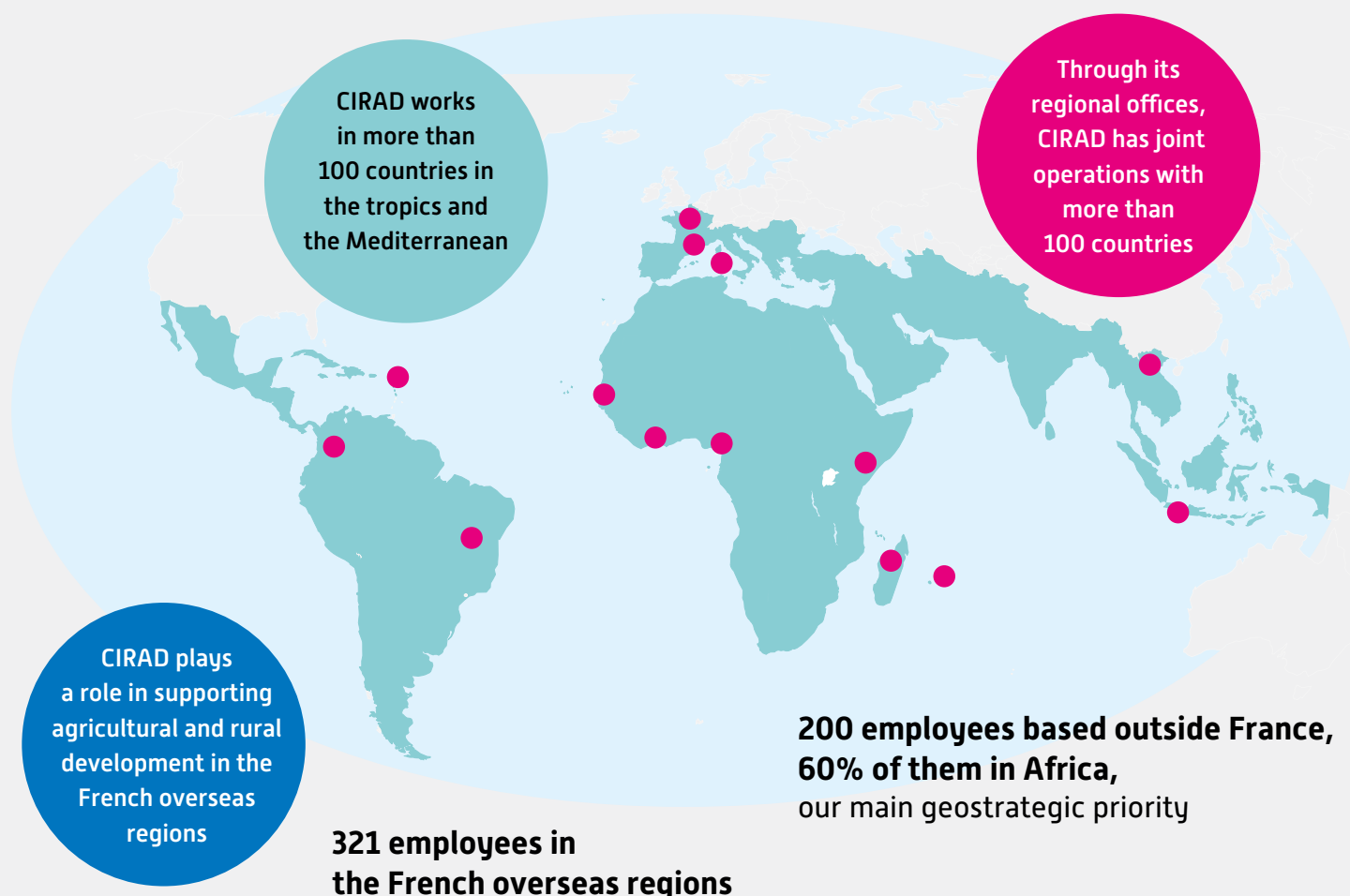




**Working together
for tomorrow's agriculture**

Activities in partnership with more than 200 institutions on every continent



21 platforms in partnership for research and training
with national and international institutions in tropical and Mediterranean countries

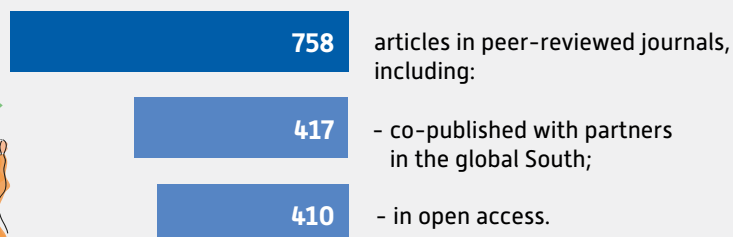
90 403 followers*
on social media



* as of 10/09/2021



Number of journal articles published*



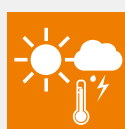
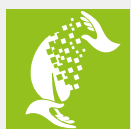
* Source: Agritrop, 2020 figures

Engaged science, to build resilient farming systems in a sustainable, inclusive world

CIRAD has **29 research units**,
split between **three scientific departments**

Six priority research topics
guide its targeted research operations

- Agroecological transitions
- Biodiversity
- Climate change
- Food systems
- One Health
- Territory-based approaches

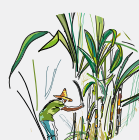
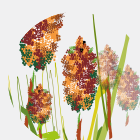


CIRAD's staff members work **in more than 40 scientific fields**



**Recognized scientific and technical expertise
in tropical agricultural value chains**

Animal production
Banana and plantain
Cocoa
Coconut
Coffee
Cotton
Dairy
Forest resources
Fruit and vegetables
Oil palm
Rice
Roots and tubers
Rubber
Sorghum
Sugarcane



CIRAD has
1650 employees,
including
**1140 scientific staff
members**, of whom
800
are researchers



CIRAD manages
a portfolio of some
800 projects a year,
funded by:

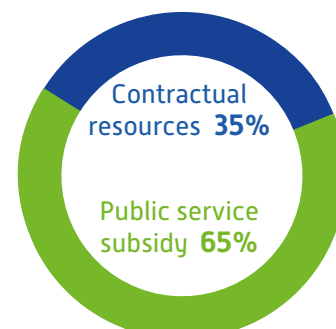
public research
donors
32%

public development
donors
29%

private donors
22%

overseas territorial
authorities
16%

Annual budget
€ 200M





C. Dangléant © CIRAD

For a more sustainable, inclusive world

CIRAD has an ambitious remit: to help build a more sustainable world and achieve the sustainable development goals by means of resilient farming and food systems that provide people with healthy food and pay producers a decent wage, while conserving biodiversity and natural resources.

Multidisciplinary expertise, to benefit a range of stakeholders

From the life sciences to the social and political sciences, CIRAD can analyse biological, technical, social and institutional systems, on behalf of a wide range of beneficiaries. This multidisciplinary expertise allows our researchers to:

- build technical, environmental and societal solutions;
- foster innovation;
- build skills;
- facilitate public decision making;
- support science diplomacy.

One beacon: the United Nations sustainable development goals (SDGs)

No poverty [SDG1] and zero hunger [SDG2] are the two SDGs that drive CIRAD's operations. These goals will be achieved through partnerships and scientific cooperation [SDG17] that will ensure innovation and long-term impacts to foster responsible consumption and agricultural production [SDG12].

The SDGs are interdependent, and CIRAD is thus also contributing to SDGs 3 (health), 4 (education), 6 (water), 13 (climate action) and 15 (life on land).



Our values

WORKING TOGETHER

All of our operations are built jointly with our partners and beneficiaries, to foster development in tropical and Mediterranean countries.

USEFUL, INCLUSIVE SCIENCE

We practise ethical, supportive science aimed at including the world's poorest, most vulnerable people.

OPENNESS

We work with a wide range of stakeholders extending well beyond the scientific community.

ENGAGED SCIENCE

Our work encompasses the economic, social and environmental aspects of sustainable development. This commitment is our trademark, and guarantees top-quality targeted research.

Research centring on six priority topics

Six projects under the microscope



ONE HEALTH



A. Rival © CIRAD

MOOD, research for better disease surveillance

The MOOD project aims to improve early detection and monitoring of emerging infectious diseases by working with human and veterinary public health services to develop appropriate tools. Case studies of animal or potentially zoonotic diseases serve to pinpoint requirements and build long-term innovations, depending on how diseases are transmitted and their sensitivity to environmental and socioeconomic changes.

MOOD is... a One Health approach, centring on:

- five diseases or phenomena: Covid-19, avian influenza, West Nile virus, tick-borne encephalitis and antimicrobial resistance;
- three tasks: supplying standard data, text mining, and modelling;
- exchanges between research and public health players, to boost the impact of innovations.

MOOD - Improving disease monitoring in Europe

Intervention zone: Europe

Period: 12/2020-12/2023

Funding: European Commission - H2020

Budget: € 13.9M

Partners: more than 15 research and teaching establishments in Europe and the USA

mood-h2020.eu



TERRITORY-BASED APPROACHES



© R. Pocard-Chapuis, CIRAD

TerrAmaz, preserving the Amazon forest while supporting agricultural development

In response to persistent deforestation and forest degradation, some territories in the Amazon are working on innovative ways of combining a sustainable agricultural transition, forest resource conservation and restoration, and social inclusion. TerrAmaz is supporting them, notably by generating practical scientific knowledge that they can use. It is aiming for several types of impacts: increased production of ecosystem services; Amazon forest conservation and restoration; territories with certification

schemes that support their sustainable development; and the adoption of low-carbon agricultural intensification practices compatible with ecosystem conservation and restoration.

TerrAmaz is...

- territorial engineering;
- concerted planning approaches on a local level;
- the generation of knowledge to support sustainable development with zero deforestation.

TerrAmaz - Support programme for the development of Amazon territories

Intervention zones: Brazil, Colombia, Ecuador, Peru

Period: 09/2020-09/2024

Funding: Agence française de développement (AFD)

Budget: € 9.5M

Partners: local government in the project's pilot territories, AVSF, ONF International and its two subsidiaries ONFA (Colombia) and ONFB (Brazil)



CLIMATE CHANGE



P. Marracini © CIRAD

BREEDCAFS, more sustainable coffee by means of agroforestry

Climate change is having a significant impact on coffee plantations. To secure production, some producers and researchers are turning to agroforestry, a method that helps to make crops more resilient to climate pressure. However, few coffee species are suited to such methods. BREEDCAFS aims to increase the existing range of varieties, to produce coffee plants that can be grown in agroforestry systems. The switch to agrofor-

estry is also aimed at reducing reliance on agricultural inputs.

BREEDCAFS is...

- more detailed knowledge of how coffee plants respond to environmental stress;
- the design of resilient, inclusive and integrated agroforestry systems;
- partnerships with industry, academia, professional organizations and NGOs.

BREEDCAFS – Adapting coffee varieties to agroforestry

Intervention zones: Cameroon, Costa Rica, French Guiana, Nicaragua and Vietnam

Period: 05/2017-05/2021

Funding: European Commission – H2020 • **Budget:** € 4.2M

Partners: Illy Caffè Italy, Eurofins, Arvid Nordquist, UCPH, NUI Galway, IRD, CIRAD, University of Lisbon, University of Montpellier, Nova ID FCT, Max Planck, Forschungszentrum Jülich GmbH Germany, NOMAFSI, AGI, VAAS, IRAD, ASU, WRC, ICRAF, NOMAFSI, Nicafrance Foundation, SNV

Coordination: CIRAD

breedcafs.eu



FOOD SYSTEMS



D. Dufour © CIRAD

RTBfoods, encouraging farmers to adopt new varieties, to boost food security

Cassava, yams, sweet potatoes, plantain bananas and potatoes are all key to food security in Africa. They are eaten in many forms, and processed and prepared in different ways from one food culture to another. When building varietal breeding programmes, scientists must consider local consumer and processor preferences. This is what the RTBfoods project set out to do, in five African countries (Benin, Cameroon, Ivory Coast, Nigeria and Uganda). The project includes a range of activities, from identifying the criteria that determine whether a variety will be adopted to

assessing how the environment affects its variability, through studying the role of women and young people.

RTBfoods is...

- a study of the criteria for the adoption of a variety, with a particular focus on gender aspects;
- an analysis of the link between those criteria and the biophysical properties of varieties;
- “identikit pictures” of foodstuffs, to predict the quality traits of new varieties.

RTBfoods – Facilitating the adoption of new root, tuber and plantain banana varieties

Intervention zones: Cameroon, Colombia, Ivory Coast, Kenya, Nigeria and Uganda

Period: 05/2017-05/2021

Funding: European Commission – H2020

Budget: € 4.2M

Partners: IITA, Alliance of Bioversity International and CIAT, CIP, Abomey-Calavi University, FSA/UAC, CARBAP, CNRA, INRAE, Bowen University, NaCRRI, NARL, NRCRI, NRI, James Hutton Institute

rtbfoods.cirad.fr



AGROECOLOGICAL TRANSITIONS

© S. Taugourdeau, CIRAD



FAIR, using agroecology to make farms in the Sahel more resilient

Farming systems in the Sahel are highly vulnerable to various types of risks (climate, economic, and health- and security-related). Production operations are becoming less diversified and few agricultural value chains are sufficiently profitable to drive innovation. High population pressure in the region means strong competition for agricultural and pastoral land. As a result, natural resources (soils, water and biodiversity) are over-used and rapidly being degraded. The FAIR project aims to help producers in the Sahel

to build more climate change-resilient farming systems and to boost their food security, by means of agroecological intensification.

FAIR is...

- a participatory approach, to respond to producers' needs;
- an agroecological transition at plot, community and territory level;
- a different type of collaboration between research and development.

FAIR – Promoting agroecological intensification of agriculture to boost the resilience of farms in the Sahel

Intervention zones: Burkina Faso, Mali and Senegal

Period: 01/2020-01/2024

Funding: European Union, AFD, CIRAD/IRD

Budget: € 9M

Partners: a dozen partners – research and higher education establishments in Africa and Europe, working with NGOs and farmers' organizations

fair-sahel.org



BIODIVERSITY

© R. Belmin, CIRAD



CoEx, knowing seed systems better, to boost biodiversity

The CoEx project combined several research fields and brought together scientists and representatives from the political sphere and civil society, to study the seed system in West Africa. The aims were (i) to understand the gap between seed and genetic resource regulations and legislation and the situation on the ground in terms of diverse cropping practices and seed use in Burkina Faso, Mali, Niger and Senegal; and (ii) to propose governance mechanisms that allow for different cropping practices and crop management methods. The project comprised three phases: an anal-

ysis of regulations and of governance mechanisms regarding seed (access and management); a field analysis of the range of cropping practices and of seed use; and the design of seed management governance mechanisms.

CoEx is...

- a range of scientific disciplines;
- co-construction of scientific field surveys with farmers' organizations;
- stronger South-South partnerships between scientists and professionals.

CoEx – Adaptive governance of coexisting management systems

Intervention zones: Burkina Faso, Mali, Niger and Senegal

Period: 01/2017-12/2019

Funding: Agropolis Fondation

Budget: € 700 000

Partners: CNRS, INRAE, IRD, Institut Agro-Montpellier Supagro, University of Montpellier

projetcoex.sciencesconf.org



Partnerships are second nature

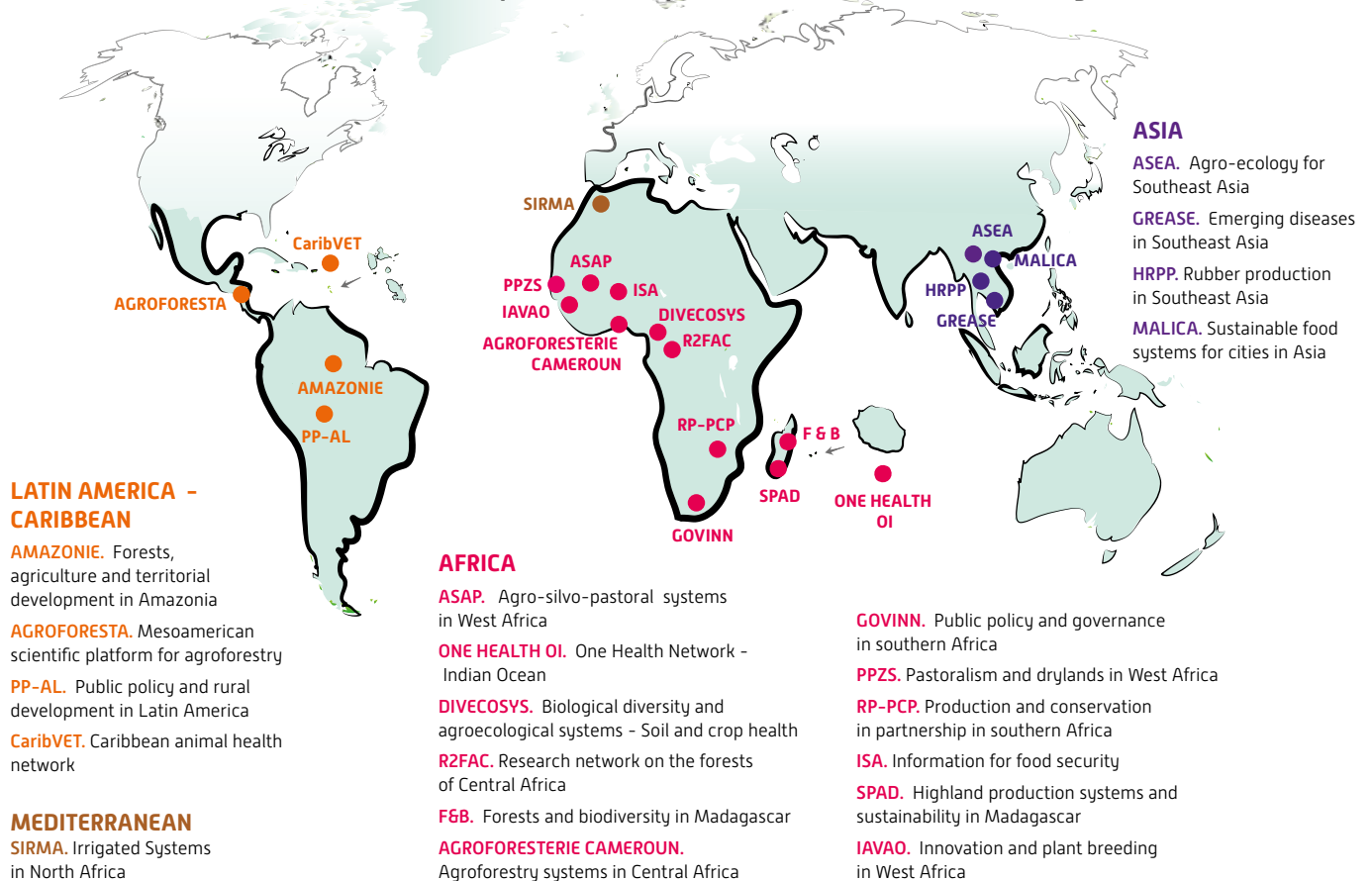
Over the years, CIRAD has forged strong relationships with institutions in tropical and Mediterranean countries and built a global network of partners that drive and relay its activities in more than a hundred countries.

Since 2009, it has drawn up a geographical partnership strategy centring on platforms in partnership for research and training [dPs]. These tools, which are designed and implemented with CIRAD's

partners, aim to tackle specific, jointly identified development challenges, through research, innovation and training.

CIRAD is a member of more than twenty platforms working within the global research sector to promote an international scientific community that covers the entire intertropical belt, including the French overseas regions. It also has bilateral cooperation agreements with bodies in many other countries.

Platforms in partnership for research and training





© C. Lanvin, CIRAD

Research devoted to innovation

CIRAD is a recognized expert in tropical and Mediterranean plant and animal value chains. While those value chains are the bedrock on which many sectors are building their activities, they currently face a range of challenges.

Virtuous R&D projects serve to address production-related, economic and commercial issues while conserving biodiversity and the environment, within an ethical, fair social framework.

Based on its research results, CIRAD has built an offering aimed at socioeconomic players. That offering was placed under the Cirad'Innov® brand in 2020, and is intended for any stakeholder with a direct use for it: start-ups, SMEs and large corporations, professional federations, NGOs, territorial authorities and public agencies.

Cirad'Innov's research provides a springboard to innovate and produce more and better, while respecting communities and ecosystems.



The Cirad'Innov® offering straddles four main fields:

- Sustainable agriculture
- Livestock production and animal health
- Food, and agrifood technologies
- Natural resources and territories

FOCUS

CIRAD and ECOM, working for more sustainable, fair trade coffee

ECOM, the world's second largest coffee trader, also provides producers in more than 40 countries with inputs and services. The company, which was interested in developing Arabica hybrids, contacted CIRAD in 2002 about setting up a commercial partnership.

That partnership has come up with a range of innovations that have had a substantial impact, from a coffee berry borer trap to resilient coffee varieties, through agroforestry models that guarantee a fair price for producers.



S. Fréguin © CIRAD

- The BROCAP® patented trap, developed by CIRAD and licensed out to ECOM, allows growers to control coffee berry borers and produce natural coffee free from pesticide residues. It boosts green coffee yields by 12%.
- CIRAD has assigned technical experts to ECOM in Central America.
- A 15-year framework cooperation agreement between CIRAD and ECOM was signed in 2016.



B. Locatelli © CIRAD



An impact culture unique to CIRAD

The impacts of agricultural research for development are generally a long time coming, and the pathways that lead to those impacts are often complex and unpredictable. It is rarely possible to establish simple, direct causal relationships between research and a given impact, be it positive or negative, desired or unexpected.

Since 2010, CIRAD has been working within its teams and with its partners to build an impact culture, founded on a better understand-

ing of the innovation mechanisms that fuel development. It was this that led it to develop the ImpresS method, a set of stages and participatory tools that allow a group of partners to understand the impact pathway of an innovation process in which they have been involved (ImpresS ex-post), or to work together to build a shared, clear vision of the potential and likely impact pathways of a planned operation (ImpresS ex-ante).

FOCUS



B. Faïe © CIRAD

Local milk, a powerful lever for development in the Sahel

For more than a decade, CIRAD has been supporting players in the dairy sector in the Sahel, from producers to the authorities, through industry and NGOs. Several tens of millions of families in West Africa produce milk, but demand outstrips local production capacity. Producers cannot compete with cheap, imported milk powder. Farms are isolated, output is seasonal and insufficient, and collection systems are inefficient, and moreover, there is a lack of support from the authorities, further weakening a sector already hard

hit by overseas competition. CIRAD is convinced that there is substantial potential to develop local milk collection and processing structures and boost jobs, income, and food and nutrition security. Its work has helped to integrate livestock production into national economies to make it a powerful lever for development in the Sahel, via three main types of action: supporting local production and collection, steering industrial strategy and public policy, and training dairy sector managers.

- CIRAD has participated in introducing innovative systems in Burkina Faso, Mali, Mauritania and Senegal, to help stakeholders produce and collect more milk locally.
- It is encouraging dairy firms and the authorities to include local milk in their respective strategies and policies.
- By supervising a series of theses on the dairy sector in the Sahel and establishing training courses, CIRAD has helped to build a valuable body of knowledge and support dairy sector leaders.



© Unsplash

Training and capacity building, to drive development

Training is a major part of CIRAD's remit. It is provided through research, internships, PhD theses and post-docs, for students from Europe and from tropical and Mediterranean countries.

CIRAD also works in partnership on academic and professional training projects in tropical and Mediterranean countries. In this way, it contributes to the professional integration of young gradu-

ates in those countries, which often have high population growth rates.

Lastly, CIRAD has many projects aimed at building skills – whether technical, expertise-related or institutional – and works in partnership with university consortiums or higher education establishments. This means supporting local infrastructures and research organizations.

400

PhD students
a year

115

Masters-level courses
involving CIRAD

35

teaching
teams

134

professional training courses,
both in person and virtual

FOCUS

POLLENIS, joining forces for better training in the global South

CIRAD and Institut Agro, a partner with whom it has been working on training operations for many years, have set up POLLENIS, a shared platform for training operations and engineering in the global South. The platform, which will be managed flexibly through a coordination unit, is tasked with building common strategic orientations, supporting the development and implementation of joint expertise, and disseminating deliverables.

© C. Cornu, CIRAD



CIRAD CEO
Élisabeth Clavier
de Saint Martin (left)
and Institut Agro
Director General
Anne-Lucie Wack
(right) sign
the agreement
to step up
cooperation between
CIRAD and Institut
Agro in the field
of training

CIRAD is the French agricultural research and international cooperation organization working for the sustainable development of tropical and Mediterranean regions

CIRAD works with its partners to build knowledge and solutions and invent resilient farming systems for a more sustainable, inclusive world. It mobilizes science, innovation and training in order to achieve the sustainable development goals. Its expertise supports the entire range of stakeholders, from producers to public policymakers, to foster biodiversity protection, agroecological transitions, food system sustainability, plant, animal and ecosystem health, and sustainable development of rural territories and their resilience to climate change.

CIRAD is a public establishment (EPIC) under the joint authority of the Ministry of Higher Education, Research and Innovation and the Ministry for Europe and Foreign Affairs.



42, rue Scheffer
75116 Paris
France

cirad.fr



CIRAD is a founding member of:

