experts, Partnership, Sustainability, Resistance, Genetic Resources, etc

7. Ground projects
   Potential grounds *of common interest*:
   - in the short term, CIRAD (INNOBAP project) and CIAT (PABRA project in) could facilitate each other access to the programs they develop in Cameroon and East Africa
   - common grounds could be developed later

8. Training and expertise
   Potential *topics of common interest*:
   - Training session in three languages (English, French and Spanish)
   - Network of "labeled" and permanently backed-up facilitators

Presentation No. 22
A. Poulet
Capacity Building and Training

1. Capacity Building for Scientific Communities of the South is a major priority of IRD
   - a Specific Department created 3 years ago
     - to support DCs scientists training, and
     - facilitate their involvement in international scientific networks

2. Training
   - Grants to prepare PhD Thesis in 3 years in relation to IRD Research activities
     147 PhD grantees (40 new grants every year)
   - Thesis carried out in South or French Universities
   - South/South and South/North Relationships jointly delivered by 2 Universities

3. Support
   - Scientific exchange
   - in-service Training
   - Young IRD Partner Teams
     - 20 Young Partner Teams created
   - Training Courses

4, Perspectives: IRD and CIAT could explore
- a co-funded Capacity Building partnership to serve as a model for a Program between IRD and IARCs
- South or North Post-docs selected and posted in IARCs or IRD teams

Presentation No. 23

E. Hess - Exploring new ways for sharingCIAT's wealth of information and knowledge

1. Pilot course "Ex situ conservation of plant genetic resources"

- Method: Computer supported collaborative learning (CSCL); 6 months course
- Partners:
  - CIAT
  - Universidad Nacional de Colombia
  - IPGRI
  - REDCAPA

- Status:
  - Delivered to 22 students, mostly gene bank curators from 12 Hispanic countries
  - Seek funding to:
    * Refine methodology
    * Adapt course materials based on feedback from students and tutors
    * Teach course as a regular course in 2006
    * Translate into English
    * Seek partners for teaching the course in English

- Future plans:
  - Undertake needs assessment for e-learning course in Africa

  - In collaboration with
    * IPGRI
    * Regional plant genetic resources networks in Africa

2. "Strengthening Agricultural and Environmental Capacities through Distance Education"

- Method: Masters degree program fully taught via distance
  - Master in Soil & Water Sciences
  - Master in Integrated Pest Management & Entomology

- Partners:
  - CIAT
  - University of Florida
  - Makerere University
  - University of Nairobi

- Status:

- Seed money for pilot project provided by USAID
- Started in 2004

3. Ongoing e-learning initiatives

• Online-Learning Resources repository: an ICT-KM Program initiative of the CGIAR (in progress)

• Global Open Food and Agriculture University (GOFAU): lead by IFPRI (in progress)

4. E-learning initiatives in progress:

• "Managing Innovation"
  - Graduate level course at University of Florida

• "Managing Innovation"
  - Key component of a capacity strengthening effort currently being conceptualized together with IFAD

Presentation No. 24

J. Ganry -- Collaboration perspectives HVCs

1. Background

• Fruits
• Comparatives avantages
• Cooperatio added-value
• Africa/SSA-CP
• Consider all value chain

2. Proposition : Mangoe in West /Eastern Africa
• Diagnosis: current productions & markets
• Short term: How to move from current chain to added value chain?
• Medium term: New product development?
• Long term: Diversification?

3. Diagnosis : Land use teams

4. How to move from current chain to added value chain?

• cultural practices, IPM, ICM, soil mangt
• FP/IPHM
• assessing and anticipating markets
• Actors: co-modelling participating research, credit, capacity building, training,….knowledge sharing platform

5. New products development ?

- Participative breeig for new varieties
- New products with high value attributes (organic, nutritionous, tasty,…)
- Water an soil management

6. Diversification?
   New crops to sustain HVP?

Presentation No. 25

N. Jonson –
Water and Food Challenge Program

1. Two goals
- Improve water productivity (more crop per drop)
- Reduce water poverty (issues of equity, sustainability)

2. Structure
- IWMI convening center
- 9 priority basins

3. Five research themes
- Water productivity (at plot level)
- People and water in catchments
- integrated basin management
- global water management
- acuaculture

4. CIAT leader of theme 2. Outputs for theme 2:
- Water and poverty (water for multiple uses, not only for crop production)
- Understanding hydrological and social system—impact of technology at the landscape scale
- Multi-stakeholder for a—how to influence people to understand the situation

5. CIAT leader in 3 proposals (out of 25 approved) and involved in several others
- Environmental services CONDESAN/CIAT – bioeconomic modeling
- Collective action for water management at different scales
- Agroforestry in Central America –soils project

6. Another research initiative: establish basin focal projects designed to get baseline information on basins and research priorities. The coordinator of the basin focal projects is Simon Cook (CIAT).
   - IRD could lead one of these basin focal projects

Concept notes et presentation en seance : Pistes de cooperation sur Fruits avec le Ciat

1) Concept note on Collaboration perspectives on tropical fruits.

Challenges

Fruits = High value products (cf CG priorities + GFAR/CG workshop on HVCs)
High nutritionous crops (cf WHO/FAO initiative on the promotion of F&V for Health)

Statement

Tropical fruits: Under-researched crops and products
Underutilization; Often considered as luxury crops
High post-harvest losses (perishability)
Irregular supply (seasonality)
Threatening pests and diseases (mango dieback, citrus HLB, fruit flies,...)

Goals

Increase consumption (health...and well being issues)
Increase availability, affordability, acceptability
Income generation
Reduce PH losses
Eco-friendly production (IFP)
Certification of planting material

Research activities	CIRAD	CIAT
Production ; ecological components :		Homologue
Ecophysiology/Quality :	Mango ,banana	Mango?
Crop management	Mango, banana	to complete
Breeding	Citrus , banana Pineapple	,,
IPM/ICM	Fruit Flies Bact. Diseases: mango,banana Citrus Papaya, Sigatoka: banana	,,
Plant certification	Citrus, Banana	
Genetic divers. mngt	Amazonian fruits Bact. Diseases: mango, Citrus Papaya	,,
Post-Harvest Management :		,,
PH physiology	mango, pineapple, banana	
Storage techniques	mango, litchi, pineapple, banana	
Soft/minimum processing	all fruits	
Nutrition/Health		,,
Nutritional traits	all fruits	
Markets Market assessment (ODM)	all fruits	

Motus operandi:

Joint projects with other partners in Colombia (Ica, Corpolca, Corp. PBA, FedePlatano, FedeCitricos....) and in LAC Region.

2) Concept note on Collaboration perspectives on Banana and Plantain

1. Title of proposed Project: Innovative technologies to reduce diseases in plantain and banana

2. Names of participating countries: Colombia, Costa Rica, Ecuador, Venezuela, and Peru

Elizabeth Álvarez(CIAT)
Philippe Prior(INRA - CIRAD)
Francois Cote(CIRAD)

3. Plantain and banana production and plant health problems

Black Sigatoka (caused by a fungus) and Moko Disease (a bacterial wilt) reduce yield and quality in banana and plantain, causing losses of more than 50%. Sigatoka is more widespread, but Moko Disease over the past decade becomes increasingly important and is destroying plantain in several production regions in Colombia.

4. Moko Disease has spread in recent years, mostly Colombia, Ecuador, Peru, and Venezuela, in where it is compromising the food security and affecting livelihoods of communities, some of which depend on plantain crop for up to 90% of their income. Farmers have reported yields reduced to 10-20% of pre-disease levels.

5. Black Sigatoka is considered as the most important economic problem for banana production, both on a large and small scale in Costa Rica, Ecuador, Colombia, Venezuela, and Peru. It also causes social and environmental problems. The disease reduces the foliar area available for photosynthesis and causes prematurity in fruit. For monocropped banana, the disease is so aggressive that, in the Project's countries, it is increasingly controlled with synthetic chemicals.

6. Seeking alternatives

In Colombia, plantain growers are producing a biofungicide on an artisanal basis by lixiviating decomposed plantain rachides (inflorescence stalks). . For its work, FEDEPLÁTANO received the international Innovation Marketplace Award from the CGIAR.
Another option, increasingly used by banana and plantain plantations, is to use extracts from plants with antimicrobial properties.

The Project will apply this strategy andl bring together researchers from different entities to collectively achieve the needed impact that, only with difficulty, can be obtained on an individual basis.

ANNEXE 5

Présentation des perspectives de coopération sur fruits
Voir PDF-CIAT-CIO-Collaboration perspectives on tropical fruits.pdf

ANNEXE 6

Conclusions du groupe de travail HVCs
Voir PDFCIAT-CIO-Collaboration on tropical fruits.pdf

ANNEXE 7

Potential Future Collaboration between the Rural Agro-enterprise Development Project and French Partners –Proposé par Shaun Ferris(10/10/05)

1. **Ameliorating the effects of Market Concentration through developing new business models for linking farmers to sustainable supply chains.** This project area, is currently being led by projects such as the Sustainable Agricultural Initiative and The Sustainable Food Lab. Research centres are currently not strongly engaged in these processes, which is unfortunate. This area of collaborative work would evaluate methods and tools to link smallholder farmers to major wholesale and retail buyers. In many cases research and development projects start with the farmers, however, due to the effects of market concentration, the ability of farmers to access and maintain links to major buying houses is becoming increasingly difficult to achieve. This project would take a demand first approach and work with the major buyers and develop strategies with them to develop, traceable, tagged supply of products into growth markets.

2. **Assessing the impact of value added processing of low and high value crops in selected developing countries. (Vietnam, Colombia and Mali).** CIRAD and CIAT have worked in several countries over the past 10 years to find effective ways of enabling smallholder farmers in rural areas to add value to a range of crops, including low value root crops such as cassava and higher value fruits and vegetable crops. This value adding approach has had both successes and failures. This project would be used to review progress work in two or three sites in at least 3 countries, to draw lessons from this and to provide a better understanding how to scale up best practices for value adding, based on crop value and contextual factors to a wider audience.

3. **Development of marketing knowledge resource point.** Ph Action is a postharvest working group that was established to advocate for greater support to the area of marketing and postharvest research and development. In the strategic plan of the group, one of the themes for intervention was to develop a marketing and agro-enterprise knowledge centre. This has been started but needs a core team of scientists to dedicate 4-6 months of their time in order to finalise a more comprehensive marketing for development information resource. At present the plan is to develop a more formal information point also link this to a wiki site in order bring more partners into the process for ongoing sustainability. If we were to do this with CIRAD, it would offer the opportunity to do this also in English and French.

4. **"Learning Alliance" based Action research on market linkage with a focus on higher value products.** As indicated in the High Value Products meeting, there are many opportunities for linking farmers to high value markets, but that they need considerable organizational support, and we need to work on organizational arrangements to enable farmers to access these new market opportunities. At CIAT we have developed a "learning alliance", which is a research and development platform, with several international NGO's. One of our Learning alliances, with the Catholic Relief Services, is currently working in 31 countries

Collaboration perspectives HVCs

Why tropical fruits?

Existing international coopération on vegetable with World Vegetable Centre (AVRDC)

Nothing on fruits, except bananas (INIBAP)

Collaboration perspectives on tropical fruits.

Challenges

Fruits = High value products ***(cf CG priorities + GFAR/CG workshop on HVCs)***

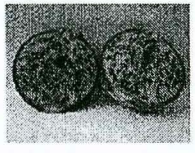
High nutritionous crops ***(cf WHO/FAO initiative on the promotion of F&V for Health)***

Collaboration perspectives on tropical fruits

WHO/FAO Expert Consultation, 2003 and Kobe meeting, 2004:

- **Recognition of positive health effects of fruits and vegetables**
- **But consumption far below the recommended 400g p*day/cap* in many DCs**
- **Wordwide 2.7 millions lifes could be saved through better nutrition with F&V**

Collaboration perspectives on tropical fruits



Statement

Tropical fruits:

Under-researched crops and products

Underutilization *(Often considered as luxury crops)*

High post-harvest losses *(perishability)*

Irregular supply *(seasonality)*

Threatening pests and diseases

Collaboration perspectives on tropical fruits.

Goals

Increase consumption *(health…and well being issues)* Increase availability, affordability, acceptability

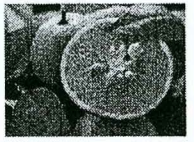
Income generation

Reduce PH losses

Eco-friendly production *(IFP)*

Certification of planting material

Collaboration perspectives on tropical fruits

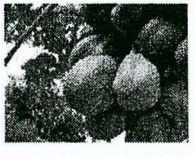


Research activities

Production : Ecological components

Ecophysiology/Quality
Breeding,
IPM/ICM
Plant certification
Genetic divers. mngt

Collaboration perspectives on tropical fruits



Research activities

Post-Harvest Management :

PH physiology
Storage techniques
Soft/minimum processing

Collaboration perspectives on tropical fruits

Research activities

Nutrition/Health: Nutritional traits

Research activities

Markets : Market assessment (ODM)

and Agro-enterprise Management

End-users: Impact assessment

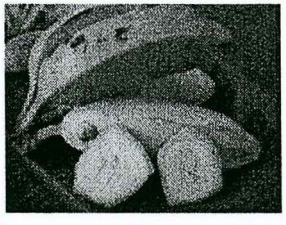
Modus operandi:

Joint projects with other partners in Colombia *(Ica, Corpolca, Corp. PBA, FedePlatano, FedeCitricos….)* and in LAC Region.

Joint participation to GHI and FAO/WHO Initiative (IFAVA)

A first project……

Innovative technologies to reduce diseases in fruits production (*banana and plantain as ex*),by using biopesticides (*banana flower stalks*)



FEDEPLÁTANO received the international Innovation Marketplace Award from the CGIAR.

Collaboration perspectives HVCs

Background

Fruits
Comparatives avantages
Added-value of cooperation
Africa/SSA-CP
Consider all value chain

Proposition : Mangoe and tropical fruits in West /Eastern Africa

1-Diagnosis: current productions & markets
2-Short term: How to move from current chain to added value chain?
3- Medium term: New product development?
4- Long term: Diversification?

1- Diagnosis: « Land use » teams

2- How to move from current chain to added value chain?

- cultural practices, IPM, ICM, soil management
- IFP/IPHM
- assessing and anticipating markets
- Actors: co-modelling participating research, credit, capacity building, training,….knowledge sharing platform

3- New products development ?

- Participative breeding for new varieties
- New products with high value attributes (organic, nutritious, tasty,…)
- Water an soil management

4- Diversification?
New crops to sustain HVP?

Implementation: initiate 4 stages activities from the beginning with differed results (ST--- > LT)

around the world. This type of relationship offers a new and exciting way of working with partners to undertake field based action research, with communities in different environments and to test best practice methods. The results from this type of action research allows for learning at the research and development levels and enables us to show how different approaches can work in different socio-economic situations in different cultures.

5. **Defining the key factors that will foster smallholder access to formal marketing institutions.** There is little doubt regarding the many advantages of farmers working towards more formalised markets, such as auctions, warehouse receipt (WHR), commodity exchanges in developing country markets, in terms of increasing food safety, better management of risk, more transparent transactions, opportunities to add value to produce and generally strengthening good business practices. However, many observers consider that projects that are designed to implement commodity exchanges and WHR will fail, due to poor design, overly ambitious timeframes and lack of regard of the pre-conditions required for these systems work. There are also serious questions about the equity of benefits from interventions and how smallholder farmers, the vast majority stakeholders in the agricultural sector of most developing countries will benefit. This area of study would evaluate successful and failed interventions for more formalised marketing of agricultural goods and how evaluating the equity of benefits that accrue in the transition from informal to more formalised markets, with a particular emphasis of the implications for smallholders and the supply chains in which they are involved. This study will evaluate the potential for gains by smallholders as opposed to larger traders and farmers who are most likely to benefit from a process of market reform.

6. **Evaluating the prospects for new marketing and trade based reform to offset declining commodity prices**. This study would evaluate the new approaches being developed to offset the persistent downward trends in commodity prices in Least developed countries such as the (i) Joint Diversification Scheme for export in the commodity-dependent poor countries, (ii) compensation schemes for LDC producers based on price volatility of the top 10 global commodities and (iii) supply management as a means to reduce price volatility. This work would review how such schemes would be implemented in 1-3 selected countries, with a focus on 1-2 key commodity chains such as coffee and cocoa.

ANNEXE 8

INSTITUTO COLOMBIANO AGROPECUARIO ICA
SUBGERENCIA DE PROTECCION Y REGULACION AGRICOLA

ACTA REUNION TECNICA

Fecha - hora: Octubre 6 de 2005 – 10 a. m.

Lugar: Despacho de la Subgerencia de Protección y Regulación Agrícola del ICA

Asistentes: Dr. Jacky Ganry
Deputy Director Research del Departamiento Flhor -Centro de Cooperación Internacional en Investigación Agronómica para el Desarrollo de Francia – CIRAD.

Dr. Jorge Mario Díaz
Representante CIRAD en Colombia

Dr. Jorge Gómez Galué
Subgerente Agrícola – ICA

Dr. José Roberto Galindo A.
Coordinador Grupo de Control de Riesgos Fitosanitarios – ICA

Dr. Herberth Matheus Gómez
Coordinador Grupo Epidemiología Agrícola – ICA

Tema: Formulación borrador de convenio de cooperación técnica ICA – CORPOICA – CIRAD.

Los doctores Díaz y Ganry presentaron los objetivos y propuesta de trabajo conjunto del CIRAD en torno al tema de certificación de viveros de Cítricos y Plátano y los aspectos en que esa entidad está dispuesta a colaborar para fortalecer el proceso de producción de material certificado de propagación de esas especies frutales.

Se definió que inicialmente se abordará el tema de cítricos, teniendo en cuenta que este proceso ya se inició con el trabajo que desarrolla un grupo técnico a nivel nacional, integrado por representantes de varias entidades del sector agrícola.

El doctor Díaz manifestó posterior a la reunión, vía correo electrónico, la posibilidad de hacer un convenio tripartita involucrando a CORPOICA, planteamiento que se consigna en esta acta para consideración de los firmantes de la misma.

El trabajo que se plantea realizar de manera conjunta se puede formalizar ya sea a través de un convenio o de una carta de entendimiento, y esa parte legal se determinará y tramitará a través de las oficinas jurídicas y de planeación de cada entidad.

Los temas en los que el CIRAD trabajará conjuntamente con el ICA y CORPOICA serán:

1. Caracterización fitosanitaria de las zonas productoras de cítricos en Colombia, con el objeto de actualizar el estatus sanitario de esa especie vegetal.
2. Estandarización de técnicas de diagnóstico rápido de enfermedades en campo y en laboratorio, con el objeto de evaluar con certeza la presencia de éstas en los materiales de cítricos a certificar.
3. Limpieza de materiales vegetales para producción de material certificado de propagación de cítricos.

4. Técnicas de inoculación y termoterapia para crear resistencia o tolerancia a enfermedades endémicas de la citricultura en Colombia.
5. Seguimiento en viveros y en lotes de producción comercial de cítricos para determinación de resistencia o tolerancia de los materiales certificados a enfermedades endémicas presentes en predios de producción.

El aporte del CIRAD estaría dado en términos de:

1. Capacitación a técnicos colombianos.
2. Apoyo técnico mediante la ubicación permanente en Colombia, por el tiempo en que se ejecute el convenio, de un científico de esa entidad.
3. Entrega al convenio de los resultados de las investigaciones que se realicen.

En constancia se firma a los días del mes de 2005.
Dr. Jacky Ganry
Deputy Director Research de Departamiento Flhor-Centro de Cooperación Internacional en Investigación Agronómica para el Desarrollo de Francia – CIRAD.
Dr. Jorge Mario Díaz
Representante CIRAD en Colombia
Dr. Jorge Gómez Galué
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