USAID and CIAT:
A Strategic Partnership in Research for Development

CIAT's history of collaboration with the United States Agency for International Development (USAID) in agricultural research for development dates back nearly to the Center's inception in 1967. USAID-supported work has provided substantial benefits to rural communities in Africa, Latin America, Asia, and other parts of the developing world.

We are grateful to USAID for their steadfast commitment to CIAT's impact-oriented initiatives, and we look foward to strengthening our partnership by aligning our initiatives more closely with USAID's priorities. We welcome continued efforts to identify opportunities for research and institutional cooperation with American colleagues in developing countries. Together, we can make a significant difference in the livelihoods of smallholder farmers by strengthening global food security and through technology methods and policy.

CIAT's broad research mandate – encompassing agrobiodiversity, tropical soils, and climate change – is continually expanding and improving its spheres of collaboration. Our research is fully aligned with CGIAR's Strategy and Results Framework, and our scientists are actively involved in many of the CGIAR Research Programs, including the Global Rice Science Partnership (GRiSP); Roots, Tubers and Bananas; Grain Legumes; Agriculture for Nutrition and Health; Integrated Systems for the Humid Tropics; and Water, Land, and Ecosystems. In addition, CIAT is lead center for the program on Climate Change, Agriculture and Food Security (CCAFS).

CIAT initiatives above US$600K, supported by USAID

Effecting change in seed security response: In crisis, chronic stress and developmental contexts

CIAT staff: Robin Buruchara
Period: 2012–2014
Budget (US$ '000s): 682
Main results: (project in process)
- Comprehensive seed system security assessment (SSSA) in Northern Katanga, Democratic Republic of the Congo (DRC).
- Full toolkit for SSSA finalized in English and in French.

Putting seed system security at the center of agricultural relief and recovery response

CIAT staff: Louise Sperling
Period: 2006–2009
Budget (US$ '000s): 659
Main results:
- Development and publication of Seed System Security Assessment (SSSA) Guide.
- Development and diffusion of Seed Aid Practice Briefs (in English, French, and Portuguese).
- Completion of full seed system security assessments in Mali, Zimbabwe, and Ethiopia – and partial assessments in Thiès, Senegal; Debub, Eritrea; and West Darfur, Sudan (Catholic Relief Services-CRS).
- Training on SSSA in Burkina Faso, Ghana, Togo, Mali, and Zimbabwe.
- Outreach and awareness-raising sessions on Seed Aid for Seed Security in: Washington, D.C., Rome, Nairobi, Kampala, Dar es Salaam, Pretoria, Addis Ababa, Oslo, Accra, and Harare.

Southern Africa biotechnology program

CIAT staff: Joe Tohme
Period: 2005–2008
Budget (US$ '000s): 1002
Main results:
- The Donald Danforth Plant Science Center (DDPSC) and University of the Witwatersrand partnered with CIAT to develop cassava varieties resistant to cassava mosaic disease (CMD) for Southern Africa.
- Conducted a cassava virus survey in Eastern and Southern Africa.
- Malawian cassava germplasm for transformation was identified, and tissue culture research on this germplasm was initiated at DDPSC.
- Permits for confined field trials of transgenic waxy cassava were obtained by the Agricultural Research Council (ARC).
- Efficiency of cassava transformation at CIAT improved.
- Training for scientists from Malawi, Mozambique, South Africa, and Mozambique was conducted at DDPSC, University of the Witwatersrand, and CIAT.

Improving the nutritional quality of cassava roots to improve the livelihoods of millions of farmers in marginal agriculture land

CIAT staff: Joe Tohme
Period: 2003–2010
Budget (US$ '000s): 4828
Main results:
- Definitive evidence indicating that (a) there is no tradeoff between yield and mineral and vitamin density in seeds and roots; (b) high zinc density under some growing conditions can enhance yield.
- High throughput, low-cost screening methods for measuring minerals and vitamins in seeds and roots have been developed and implemented.
- Strengthened NARS breeding capacity in target countries for minerals and vitamins. NARS are already conducting multilocational trials for several crop–nutrient combinations.

Agricultural technology development and transfer project for increased income and sustainable food security in Rwanda. Training and technology dissemination (Phase I & 2)

CIAT staff: Robin Buruchara
Period: 2001–2006
Budget (US$ '000s): 1613
Main results:
- Fifty-seven new varieties (of bean, cassava, sweet potato, maize, and passion fruit) were developed and disseminated to farmers and networks.
- A complete food basket with specific fortification formulations that cater for nutrient requirements of people living with HIV/AIDS (PLWHA) and other vulnerable groups was developed. This formulation was adopted and incorporated into the national nutrition guideline and protocol for nutrition care and support of PLWHA and vulnerable groups in Rwanda.
- One hundred nine researchers and other personnel were trained in different research and development activities.
- A total 10,847 copies of extension materials (leaflets, brochures, posters) on target crops were developed and disseminated.
- A strategic plan for the Rwanda Agriculture Research Institute (ISAR), titled "Looking Towards 2010: ISAR Strategic Plan," was developed in collaboration with the International Service for National Agricultural Research (ISNAR).

Strengthening collaborative bean research in sub-Saharan Africa (PABRA)

CIAT staff: Robin Buruchara, Roger Kirkby
Period: 1995–2003
Budget (US$ '000s): 5604
Main results:
- Micronutrient-dense cultivars (zinc increased by 47% and iron by 8%) were identified and released in Eastern Africa.
- Over 65 new bean varieties were identified and disseminated in more than 10 member countries of the Pan-Africa Bean Research Alliance (PABRA), with farmers obtaining yield gains of 33% (Kenya), 41% (Ethiopia), 43% (Tanzania), and 55% (Uganda).

- Climbing beans, yielding three times more than the bush types traditionally grown in Africa, continued to spread in Rwanda and accounted for at least one-third of all bean seed sown there. In Uganda, one variety was adopted by 88% of farmers who evaluated it, with 50% also adopting two other Rwandan varieties.
- Strengthened local institutions through training and outsourcing bean breeding program to networks and NARS. A new pan-African bean breeding strategy was developed.
- Some new varieties were identified as cooking in 14 to 30% less time than local varieties, thus saving fuel costs.
- A novel, participatory version of a "farmer field school" was used to disseminate and adapt bean integrated pest management (IPM) from community to community, using a range of introduced and indigenous technologies. The approach was first used in Tanzania and has now been introduced into Burundi, DRC, Kenya, Madagascar, Rwanda, and Sudan.
- An adoption study in one district in Uganda, conducted seven seasons after introduction, found that two new varieties accounted for 74% of the total bean area sown on household plots. Adopters reported income gains from higher productivity and price, and improved food security.
- The Enabling Rural Innovation (ERI) program formed strategic alliances to improve community organizational capacity. Women were actively involved in community diagnoses of problems and opportunities, action planning, and intervention.
- Capacity and technical skills of partners were enhanced through formal and on-the-job support.

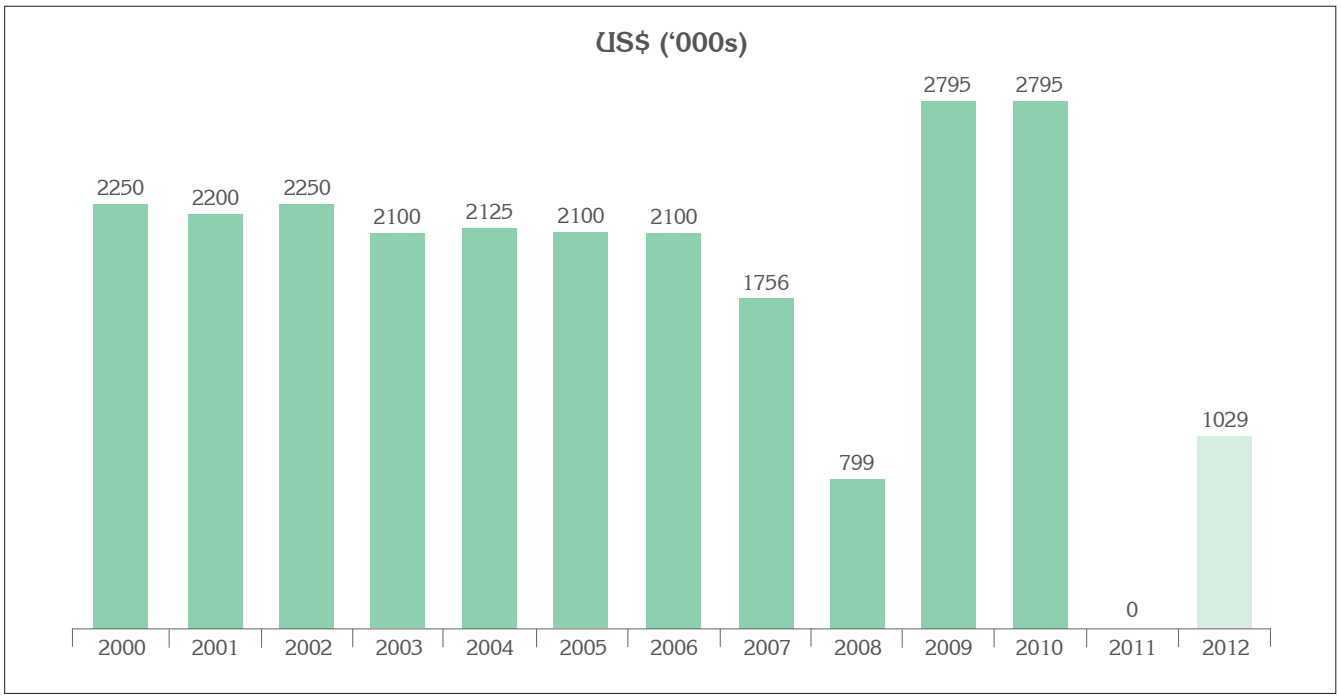
Selected projects below US$600K, since year 2003

Project name / Donor	CIAT staff member	Period	US$ (in '000s)	Results
Transforming Key Production Systems: Maize Mixed East and Southern Africa "Identification of the key biophysical production constraints to crops and livestock at farm and landscape levels"	Job Kihara	2013 (Usaid funds through IITA)	100	• Community mobilization for the action. • Soils survey to characterize 2 sentinel sites. • Agronomic survey to estimate actual yield obtained by farmers in their own practices and relation with management strategies. • Educate farmers through village-level fields days to identify limiting nutrients through a translated "maize doctor".
A catalogue of tested crop, soil, and water management options under varied land degradation conditions and socio-economic environment in the target areas in Tanzania, Malawi, and Zambia.	Patrick Mutuo	2012 (Usaid funds through IITA)	250	• Contribute to the objectives of Africa Rising to identify and promote sustainable intensification(SI) pathways by evaluating tested crop, soil and water management options for their suitability under varied land (soil health) and socio-economic conditions that prevail in the target areas in Tanzania, Malawi, and Zambia. Many initiatives have dealt with identifying and evaluating promising soil, crop, and water management options for increasing agricultural productivity. • The project also contributes to the AfricaRISING initiative by: (i) taking stock of what has been learnt in the target areas and in areas with similar agro-ecological conditions from earlier investments in sustainable intensification of smallholder agriculture; (ii) assessing land degradation and access of smallholder farmers to productive land; (iii) assessing the physical and economic accessibility to the essential production factors for implementing improved options; and (iii) assessing the current conduciveness of the political, extension, and economic environment for their adoption.

Project name / Donor	CIAT staff member	Period	US$ (in '000s)	Results
Identifying Efficient Seed System(s) Practices/Models to Accelerate the Access to Quality Seed of Improved Varieties Legumes, Maize and Forages to Small Scale Farmers Particularly Poor and Women Farmers in Tanzania, Malawi and Zambia.	Robin Buruchara, Jean Claude Rubyogo	2012 (Usaid funds through IITA)	125	• Carry out assessment of the representative of seed systems models related to production efficiency, scale and speed of seed and variety access and information with consideration of the different farmers categories particularly women and poor. • Documented evidence of existing varieties and farmers' capacity to identify varieties. • An inclusive seed systems strategy with at least three proposed models for an impact-oriented and sustainable seed system development with key stakeholders. • Catalogue of seed suppliers and related input suppliers per country.
Biodiversity restoration and conservation in El Salvador through the adaptation and dissemination of a slash-and-mulch agroforestry system (SMAS)	Idupulapati Rao, Aracely Castro	2012–2013 (USAID funds through University of Columbia)	159	• Replacement of traditional smallholder production systems facilitated through the adaptation of SMAS to improve productivity, profitability, and resilience at plot scale. • Biodiversity and other ecosystem services generated directly (on-farm) and indirectly (across the landscape) enhanced with the dissemination of SMAS, including regeneration of secondary forests, erosion prevention, improved hydrological services, and reduced global warming potential. • Sustainable IPM alternatives (with emphasis in weeds and slugs) to traditional control strategies developed. • Strategies and tools developed to facilitate scaling-out/up of SMAS in the Lempa river basin and other regions of El Salvador.
Strengthening Partnerships for Innovation in Beans, Groundnuts and Sesame Research and Technology Transfer in Mozambique.	Chirwa Rowland	2011 - 2012 (Usaid funds through IITA)	290	• Increase availability and access to high-yielding and locally adapted beans, groundnuts and sesame varieties through participatory testing, selection and seed production and delivery system using proven technologies. • Develop and improve the adoption of productive and resilient agronomic practices and local innovation systems for system intensification. • Enhance the diversification of bean and groundnut use at household level through processing, biofortification and value addition. • To enhance the capacity of national partners on targeting, technology adaptation, trial management, seed and input supply to ensure their continued participation in the value chains.
Making seed security response more effective in emergency, chronic stress, and developmental contexts	Robin Buruchara, Louise Sperling	2010–2012	360	• Comprehensive SSSAs completed in Southern Sudan and Haiti. • Rapid SSSAs completed in Zambia, Eastern and Coastal Kenya, and Southern Malawi. • Seed security concerns added to the Sphere's Humanitarian Handbook. • Automated data analysis software developed to help NGOs attain greater rigour in processing assessments. • SSSA guide translated into French.

Project name / Donor	CIAT staff member	Period	US$ (in '000s)	Results
Nutritional genomics	Joe Tohme	2003–2005	359	• SNP markers identified in the cassava carotenoid pathway and implemented for the selection of beta carotene germplasm. • Development of high beta carotene germplasm obtained. • Transgene events for high-iron maize obtained through a sub-grant with Yale University as part of the Harvest Plus program.

In addition to special project support as shown above, USAID made valuable unrestricted contributions to CIAT from 2000–2011, which have been instrumental in helping the Center achieve impact. In addition, CIAT also received USAID support in 2012 through Window-3 CGIAR Fund.



USAID Linkage Program. Between 2000–2010, funding for linkage activities totaled US$1.3 million. The Program has delivered multiple benefits to CIAT as well as to strategic partners at US universities and to the research-for-development community at large. It has supported workshops and scoping studies, which served as key entry points for collaborative research activities. In many cases, these activities led to major projects, which leveraged support by other donors. The Program supported CIAT efforts to enhance food security for smallholder farmers, through innovation, in partnership with US universities and public research agencies.

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