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AGRICULTURAL RESEARCH FOR DEVELOPMENT

2025 Annual Report

Focus

One Health: prevention is central to global health

Contents

Publication manager
Élisabeth Claverie de Saint Martin,
CIRAD CEO

Editorial coordination
Anne Perrin,
CIRAD Communication Office

Translation
Helen Burford Buttazzoni,
CIRAD Communication Office

Drawings
Delphine Guard-Lavastre,
CIRAD Communication Office

Production/layout
Patricia Doucet,
CIRAD Communication Office

Disribution
Marie Perrin,
CIRAD Communication Office

Printing: Impact Imprimerie,
Saint-Martin-de-Londres (F-34)
Printed on 100% PEFC-certified paper,
using plant-based ink
100 % PEFC

IMPRIM'VERT PEFC

Legal deposit: March 2026
ISBN: 978-2-87614-879-6
EAN: 97828761487969
https://doi.org/10.19182/agritrop/00244
8761

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Also published in French

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Élisabeth Claverie de Saint Martin, CIRAD CEO

EDITORIAL

Action in fields where science counts

The past year has seen a number of successes. Our teams have shown their ability to respond rapidly to health crises, for instance bovine lumpy skin disease (LSD), while pursuing fundamental and applied research for sustainable solutions. Our work on LSD has allowed us to demonstrate what marks us out: our ability to respond very rapidly to complex demands, to set up relevant coalitions, to speed up our work when necessary and to listen to our partners. This is our USP, it is what we do best, in times of crisis or of calm, in Montpellier, in Paris, in the French overseas regions and elsewhere. Our engagement in terms of the One Health approach, the topic of our participation in the 2025 Paris International Agricultural Show, is central to this Annual Report, in a special focus. Our presence at the Nutrition For Growth summit in Paris in March confirmed our position as a French science diplomacy player in our own right. In September, the European Union renewed its faith in us by funding three new projects that we are coordinating as part of its Horizon Europe programme for research and innovation. Our actions in the French overseas regions have also been significant: reconstruction after crises, transparent, environmentally friendly management of complex dossiers, increased grassroots cooperation, etc. Our budgetary and contractual efforts have succeeded in consolidating our economic equilibrium, while maintaining the quality of our scientific activities. Lastly, we have continued our operations aimed at improving working conditions for our staff and our use of artificial intelligence, and at making progress on our historic sites and building projects, combining rationalisation and preservation of our assets.

The meaning of research in an uncertain world

2026 began against a complex international backdrop, marked by conflict, economic imbalances and threats to our ecosystems. Our remit truly comes into its own in this uncertain world: we act as spokespeople for those with no voice, defend science and the planet, and contribute to building concrete solutions for more resilient societies. First and foremost, we speak for the world's poorest people, who are practically in the majority. We also speak for research and science, which make it possible to find solutions, save lives and understand better in order to take better action, each and every day. We must be prepared to fight against the growing number of people dismissing the word of science. Lastly, we also speak for Earth, a planet that is often badly treated, on which we will shortly no longer be able to live if we continue to exceed its limitations.

Heading into 2026

The coming year will be an important one for CIRAD: an HCERES audit, the start of talks on our new Objectives, Means and Performance Contract (COMP), and our participation in major international events. The Paris International Agricultural Show in February, the One Health Summit in Lyon in April, the Africa-France Summit in Nairobi in May and the upcoming COPs will be opportunities to promote our research, partnerships and expertise. We must remain agile if we are to react to changes in international and European scientific cooperation and development instruments. We shall continue to advance together, putting science, sustainable development and solidarity at the heart of our operations. ■

January

International conference on local bioenergy for production units, BLP 2025

CIRAD and its partners organised the BLP 2025 conference in Montpellier from 28 to 30 January 2025, under the umbrella of two major projects (BioStar and Bio4Africa) and under the auspices of the UNESCO IDBio Chair. The event brought together almost 150 participants from more than 30 countries, and was co-funded by the EU and the Agence Française de Développement, under the umbrella of the DeSIRA and Horizon 2020 programmes.

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February

Food systems in Africa

For its 14th Annual Symposium on 7 February at Institut Agro in Montpellier, the UNESCO Chair in World Food Systems, co-headed by CIRAD and Institut Agro, looked at African food systems. In particular, Nicolas Bricas presented the AfriFoodLinks project, in which CIRAD is a partner.

© UNESCO Chair in World Food Systems

Shared health

"Agriculture, environment, societies: our shared health" was the topic for this year's AFD Group/CIRAD stand at the Paris International Agricultural Show, from 22 February to 2 March 2025. This report looks at the same topic in the "Focus" section (p. 11).

March

Nutrition For Growth

CIRAD and Montpellier City Council had a joint stand in the "Solutions Village" at the Nutrition For Growth summit in Paris from 26 to 28 March. This was an opportunity to showcase sustainable production and consumption solutions developed and implemented in cooperation in Montpellier and around the world—solutions that are making our food systems more sustainable.

© N. Bricas, CIRAD

April

Morocco International Agricultural Show

CIRAD took part in the Morocco International Agricultural Show (SIAM) in Meknes from 21 to 27 April, in the France Pavilion. The topic for 2025 was "Agriculture and the rural world: water at the heart of sustainable development", and France was the guest of honour. CIRAD's experts used SIAM to showcase innovative solutions that illustrate how research is supporting the sustainable development of farming and food systems.

May

International Exhibition of Agriculture and Animal Resources (SARA)

Over a week, the Abidjan Exhibition Centre in Ivory Coast hosted the 7th edition of SARA, on the topic of "What agrifood processing systems are needed for food sovereignty in Africa?". CIRAD had a stand in the France Pavilion. This major event brought together more than 6000 professionals and welcomed some 300 000 visitors.

May

Launch of Sol AfricaO

The Sol AfricaO research network, supported by INRAE through the TSARA initiative, CIRAD and IRD, was officially launched on Saturday 24 May at SARA. This scientific and collaborative tool is intended to improve understanding, management and sustainable use of West African soils.

© C. Dangléant, CIRAD

June

Global Land Forum

CIRAD took part in the Global Land Forum, organised by the International Land Coalition, in Bogotá, Colombia, from 14 to 19 June 2025.

GLOBAL LAND FORUM 2025
COLOMBIA

July

UN Food Systems Summit +4 stocktake

Building on the momentum of the 2021 UN Food Systems Summit and the first Stocktake in 2023, this event in Addis Ababa (Ethiopia) from 27 to 29 July highlighted the key role of food systems in addressing climate and social issues. CIRAD co-organised a side event on multisectoral governance and investments in local food value chains.

G. Trébuil © CIRAD

September

The EU renews its confidence in CIRAD

CIRAD is coordinating three new projects under Horizon Europe, the EU programme for research and innovation. With a total budget of 17 million euros, these three projects focus respectively on the monitoring and control of vector-borne diseases (IMPACTING project), the sustainable introduction of roots and tubers (RT) such as sweet potato and cassava in Europe (ROTATES project), and agroforestry innovations in sub-Saharan Africa (GALILEO project).

© CIRAD

IndoKAKAO, for a more sustainable cocoa sector

The Indonesian Ministry of Planning (Bappenas), the French Embassy in Indonesia and CIRAD launched the IndoKAKAO project, funded by the French Ministry for Europe and Foreign Affairs (Equipe France Fund) and the Indonesian Public Microfinance Agency (PNM). This two-year project (2025–2027) aims to strengthen smallholder producers in the Indonesian cocoa sector by focusing on women and youth.

© CIRAD

ConForMa project launch

CIRAD CEO Élisabeth Claverie de Saint Martin was in Guatemala from 16 to 20 September for the launch of the ConForMa project, funded by the Fonds français pour l'environnement mondial (FFEM) and coordinated by CIRAD in partnership with the forest community association ACOFOP. The project aims to strengthen community forest management in Guatemala and promote it on a global level.

October

Biennale Euro-Africa 2025

The second Biennale Euro-Africa was held in Montpellier, on the topic of "A new era of cooperation between Europe and Africa: Innovative responses to environmental challenges". CIRAD played an active part in the exchanges between scientists, entrepreneurs, policymakers and development players on major topics such as the One Health approach, agroecology and adaptation to climate change.

FAO recognises the LIDISKI project

FAO recognised the LIDISKI project, coordinated by CIRAD and funded by the EU DeSIRA initiative, for its contribution to sustainable livestock production systems and rural development in Nigeria, at the World Food Forum in Rome.

© Ikore International Development

November

Climate COP30

COP30 was held in Belém, Brazil, and brought together the signatory countries of the UNFCCC. This marked the tenth anniversary of the 2015 Paris Agreement, the main aim of which is to limit climate warming. Although the last-minute agreement adopted at COP30 is less ambitious than had been hoped, agricultural issues have never featured so prominently in the discussions. CIRAD's involvement was unprecedented. It was both an observer and the co-organiser of side events with partners from France, Europe and the global South, as well as producing books, position papers, podcasts, etc.

November

International Science Festival

France, CIRAD, INRAE and IRD co-organised the 5th International Science Festival: agriculture, food, environment. A webinar looked at how to feed 10 billion people in 2050 while making food systems sustainable, inclusive and resilient.

December

Inauguration of the ARCHE greenhouse, safeguarding citrus varieties

On 5 December 2025, the "Citrus" Biological Resource Centre (BRC) in Haute-Corse department, run by scientific teams from INRAE and CIRAD, inaugurated a brand-new greenhouse. Known as "ARCHE", this 1100-m^2 facility aims to safeguard one of the world's largest citrus collections, in the face of increasing health threats and the intensification of climate-related events.

© Y. Sanguine, CIRAD

Woman farmers and pastoralism – two international years for 2026

On 2 December, the Food and Agriculture Organization of the United Nations (FAO) kicked off the International Year of Rangelands and Pastoralists and the International Year of the Woman Farmer. CIRAD will be reporting regularly on these two topics in 2026.

INTERNATIONAL YEAR OF
RANGELANDS AND PASTORALISTS
2026

INTERNATIONAL YEAR OF THE
WOMAN FARMER
2026

Reconnecting research and life in the territories of the Great Rift valley in Africa

A new platform in partnership for research and training, TRACE (Transforming Agriculture for Animal, Crop and Ecosystem Health in the East African Rift) was officially created in Nairobi on 14 November, in the presence of some 20 researchers from East Africa and their partners from CIRAD and IRD. The ambition of the new platform is to promote socio-ecosystem health by using the levers provided by agroecology, science-policy dialogue and regional cooperation, in the Great Rift valley in Africa.

© B. Faye, CIRAD

Understanding the spatiotemporal dynamics of the domestication of species in sub-Saharan Africa

Black fonio and white fonio, two cereals native to West Africa, share similar morphological traits and have comparable uses, yet are genetically very distinct, and each is the result of a separate domestication process, without gene flow. This finding comes from an international, multidisciplinary study led by IRD and CIRAD, in collaboration with their partners, and published in *Nature Communications*. A step towards better conservation and use of the diversity of these cereals.

L.F. Cruz © CIRAD

Is latex good for health?

A study by CIRAD, Kasetsart University (Thailand) and the Cambodian Rubber Research Institute has revealed the existence of a valuable furan fatty acid in the latex of 48 types of rubber tree, a natural source of rubber. This discovery could have numerous applications in medicine, and researchers also highlight the beneficial effect this compound has on muscle mass in people suffering from malnutrition.

A. Rival © CIRAD

Agronomic biofortification

Through agroecological practices, organic waste can be converted into fertilisers that enhance the micronutrient content of certain crops. This process is known as "agronomic biofortification". Cereals, legumes, roots and tubers enriched with iron, zinc and vitamins: the OR4FOOD project being conducted in Senegal and Ethiopia is giving promising results.

© J.-M. Médoc, CIRAD

Forests are sentinels of climate change

Rising temperatures and increasingly irregular rainfall are forcing tropical forests to adapt, but they may not be able to keep up. This is the conclusion of a new study published in Science by an international group of scientists.

Jesús Aguirre-Gutiérrez *et al.*, 2025. Tropical forests in the Americas are changing too slowly to track climate change. *Science* 387

B. Locatelli © CIRAD

Closure of the ASSET project in Vietnam

ASSET (Agroecological and Safe Food System Transitions), which aimed to support sustainable production, markets, policies and training, generating local innovations, increased incomes and tools to guide long-term food system transformation, was a regional initiative rolled out between 2020 and 2025 in Cambodia, Laos, Vietnam and Myanmar, in which CIRAD was responsible for scientific coordination. The final workshop for the project in Vietnam, in October 2025, brought together more than 100 public, scientific and civil society players to take stock of agroecological transitions in Vietnam and ASEAN.

Find out more:

© ASSET Project

Focus

One Health: prevention is central to global health

One Health in a few dates*

2003 — Avian influenza

2004

Manhattan Principles on "One World, One Health"
In September, health experts from all over the world meet at a symposium organised by the Wildlife Conservation Society (WCS) and draft 12 recommendations aimed at establishing a more holistic approach for preventing epidemics/epizootics and maintaining ecosystem integrity to benefit humans, their domestic animals and fundamental biodiversity

2007

Contributing to "One World, One Health":
a strategic framework to reduce the risks of infectious diseases at the interface between animals, humans and ecosystems is established by WHO, OIE and FAO

GRIPAVI (2007-2011)
Research project on the ecology and epidemiology of avian influenza and Newcastle disease in the global South

2014 — Ebola

2017

EBO-SURSY
Project, funded by the EU, is rolled out in ten countries to foster collaboration between human and animal health professionals and help countries prepare better for epidemics of diseases of animal origin, such as Ebola

2019 — Covid-19

OHHLEP
The One Health High-Le
initiative led by FAO, WH
may trigger pandemics a

INB
The Intergovernmental N
by WHO. It is responsible
prevention, preparation

PREZODE Lau
on the initiative o
environmental health r
to understand, prevent
The initiative now invo
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Launch of Sa
Health as a lev

* This list is not intended to be exhaustive. For more information, see the list on page 21 of the One Health Atlas (see box p. 16).

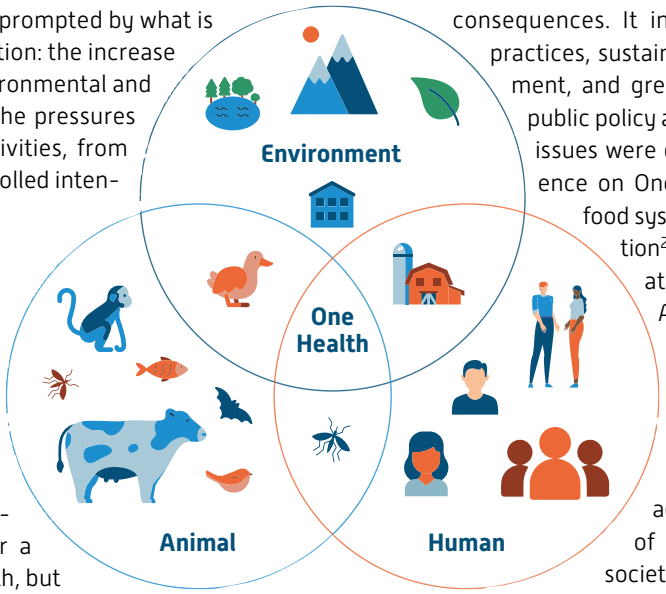
One Health and prevention: a paradigm shift for global health

In 2025, CIRAD confirmed its driving role in promoting and implementing the One Health approach, putting health risk prevention at the centre of the interactions between human societies, farming systems and ecosystems.

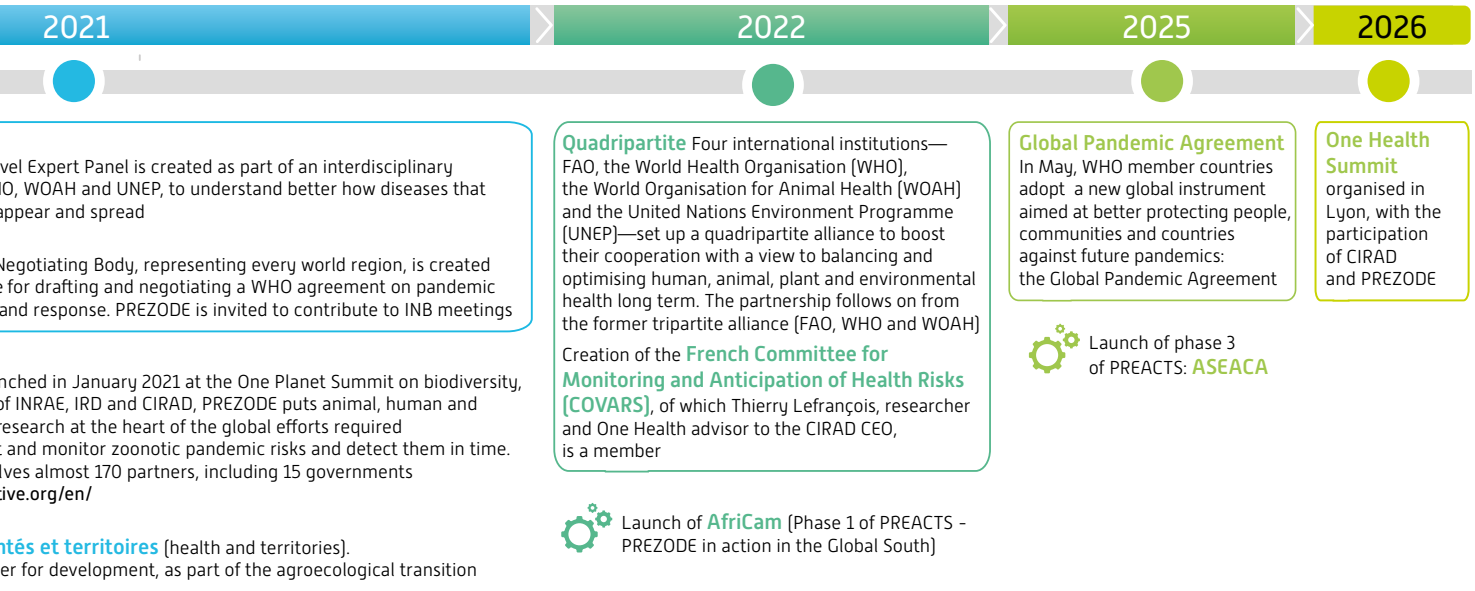
This strategic orientation was prompted by what is now a widely shared observation: the increase in the number of health, environmental and food crises is indissociable from the pressures exerted on nature by human activities, from ecosystem degradation to uncontrolled intensification of production systems.

Prevention, the cornerstone of One Health

The One Health (OH) approach aims to "optimise the health of people, animals and ecosystems"[1], to contribute to collective wellbeing. It is neither a discipline nor a mere extension of veterinary health, but an integrated analysis and action framework based on the recognition of the ecological, social, economic and political factors that determine health crises. The approach rests on greater understanding of the links between human, animal, plant and ecosystem health. Prevention means a paradigm shift: taking action ahead of crises rather than dealing with the consequences. It involves more virtuous farming practices, sustainable natural resource management, and greater dialogue between science, public policy and players on the ground. These issues were discussed at length at a conference on One Health and how to transform food systems to benefit health and nutrition[2] co-organised by CIRAD and AFD at the 2025 Paris International Agricultural Show, and during the Agri-Health roundtable organised by CIRAD. The conference highlighted the convergences and co-benefits between OH approaches on the one hand, and agroecology and the development of sustainable food systems for societies and ecosystems on the other.



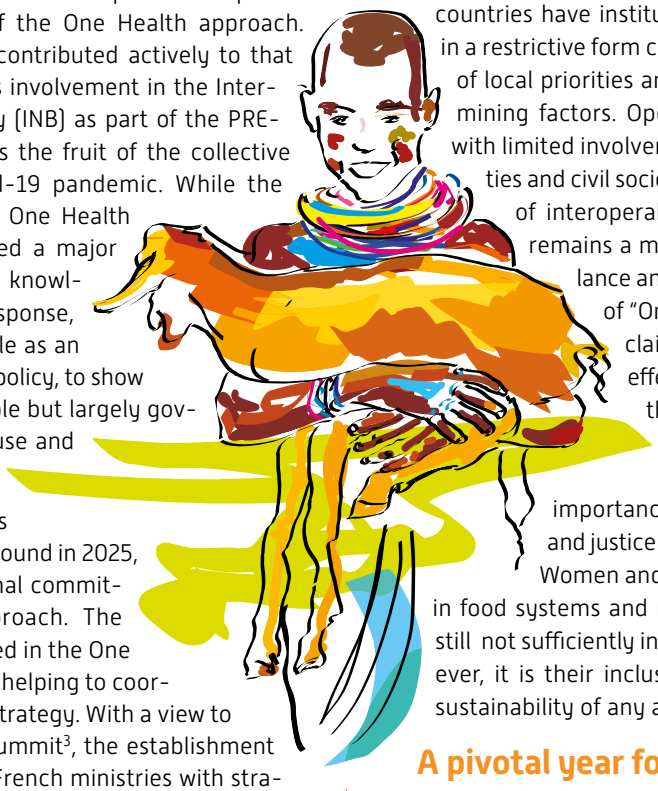
The exchanges revealed the key role of sustainable farming—agroecology, system diversification, reduced input use, integrated animal and plant health management—in reducing the risks of infectious disease emergence and spread. Agriculture is no longer merely a sector exposed to health risks; it is a central lever for prevention. .../...



.../...

From science to decision making: One Health as part of global governance

The year 2025 fitted into a global context marked by the adoption of the WHO Pandemic Agreement and continued talks on its technical details. For the first time, there is a multilateral legal instrument that explicitly recognises the importance of preventing disease emergence and of the One Health approach. CIRAD, alongside its partners, contributed actively to that recognition, notably through its involvement in the Intergovernmental Negotiating Body (INB) as part of the PREZODE initiative. This progress is the fruit of the collective lessons drawn from the Covid-19 pandemic. While the pandemic did not surprise the One Health scientific community, it revealed a major shortfall in terms of translating knowledge into public decisions. In response, CIRAD took on a more major role as an interface between research and policy, to show that pandemics are not inevitable but largely governed by our production, land use and governance methods.



Alongside its research activities and support for players on the ground in 2025, CIRAD stepped up its institutional commitment to the One Health approach. The establishment is actively involved in the One Health cross-agency task force, helping to coordinate the French OH research strategy. With a view to preparing for the One Health Summit[3], the establishment has also provided the relevant French ministries with strategic support, notably regarding the summit's scientific and operational content. That support took the form of submissions to the Ministry of Europe and Foreign Affairs and the Summit Secretariat, including proposals of large-scale deliverables to make One Health more operational. Several proposals led by the PREZODE initiative have been made, to fuel the preparatory work for the Summit and support an approach centring on prevention, inter-sectoral coordination and country support.

CIRAD and PREZODE have affirmed their role as a reference for technical support for the operationalisation of health risk prevention frameworks within a One Health approach, particularly by organising high-level events such as those co-organised with the civil society organisation Four Paws and the German Federal Ministry of Health at the World Health Summit in November 2025. In addition to strategy frameworks, the 2025 results illustrate CIRAD's capacity to translate the One Health approach into concrete actions tailored to local realities. Whether it be designing operational tools for players on the ground, coconstruction approaches with regional partners or sanitary risk surveillance and response systems, the work done in 2025 is proof of One Health in action, anchored in territories. These experiments confirm that One Health prevention rests on three inseparable levers: a systemic vision, shared governance, and active involvement of local players. This focus presents several concrete experiments in this field, with conclusive results.

Persistent challenges and risks of abuse

Despite these advances, CIRAD and PREZODE's work has highlighted several limitations. An international study of One Health governance in 2025 showed that many low- and middle-income countries have institutionalised the approach, but often in a restrictive form centring on zoonoses, at the expense of local priorities and environmental and social determining factors. Operationalisation is often top down, with limited involvement on the part of local communities and civil society organisations. Moreover, the lack of interoperable data systems between sectors remains a major obstacle to integrated surveillance and prevention. There is also a real risk of "One Health Washing": some initiatives claim to be One Health without any effective changes in practices, reducing the concept to a label rather than a framework for change. Lastly, the 2025 results have highlighted the importance of fully integrating social, gender and justice aspects into One Health approaches. Women and young people, who are key players in food systems and natural resource management, are still not sufficiently included in prevention systems. However, it is their inclusion that governs the efficacy and sustainability of any action.

A pivotal year for One Health at CIRAD

The 2025 results have confirmed One Health as a pillar of CIRAD's operations. By combining prevention, sustainable farming practices, operational tools and engagement in international arenas, CIRAD is actively helping to build a new vision of development through a human, animal and environmental health lens. This dynamic positions it as a key player in the transformations required to prevent future health crises and make territories more resilient. In 2026, the priority will be to draft practical documents to help countries apply international agreements effectively. ■

Marisa Peyre, epidemiologist, health economist, Deputy Head of the ASTRE research unit, CIRAD; cofounder of the PREZODE initiative.

marisa.peyre@cirad.fr

1. As defined in 2021 by the Quadripartite (WHO, FAO, WOAH, UNEP) One Health High-Level Expert Panel (OHHLEP)
2. https://www.cirad.fr/les-actualites-du-cirad/agenda/2025/conference-one-health-transformer-les-systemes-alimentaires-au-service-de-la-sante-et-de-la-nutrition
3. On 7 April 2026, to mark World Health Day, France will be hosting the One Health Summit in Lyon

Redefining human health, an imperative for the OH approach [4]

In an article in *The Lancet*, CIRAD, IPBES, OHHLEP and their partners have called for a redefinition of the notion of human health, to adapt it to contemporary challenges and to the principles of the One Health approach. Although the definition adopted by the WHO in 1948 was novel at the time, it no longer reflects the factors that currently determine health, which are marked by environmental pressures, climate change, biodiversity erosion, globalisation and transformations in farming and food systems. A holistic concept of health, indissociable from that of animals, plants and ecosystems, to boost prevention and generate long-term co-benefits for people and territories. That evolution would be a major lever for steering public policy towards more integrated governance of the living world, greater investment in prevention, and better dialogue between science and decision making. CIRAD's work on One Health and its engagement at the interfaces between science and policy, make it central to this drive to transform health worldwide. ■

thierry.lefrançois@cirad.fr

Find out more:
tinyurl.com/4k9ahs2h

4. https://www.cirad.fr/en/cirad-news/news/2025/redefining-human-health

VIETNAM

Linking science, society and policy

© CIRAD

Phuong Vu, national coordinator of One Health partnerships in Vietnam, is working to build bridges between scientific knowledge production, societal expectations and decision-making processes, to help make One Health an operational framework for public action. Vietnam is a member of PREZODE through its OH platform, supported by CIRAD and the ASEACA project. Interview[5].

How does the One Health platform in Vietnam work, in concrete terms?

Phuong Vu: The One Health platform in Vietnam works as a multi-sectoral and multipartite coordination mechanism, aimed at connecting existing systems in the human and animal health, agricultural and environment sectors without creating any new administrative structures. It is being implemented via the One Health Partnership (OHP), an official agreement between ministries and development partners, which constitutes a neutral space for discussing, coordinating and defining priorities. Governance is participatory, founded on co-chairing, co-responsibility and co-ownership by the various stakeholders. Its operational functioning rests on an annual high-level One Health Forum, five technical working groups covering key topics (antimicrobial resistance, food safety, animal wellbeing, the research-public policy link [co-led by CIRAD], and pandemic prevention and preparation), plus a coordinating secretariat in charge of relations between players, monitoring, and resource mobilisation. The platform plays a central role in coordinating One Health initiatives: projects are overseen, brought into line with national priorities and adjusted to regional and international frameworks, to avoid overlaps and optimise resource use. Between 2021 and 2025, more than 100 initiatives and projects were mobilised and coordinated, making operations both more effective and more sustainable.

How do civil society organisations fit into One Health governance?

Phuong Vu: Civil society organisations (CSOs) have been structurally integrated into One Health governance, through the One Health Partnership, as partners in their own right. They participate in the technical working groups and contribute to exchanges by sharing their field data, experiences and scientific knowledge of use in drafting public policy. They also play a key role in local implementation, notably in terms of community surveillance and early warning systems, communication on the risks, changes in behaviour, wildlife conservation, animal wellbeing and conservation. Moreover, SCOs act as innovation spaces, by testing scalable One Health models. Their participation makes One Health policy more transparent, socially acceptable and sustainable, while the State keeps its role as regulator and strategic overseer. The One Health Vietnam 2026-2030 phase will extend this dynamic as an open mechanism, paying particular heed to the role of civil society organisations. ■

5. Interview conducted in Vietnam by Linh Vo Le, Communication Officer for the CIRAD regional office in continental Southeast Asia, with support from Flavie Goutard, epidemiologist at CIRAD, and François Roger, CIRAD Regional Director for continental Southeast Asia.

M. Peyre © CIRAD

A co-constructed programme to guarantee that One Health is taken on board: ASEACA

The ASEACA programme, the third component of PREACTS (PREZODE's first operational programme), illustrates the co-construction approach promoted by CIRAD through the ImpresS method. Partners in the three target regions (Southeast Asia, southern and East Africa and the Caribbean) made a prior commitment to define national and local priorities and co-draft a project proposal. In 2025, national and local workshops were held for decision makers, researchers, human and animal health services, environmental players and territorial representatives. Using the ImpresS methodology (shared vision, analysis of obstacles, identification of changes and levers), they produced roadmaps tailored to socioecological contexts and coordinated with national zoonosis and One Health plans. Between the workshops, work to capitalise on and model impact pathways served to consolidate proposals, integrate transverse issues (gender, climate, science-policy dialogue) and avoid duplications. This multi-level process, backed by regional workshops, fosters institutional appropriation of One Health approaches, their inclusion in public policy and a long-term commitment to South-South cooperation on the part of national and regional networks. ■

GUINEA

How should we respond to zoonotic disease emergence? A serious question…

Forest Guinea is particularly hard hit by haemorrhagic fever viruses, due to close contacts between local communities and wildlife, and to its isolated villages. Several projects led by CIRAD in the region have attempted to find solutions to such epidemics using the One Health approach. Three junior scientists supervised by Marie-Marie Olive, an epidemiologist with UMR ASTRE at CIRAD, present their work. Three questions for **Maxime Tesch**, (PhD student with UMR ASTRE, author of a thesis on the co-construction of a community-based surveillance systems in Forest Guinea), **Saa André Tolno** (veterinarian and teacher-researcher at the Institut supérieur des sciences et médecine vétérinaire in Dalaba, Guinea, who has worked on rapid response mechanisms in the face of zoonotic disease emergence), and **Mathias Talla Mba** (PhD student in health ecology and epidemiology with UMR ASTRE).

How did you work to co-build a surveillance system in Forest Guinea?

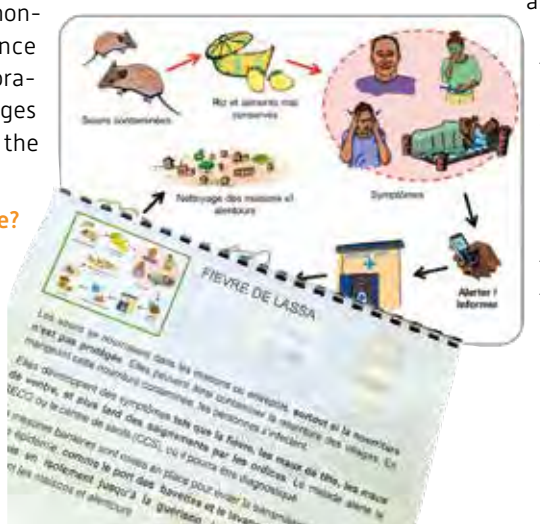
Maxime Tesch: My thesis, which I defended in November 2025, focused on the early detection of zoonotic diseases affecting humans, domestic animals and wildlife, in a context marked by major epidemics such as Ebola and by the isolation of many communities. We chose to work with players who were already present and legitimate locally—healers, matrons, hunters, livestock farmers and community workers—rather than setting up new structures. By means of participatory workshops, we discussed the diseases to be monitored, warning signs, means of passing on information and the first steps to be taken. One of the results was the co-construction of a key tool: a "picture box" suited to the local context. Our work demonstrated the importance of surveillance anchored in communities, that is collaborative on every level, and also the challenges of sustainability and of articulating the research calendar and local realities.

How did you work on an epidemic response?

Saa André Tolno: We worked in the EBOSURSY project pilot zones (Temèssadou and Guendembou). The response combines local preventive, curative and social measures to manage diseases or epidemics. Through semi-structured interviews and focus groups, we worked with community players (veterinary, environmental and health workers, hunters, lumberjacks, matrons and healers) on local response operations. We reported, triangulated and validated the information gathered with them. Some 50 players, including from civil society and NGOs, then took part in a co-construction workshop in Guéckédou to design response models: who raises the alarm? Who takes action? How? These models, illustrated by cases such as Lassa fever or Ebola, demonstrated iterative responses anchored in communities, the efficacy of which rests on synergy between players, interdisciplinarity and local involvement, a key condition for combating epidemics long term.

What is "Alerte" and how does it boost disease surveillance?

Mathias Talla Mba: Alerte is a collaborative serious board game designed to improve zoonotic disease surveillance using the One Health approach. It was developed by CIRAD, WOAH and their partners, with the game designer Bioviva, and brings together players from the human health, animal health and wildlife sectors and civil society. Using a board and interactive cards, the game serves to simulate the surveillance chain following a warning linked to a health event, from a local to a central level, illustrating the roles and responsibilities of the different players in the surveillance system and how health information circulates. Players must talk to each other, share their experiences and make collective and inter-sectoral (bonus) decisions to prevent epidemics. An "emergence cursor" serves to track their progress, and it must not reach the critical epidemic stage. The game is for between two and nine players, and each round lasts between 15 minutes and an hour. The game initially centred on haemorrhagic fevers after Ebola, but can be adapted to other infectious diseases. It is now distributed via training courses for supervisors, and is an innovative tool to help people really take on board the concept of collaborative surveillance and the One Health approach. ■



"Picture box" © CIRAD

CAMEROON

Decompartmentalising, to anticipate health crises more effectively

Organisational and technical innovations within farming systems can help to reduce health vulnerability while improving people's livelihoods. In December 2025, around 50 players from research, public institutions, agricultural value chains, firms and community organisations met in Kribi, Cameroon, to co-construct a zoonotic health crisis prevention strategy, as part of the AfriCam project coordinated by CIRAD.

The Kribi participatory workshop aimed to lay the foundations for a prevention system based on inter-sectoral and community cooperation. The initiative was led by IRAD, CIRAD, UMR Innovation and several universities in Cameroon and elsewhere, and based on the One Health approach, which articulates human, animal and environmental health, to anticipate and manage the health risks linked to farming practices, human activities and ecosystem transformation. More than 50 participants representing ministries, territorial authorities, professional organisations, firms from the cocoa, rubber and oil palm value chains and local associations took part in the discussions.

Undeniable interdependence

The work presented, notably resulting from five theses completed in Cameroon and elsewhere, underlined the close interdependence between human health, biodiversity and soil health. It stressed the central role of human activities in building bridges that favour zoonosis emergence or re-emergence. The discussions also covered the challenges linked to vector control, chemical pesticide use, rapid anthropisation of forest areas and the health risks associated with certain eating habits, while exploring alternatives such as biopesticides.

The drawbacks of compartmentalisation

Through a collective analysis of concrete prevention actions (awareness raising, mosquito control, sanitation), the participants revealed interactions, albeit limited ones, between public services, research, agricultural value chains and civil society. The public authorities prioritise capacity building and application of regulatory frameworks, while agricultural and community players focus on good practice, protective equipment and endogenous know-how.

An analysis by value chain revealed specific challenges, notably the ecological and health effects of pesticides in cocoa, parasitic plant management in rubber plantings, and alternative preventive practices in oil palm plantings. Across the board, sectoral compartmentalisation and a lack of formal coordination mechanisms are the main obstacles to effective prevention. However, the workshop served to initiate a collective dynamic, illustrated by the creation of an inter-sectoral communication space, the first step towards the long-term operationalisation of the One Health approach in Cameroon. ■

ludovic.temple@cirad.fr

© R. Belmin, CIRAD

Find out more

Key publications and resources

A new definition of human health is needed to better implement One Health, Lefrançois, Thierry *et al.*, *The Lancet*, Volume 406, Issue 10504, 672-675

https://doi.org/10.1016/S0140-6736(25)01015-3

Promoting stakeholder awareness, collaboration, and engagement in One Health surveillance with a serious game, M-M. Olive, S-A. Tolno, B. Lafia, I. Ndong Bass, M-A. Barry, M. Talla Mba, E. Laury, H. De Nys, A. Ayouba, V-Y. Guigma Wendmisida, F. Diaz, M. Bourgarel, S. Muset, M. Peyre, *One Health*, 2025

https://doi.org/10.1016/j.onehlt.2025.101257

Understanding stakeholder relationships and local context to build a community-based One Health surveillance system in Guinea, M. Tesch, A. Touré, S-A. Tolno, H. De Nys, M. Bourgarel, M-A. Barry, M-I. Doumbouya, M. Peyre, M-M. Olive, *One Health,* 2025

https://doi.org/10.1016/j.onehlt.2025.101117

Rapid response to hemorrhagic fever emergence in Guinea: community-based systems can enhance engagement and sustainability, S-A. Tolno, S. Thys, A. K. Keita, M. Tesch, C. Bâtie, V. Chevalier, M-M. Olive, *PLoS One*, September 8, 2025

https://doi.org/10.1371/journal.pone.0321164

"L'accord international sur les pandémies ne doit pas manquer son objectif", op-ed published in the *Le Monde* newspaper on 7 April 2025 by a group of researchers and players engaged in negotiating the Global Pandemic Agreement, including, from CIRAD: E. Claverie de Saint Martin, F. Goutard, T. Lefrançois, M. Peyre, N. Vachiery

One Health commitments to pandemic prevention in practice, M. Peyre, D. Rabold, N. Jamal, S. Chungong. *Nature.* Under Review (2026)

An atlas to understand the One Health concept

The One Health Atlas offers a comprehensive framework to address current health challenges, demonstrating how human, animal, plant and environmental health are deeply interconnected. It is intended to aid understanding and dialogue, and aims to go beyond sectoral approaches in order to pinpoint the ecological, social, economic and political factors that determine health crises. The atlas is based on concrete examples from different geographical contexts, in the global North and South. It highlights the central role of territories, farming and food systems, biodiversity dynamics and social inequalities in the emergence and management of health risks. More than just a reference book, the One Health Atlas aims to be an operational support for research, training and decision making. It fits neatly into current international dynamics, in line with prevention programmes such as PREZODE, with the work led by the World Health Organisation to boost equity and security in terms of future pandemics, and with the discussions to prepare for the upcoming One Health Summit. It contributes to the debate by calling for stronger inter-sectoral governance, involvement of grassroots players and coordination of scientific knowledge and public action.

françois.roger@cirad.fr

One Health Atlas, Roger F., Olive M.-M., Peyre M., Pfeiffer D., Zinsstag J., eds. 2025., éditions Quæ, 208 p.
https://doi.org/10.35690/978-2-7592-4027-2

CIRAD's research centres on six priority research topics, to address the main current global issues. In response to the challenges of biodiversity protection and climate change, the organisation is focusing its activities on three key fields: sustainable food systems, the agroecological transition, and the One Health approach. Its research is primarily conducted on a territory scale, by means of collective action with and for local communities, since that is the ideal level to guarantee optimum impact.

Research is helping the EU fight deforestation

The EU Deforestation and Forest Degradation Regulation (EUDR) intends to ban products made using raw materials from deforested areas on the EU market. A consortium of scientists led by CIRAD is working to anticipate its planned rollout in 2026.

A. Rival © CIRAD

The EUDR will ban imports of products that have contributed to deforestation post-2020. Cocoa, coffee, palm oil, soybean, rubber, beef and wood are the value chains currently concerned, but the regulation should subsequently be extended to other agricultural products and ecosystems. While the ecological aim is clear, the task ahead is complex. The regulation relies on a single definition of "forest" based on height and tree cover thresholds, which does not work for some biomes: certain natural ecosystems would be classed as degraded, while invaded forests could be seen as "improved". To remedy this, CIRAD scientists and their peers recommend setting specific references for each biome, to distinguish between preserved and degraded zones.

The regulation also raises a major social issue: the traceability it requires risks excluding millions of small-scale producers in the global South, who do not always have access to geolocation technology. CIRAD has warned of the impact on small family farms (and value chains such as cocoa, rubber and coffee), and is working on solutions such as participatory guarantee systems that are more accessible than conventional certification schemes.

To be effective, the drive to combat deforestation must also encompass environmental demands, economic realities and social justice. ■

julie.betbeder@cirad.fr

Banana flowers and fruits © F.-C. Baurens, CIRAD

A major step forward for banana varietal breeding

Cultivated bananas are the result of hybridisation primarily involving nine wild species, forming genomic mosaics. Following the sequencing of the first genome in 2012, the Génoscope went on to sequence the seven ancestral groups, taken from CIRAD's biological resource centre in Guadeloupe, in 2016. However, for one of them, referred to as the "unknown genome", there was no "pure" representative in the collections. The researchers nevertheless managed to reconstruct the sequence of this unknown genome from a hybrid that contained part of it. These complete genomes are now serving to pinpoint genes linked to yields, disease resistance and postharvest quality, which is a major issue in the light of *Cercospora* leaf spot and TR4 Fusarium wilt. The results of this research have been published in *Nature Communications*. ■

angelique.dhont@cirad.fr

Unravelling genomic drivers of speciation in Musa *through genome assemblies of wild banana ancestors.* Martin G., Istace B., Baurens F. C., Belser C., Hervouet C., Labadie K., Cruaud C., Noël B., Guiougou C., Salmon F., Mahadeo J., Ahmad F., Volkaert H. A., Droc G., Rouard M., Sardos J., Wincker P., Yahiaoui N., Aury J. M., D'Hont A.. 2025. *Nature Communications*, 16 (1):961, 14 p. https://doi.org/10.1038/s41467-025-56329-4

The latest news of the debate on land sparing vs land sharing

Should we be intensifying farming in some areas to "free up" others for nature, or introducing biodiversity into agricultural landscapes? CIRAD researcher Damien Beillouin sheds light on the notorious land sparing versus land sharing debate, based on agricultural science. This controversy highlights the urgent need to reconcile productivity, biodiversity and social justice.

For some twenty years, the debate on land sparing vs land sharing has pitted intensifying agriculture to preserve natural zones against integrating biodiversity and production on the same land. For Damien Beillouin, an agronomist and data analyst at CIRAD, compromises between agricultural yields and biodiversity are far from systematic: they are highly dependent on farming practices, ecological situations and scales of analysis. He is calling for agricultural, social and economic aspects to be brought back into the debate, along with grassroots realities. Protecting a given zone is not enough to ensure that it is actually preserved: that takes resources and governance and means empowering local communities.

At the same time, intensification has not prevented the spread of agricultural expansion: rebound effects, population growth and increased demand have continued to fuel deforestation. The high-yielding model defended by those in favour of land sparing rests on a productivist rationale that has now clearly reached its limitations. CIRAD's research has shown that land sharing can enable good yields: agroforestry, diversification and integrated pest management combine productivity, profitability, climate resilience and benefits for biodiversity. Any approach that does not encompass inequalities, land rights and community participation is doomed to fail. ■

damien.beillouin@cirad.fr

D. Beillouin, S. K. Jones, B. Rapidel, N. Estrada-Carmona. Beyond yields: a systems approach is essential for reconciling agriculture and biodiversity. *Philos Trans R Soc Lond B Biol Sci* 14 August 2025; 380 (1932): 20250257. https://doi.org/10.1098/rstb.2025.0257

Agricultural plot in Madagascar © L. Fertin, CIRAD

The origins of sugarcane

The origin of sugarcane, which accounts for 80% of global sugar production, has at last been revealed thanks to a genome analysis conducted by CIRAD. Researchers have confirmed that *Saccharum officinarum* was domesticated 8000 years ago in New Guinea, from *S. robustum*. They have also revealed the contribution of an unknown wild ancestor, probably from Melanesia, which is found in most modern varieties. Wild species are a crucial source of genetic diversity with a potential for use in coping with climate change. It is therefore vital to identify the unknown ancestor, since it may provide precious alleles for developing more resilient varieties. ■

olivier.garsmeur@cirad.fr

Sugar cane prospecting in Polynesia © M. Vitrac

More participatory water management

The Morocco International Agricultural Show (SIAM) was held in Meknes from 21 to 27 April. CIRAD participated, alongside its partners, and took the opportunity to discuss the shared challenges facing agriculture in the Mediterranean, including water management.

https://egroundwater.com/fr/

The eGroundwater project is funded by the EU.

sandrine.dury@cirad.fr

Zhour Bouzidi, a sociologist and agricultural engineer at Moulay Ismaïl University in Meknes, is coordinating the work being done in Morocco by the eGroundwater project, in association with CIRAD. She describes the country's critical water situation: six consecutive years of drought, with rising temperatures and decreasing rainfall have exacerbated the pressure on water resources, while agricultural intensification and urbanisation have increased demand. Water-intensive export crops have exhausted groundwater reserves, despite investment in dams, desalination and waste water recycling. Zhour Bouzidi is calling for a clear diagnosis of the water situation in Morocco and a rethink of its export-oriented agricultural model.

The eGroundwater project, in Morocco, Algeria, Spain and Portugal, is promoting participatory management of groundwater supplies, which is often hampered by insufficient access to information. In three rural communities in Sefrou province, locally-made probes, which are 90% cheaper, are enabling participatory groundwater supply monitoring. Farmers and scientists are working together to programme irrigation and prevent droughts. This has resulted in proposed "groundwater contracts", involving users, local authorities and institutions, which were presented at the Morocco International Agricultural Show. ■

Transforming farming and food systems in response to climate change

Farming, food and forestry systems are both sources of CO_2 and victims of climate change. In the run-up to COP30 in Belém (Brazil), CIRAD published a position paper calling for a profound transformation. The paper, based on the collective publication "Climate Impacts and Challenges in Agriculture, Forests and Food Systems: Perspectives on the Global South", suggests three levers for action: innovating through agroecology, agroforestry and varietal breeding, managing resources better by means of integrated territory-based approaches, and stepping up climate action via inclusive policies in support of family farming. CIRAD is calling for funding to be reoriented, for stronger links between science and decision making, and for the development of tools and databases to inform climate policy. ■

vincent.blanfort@cirad.fr

Millet field in an agroforestry system, Bambey region, Senegal
© C. Dangléant, CIRAD

Climate Impacts and Challenges in Agriculture, Forests and Food Systems: Perspectives on the Global South, coordinated by Vincent Blanfort, Julien Demenois and Marie Hrabanski, Springer (2026).

Open access to the book:

Using mapping to support forest management

An international scientific team including CIRAD worked to map the world's tropical forests, combining tree functional traits and satellite images with AI. The Amazon has 40% more functional richness than Africa and Asia, while African forests are more specialised and thus potentially more sensitive to climate change. These data are crucial for including diversity in climate models, adjusting forest management and anticipating ecosystem adaptation in response to climate change. ■

bruno.herault@cirad.fr

Aguirre-Gutiérrez, J., Rifai, S.W., Deng, X. *et al.* Canopy functional trait variation across Earth's tropical forests. *Nature* (2025). https://doi.org/10.1038/s41586-025-08663-2

Jesús Aguirre-Gutiérrez *et al.*, Tropical forests in the Americas are changing too slowly to track climate change. *Science* 387, eadl 5414(2025). DOI:10.1126/science.adl5414

Carbon credits: preserving mature trees

A new global analysis has revealed that while they incentivise the planting of new trees, sustainable coffee and carbon-capture initiatives fail to reward the preservation of mature shade trees in existing agroforestry farms, despite their far greater carbon storage potential.

A study published in the journal *Communications Earth & Environment* shows that existing shade trees in coffee plantings store much more carbon than reforestation projects would be capable of capturing. It was led by NZCBI, STRI and CIRAD, and showed that felling those trees to plant new ones to generate carbon credits would emit double the CO_2 the new plantings could capture. Current carbon markets compensate coffee farmers for planting new trees but not for protecting standing trees, creating a paradox: they may be an incentive to replace carbon-rich mature trees with young trees that are considerably less efficient.

The figures speak for themselves: globally, coffee farms cover more than 10 million hectares and store 482 million tonnes of carbon. Even if all monoculture farms added shade trees, they would capture only 82-87 million additional tonnes of carbon, while converting current agroforestry systems to monocultures could release 174-221 million tonnes. These results are based on an analysis of 67 studies covering the entire range of coffee systems, from "sun coffee" to coffee under a canopy of native forest trees.

The authors are calling for a reform of carbon markets to reward protecting existing shade trees and support small farms. ■

damien.beillouin@cirad.fr

Pappo, E., Cook-Patton, S., Beillouin, D. *et al.* Carbon payment strategies in coffee agroforests shape climate and biodiversity outcomes. *Commun Earth Environ* 6, 661 (2025). https://doi.org/10.1038/s43247-025-02574-w

Coffee plantation in Nicaragua © B. Bertrand, CIRAD

Acknowledging gender makes for fairer, more relevant science

A book, *"Le genre en recherche"* (Gender in research) suggests ways of including gender in science, to improve the quality of research and scientists' quality of life. Focus on food systems with one of the book's coordinators, Magalie Jannoyer, agronomist and CIRAD Regional Director for the West Indies-French Guiana.

The book (in French), published by Editions Quae, is available as a free EPUB:

For CIRAD, it is vital to acknowledge gender in research on farming systems in the global South. Men and women have different roles on farms, and it is crucial to understand those roles, in order to determine how food systems function and identify suitable levers for action. In sub-Saharan Africa, for instance, most postharvest operations are done by women, including processing and trading. Overlooking women in research projects means incomplete or ineffective results. Varietal breeding programmes are a good example: for many years, they focused on yields, and overlooked how the products harvested were subsequently used. However, if a new tuber takes twice as long to cook, it is not likely to be adopted, since this is a crucial criterion for women as they are the ones who prepare food.

Female researchers in an experimental plot to test insect netting, in Senegal
© R. Belmin, CIRAD

Acknowledging gender does not just ensure greater impact for research, it makes women more visible and empowers them. Seeing gender as a research topic in its own right has also served to question research methods and workplace inequality within institutions, making for more inclusive, relevant practices. ■

magalie.jannoyer@cirad.fr

Chickpea harvest in the village of Lakhtoute, Morocco
© Wissal Msellek, Polydisciplinary Faculty of Larache

The importance of crop diversity for food supplies

At the Morocco International Agricultural Show, Salama El Fatehi, a researcher at Abdelmalek Essaadi University in Larache and member of the ARISER project on seed circulation in semi-arid zones, stressed the importance of crop diversity in the face of climate change. Agricultural intensification has reduced that genetic diversity by favouring a few productive seed varieties, leading to the disappearance of resistant local varieties bred by farmers over generations. The ARISER project is working to identify resilient local varieties in Morocco, Senegal and Madagascar and promoting diversity, short circuits and public policies that favour food security and promote farmers' knowledge. ■

vanesse.labeyrie@cirad.fr

Improving nutrition: when research informs public action

Nearly half of the global population lacks access to healthy food. The EU, via the Nutrition Research Facility and Agrinatura, is helping governments worldwide to integrate nutrition issues into their policies, programmes and projects, backed by research.

Find out more:

The EU's Nutrition Research Facility (NRF) is conducting in-depth studies in around ten countries, to inform nutritional policies based on scientific data. Over the past two years, the NRF team, led by CIRAD, has been consulting national policymakers, European delegations and cooperation services to pinpoint their knowledge requirements. Nutrition is no longer seen as merely a health issue: it concerns agriculture, education and social affairs, although those sectors are often unsure what levers should be used. The NRF is working to strengthen the link between scientists and policymakers, as part of the EU Knowledge and Research for Nutrition project (2020-2026) led by Agrinatura and involving five European universities and research centres. Some 15 multidisciplinary studies are underway, centring on foods intended for local consumption.

People working in nutrition are calling for scientific knowledge in this field
© R. Belmin, CIRAD

Two studies illustrate this work. The first assessed the efficacy of sanitary regulations in West and East Africa. In Ivory Coast and Kenya, there is substantial contamination due to poor hygiene and inadequate processing techniques. Laws exist, but their implementation is insufficient, highlighting the need for inclusive regulatory processes. The second study looked at agroecology in urban areas in Senegal. In Dakar and Thiès, it found levers for improving nutrition: increasing the number of points of sale, developing spaces for exchange and awareness raising, setting aside land for urban gardens, supporting local public procurement operations, and strengthening value chains to guarantee volumes, diversity and accessibility. ■

arlene.alpha@cirad.fr

Cowpea flower. Cowpea is a white bean that originated in tropical Africa
© Hg Sanguere

Find out more:

Nuggets of treasure

The LegAE project, coordinated by CIRAD, worked for two years to study the development of legume crops in Benin, Senegal, Burkina Faso and Ethiopia, analysing production, processing and consumption. Legumes have already proved their worth in terms of yields and nutrition. However, they often take a long time to prepare and may contain undesirable elements such as mycotoxins, which limits their use. Innovative processes and equipment such as the "niébétruck" are now improving hygiene, marketing and women's work, boosting food security and promoting the local culinary heritage. ■

julie.dusserre@cirad.fr

The LegAE project was funded by the French Ministry of European and Foreign Affairs solidarity fund for innovative projects (FSPI).

Pooling knowledge to support agroforestry

A two-year university diploma course brought together students, farmers practising agroforestry and scientists, to exchange their experiences and co-construct new knowledge. The participants are now disseminating agroforestry practices.

Around Belém, in Pará state, Brazil, farmers are adopting agroforestry to restore degraded soils, secure food production and diversify their sources of income. The systems being studied since 2016 follow two main models: on the one hand commercial agroforests with few species and high chemical input use, and on the other ultra-diversified agroforests, with up to 70 tree species per hectare, run by Amerindian, Afro Brazilian and farming communities, for food, trade and other local uses.

The Refloramaz project, led by Brazilian universities and CIRAD, organised a travelling course blending scientific and traditional knowledge and involving farmers, students, teachers and social leaders. The different modules covered soil health, genetic breeding, cropping techniques, food processing, and governance. This inclusive approach served to build a network of agroforestry leaders capable of passing on their knowledge, co-constructing operations with local institutions, and influencing public policy. The participants set up "living labs" to test and share agroforestry practices. The course showed that dialogue between science and knowledge fosters environmental restoration, community independence, and resilience to climate issues, while strengthening participation and local leadership. ■

emilie.coudel@cirad.fr

The course on Environmental restoration and agroforestry systems in the Amazon was a university course offered by the Federal University of Pará, the Federal University of Amazonas, EMBRAPA and CIRAD between 2024 and 2025, as part of the EU-funded Sustenta&Inova project.

Group work to set up a new agroforestry system © I. Moreira, Refloramaz

Breaking the "scaling up" stalemate, changing tack

The promise of a "change of scale" is not enough to transform development. Instead, this new edition of *Perspective* calls for "contamination" between scales, giving territories a key role in mediation and blending adjustments and experiments. The example of Massaroca, in Brazil, shows how a local initiative may reveal land tenure issues, influence regional policy and fuel reform. Change is not just a matter of replication, but of learning, mediation and territorial appropriation. ■

patrick.caron@cirad.fr

Caron, P. (2025). Breaking the "scaling-up" stalemate. *Perspective* (65), 1–4. https://doi.org/10.19182/perspective/37911

New gender-smart approaches

Women make up some 40% of the active farming population in the global South. However, despite that high percentage, too little is still known about their activities. Research has to fill this gap.

Women provide a huge proportion of agricultural labour. They also play a major role in food systems. Since 2020, CIRAD has been building on the experience of a Community of Practice (CoP) on gender in research content. For the 70-odd members of the CoP, the challenge is to design and roll out new gender-smart approaches. The first stage consisted in documenting the different ways in which the establishment's scientific projects address gender issues. Although there are still some major difficulties, significant progress has been made.

The CIRAD "gender" CoP aims to highlight rural women's roles, constraints and opportunities, which are not reflected in conventional, often gender-blind projects, the results of which are consequently false. The RELAX Project in Burkina Faso, for instance, showed that women contribute to food production and management, with a direct impact on household dietary diversity. The CoP suggests a reflective interpretation framework to assess the gender awareness of projects, which would ensure more comprehensive, accurate results and enable more enlightened policy decisions. ■

emmanuelle.bouquet@cirad.fr

Market gardeners in the Senegal River valley
© R. Belmin, CIRAD

Promoting community forest management in Guatemala

Guatemala is fast losing its forests, which are under threat from fires, crop and animal farming, climate change and illegal use, against a backdrop of poverty and inequality affecting its indigenous communities. The ConForMa project, in the heart of the Selva Maya, is working to promote community forest management (CFM), a model that ensures almost zero deforestation. It aims to secure the future of CFM, improve consultation within territories, and promote CFM on a global scale. ■

marie-ange.ngo_bieng@cirad.fr

ConForMa is funded by the Fonds français pour l'environnement mondial (FFEM) and supported by the French Ministry for Ecological Transition (MTE).

Find out more:

Macédoine Cortave, Director of the Petén community forest association (ACOFOP) and CIRAD CEO Elisabeth Claverie de Saint Martin, sign the CIRAD- ACOFOP bilateral agreement supporting the ConForMa project on 18 September, in the heart of the Maya Biosphere Reserve in the Petén region
© CIRAD

Using agroecology to fight child malnutrition in Laos

In rural parts of Laos, 30% of children suffer from chronic malnutrition. The main culprit is often poor dietary diversity. The Nutrition Sensitive Agroecology project (NSAE)* is developing agroecology solutions to improve access to a more varied diet.

In rural parts of Laos, almost 30% of children suffer from chronic malnutrition, caused by poor dietary diversity due to limited access to vegetables, fruits, seeds and legumes. This is compounded by the price rises seen since the Covid-19 crisis. The NSAE project is working in four villages to boost dietary diversity via agroecology and community participation. Inclusive tools—games, mapping and co-construction—are being used to understand dietary practices, promote local know-how and identify appropriate solutions.

This has pinpointed three major issues: child nutrition, agricultural production, and access to markets. Women, who are largely taken up with domestic and agricultural tasks, do not always have time to prepare varied meals. NSAE is therefore disseminating nutritional information, organising cooking workshops and supporting the setting up of nurseries. On an agricultural level, families are working with agronomists to test agroecological techniques such as intercropping, mulching and using more appropriate varieties, to cope with water shortages and pests. Difficulties accessing markets, due to transport issues and unexploded ordnance, have prompted some villages to organise collective buying groups.

By combining sustainable production, better access to food and nutritional action, the project is helping to make rural communities more independent and resilient. ■

Woman farmer from Ban Na village, working as part of the "Photovoice" activity organised by the NSAE project © Mivang and Nousong, NSAE project, 2025

alissia.lourme-ruiz@cirad.fr

*NSAE (Nutrition Sensitive Agroecology) is an initiative launched by the EU Nutrition Research Facility (see page 23: Improving nutrition: when research informs public action)

Find out more:

More accurate agricultural yield estimates

A study coordinated by CIRAD and published in *Nature Food* raises the alarm about the methods currently used to estimate agricultural yield potential. Depending on the regions concerned, statistical methods over- or under-estimate yields, producing contradictory and unreliable results. The study's authors recommend using local models that encompass climate and soil data, such as the one proposed by the Global Yield Gap Atlas. These more detailed approaches provide more coherent and agronomically relevant estimates that serve to identify zones that have almost reached their potential and others where there is still room for long-term gains. ■

antoine.couedel@cirad.fr

Couëdel, A., Lollato, R.P., Archontoulis, S.V. *et al.* Statistical approaches are inadequate for accurate estimation of yield potential and gaps at regional level. *Nature Food* (2025). https://doi.org/10.1038/s43016-025-01157-4

Sorghum © A. Couedel, CIRAD

Quality seeds for farmers in Madagascar

The FOOD-SEC Semence project has worked for four years to strengthen seed value chains in Madagascar, Mauritius, the Comoros and the Seychelles. In Madagascar, 30 t of improved maize seeds and new bean, cassava and potato varieties have been disseminated, to ensure improved yields and resistance. The project has modernised laboratories and greenhouses, trained more than 400 farmers in agroecological practices, and encouraged regional cooperation, plant material exchanges and technology transfers. It has laid the foundations for a regional sustainable seed network. ■

jeremy.salinier@cirad.fr

Find out more:

Seeds of one of the new maize varieties developed as part of the FOOD-SEC Semence project
© M. Rananja, CIRAD

Tree crops, a lever for meeting the Sustainable Development Goals

An op-ed published in *Nature Sustainability* by an international team including CIRAD researchers highlights the untapped potential of tree crops to conserve biodiversity, boost socioeconomic development and mitigate climate change.

Tree crops–olive, coffee, cocoa and fruit trees–cover more than 183 million hectares worldwide, but have been largely left out of agricultural policy, in spite of their vital role in achieving the SDGs. A study published in *Nature Sustainability* highlights the fact that they are not just crucial for global food supplies, but also have huge potential to protect biodiversity, capture carbon and improve living conditions worldwide. If managed properly, such systems reduce erosion, stabilise habitats and produce almost a billion tonnes of food a year, as shown by tropical coffee and cocoa agroforestry systems.

However, price volatility is a threat to their long-term future: when they become less profitable, these crops are abandoned or intensified, at the expense of the environment. Current policies favour annual crops, which have limited ecological benefits due to their short cycles and simple structure. Tree crops, on the other hand, by virtue of their permanent root systems and abundant leaf litter, enrich soils, strengthen the connections between habitats and provide rural jobs. The authors are calling for specific policies: economic incentives, appropriate international regulations, support for sustainable practices, and restoration of natural habitats. It is vital to recognise the merits of tree crops for ensuring a fairer, sustainable future. ■

jacques.avelino@cirad.fr

C. Martinez-Nuñez, E. Velado-Alonso, J. Avelino, P. J. Rey, G. M. ten Hoopen, G. Pe'er, Yi Zou, Yunhui Liu, P. Antwi-Agyei, A. Rusch, C. Staver, T. S. Priyadarshana, D. J. Sonwa, D. Buchori, L. A. Garibaldi, E. D. Concepción, O. T. Lewis, I. Perfecto, I. Bartomeus. Tailored policies for perennial woody crops are crucial to advance sustainable development. *Nature Sustainability.*

A coffee-based agroforestry system in Costa Rica
© J. Avelino, CIRAD

Community-based monitoring to detect zoonoses in Guinea

This work is being done in association with the PREZODE initiative for pandemic prevention, via the EBO-SURSY, BCOMING and Afri-Cam projects. These programmes are funded by the European Union, the World Organisation for Animal Health and the Agence française de développement in particular.

Preventing epidemics requires early detection followed by rapid, effective steps. This means coordinating local communities and the authorities, which are often some distance away, and training the communities that are most exposed.

Guinea has seen several emerging disease epidemics since Ebola in 2014, demonstrating the need to involve local communities more in prevention systems. Early warning and response systems have improved since then. One Health platforms have been set up to facilitate exchanges between the agricultural, environmental and public health sectors. However, local communities, who are the first to be affected in the event of an epidemic, are largely excluded from conventional prevention systems. They are not often consulted, and have difficulty making themselves heard.

On the fringes of Guéckédou prefecture, Forest Guinea
© M. Tesch, CIRAD

In Forest Guinea, where haemorrhagic fevers and malaria are common, isolation, the lack of resources and the degree of contact with wildlife all increase the risks. Scientists are working with local people to set up community-based monitoring systems, based on community members trained to detect low-level signals and risky practices. Those agents also serve as relays to report on local people's material and health needs.

The success of this approach depends on close coordination between communities, veterinary services, local authorities and international projects, to adapt response strategies to grassroots realities and strengthen the One Health approach. ■

maxime.tesch@cirad.fr

Reassessing the health risks of urban agriculture

Since the early 1990s, France has been inventorying sites polluted by trace elements such as lead and arsenic. Urban agriculture on polluted soils poses a health risk that is often not accurately assessed, since soil-plant transfers depend on a number of factors. New methods are therefore required to assess that risk more effectively, and that is what a partnership between the environmental engineering firm Ginger BURGEAP, INRAE and CIRAD set out to develop, based on the Rhizotest, a laboratory biotest used to assess trace element transfers from soil to plants via a standard method that is easier and quicker than field trials. The Agence de l'environnement et de la maîtrise de l'énergie (ADEME) is supporting its applied development, via the PHYSALIS project, which will serve to interpret measurements and predict the actual risk, in order to support safe urban agriculture. ■

matthieu.bravin@cirad.fr

Plants in a RHIZOtest. The RHIZOtest is a laboratory biotest for assessing trace element transfers from the soil to a plant
© C. Dangléant, CIRAD

Find out more:

A study to find out more about HLB, a global threat to citrus fruits

Citrus fruits, the world's number one fruit crop, are under threat from Huanglongbing (HLB), which is caused by bacteria of the genus *Candidatus* Liberibacter, transmitted by two species of psyllid insects. HLB is currently present in most of the major citrus-producing countries, including three of the French overseas departments, and devastates both orchards and yields. The CIRAD study of numerous samples showed that *Ca.* Liberibacter asiaticus (CLas) was the most problematic species worldwide, while there was very low bacterium diversity in the French West Indies and high diversity in Réunion, suggesting a re-emergence of past epidemics. The challenge today for these three overseas territories is deciding whether and where to replant. CIRAD is assisting this process. Research is focusing on genetic resistance, innovative rootstocks and early detection. ■

virginie.ravigne@cirad.fr

Citrus plantations affected by HLB in Guadeloupe
© B. Hufnagel Maciel, CIRAD

A holistic vision of human health

An article in the journal *The Lancet*, by human, animal and environmental health specialists working at the interface between science and policy, calls for a redefinition of human health.

In its 1948 Constitution, the World Health Organization (WHO) defined health as "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity". At the time, this was relatively innovative, but since then, the challenges and context have changed considerably.

The authors of the *Lancet* article, including Thierry Lefrançois, member of COVARS and advisor to the CEO of CIRAD, call for a holistic vision of human health. The aim is to see health as inseparable from climate, environment, biodiversity, agriculture and food systems, in order to generate co-benefits for humans, animals, plants and ecosystems. The new definition should drive policies that strengthen prevention, include environmental and health costs in trade, promote interministerial governance of the living world and support research at the interface between science and policy. Its construction will require a multipartite process involving the Food and Agriculture Organization of the United Nations (FAO), WHO, the World Organisation for Animal Health (WOAH) and the United Nations Environment Programme (UNEP), as well as intergovernmental platforms such as the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

The new definition of health will also need to reflect political determinants, which have a major impact on health today. There can be no health without peace. ■

thierry.lefrancois@cirad.fr

Th. Lefrançois, J.-L. Angot, B. Autran, S. A Bukachi, É. Claverie de Saint Martin, P. Giraudoux, E. Lefrançois, B. Lina, Khuat Thi Hai Oanh, D. O Obura, J.-F. Delfraissy, A new definition of human health is needed to better implement One Health, *The Lancet*, Volume 406, Issue 10504, 2025, Pages 672-675, ISSN 0140-6736.
https://doi.org/10.1016/S0140-6736(25)01015-3.

A. Rival © CIRAD

Regional offices

CIRAD conducts research operations in partnership through its regional offices in the French overseas regions and other countries.

Those offices report regularly on its research work via their own media, websites, social networks and newsletters to which anyone interested may subscribe. Here is a small selection of their news items…

Southern Africa and Madagascar

Ecofriendly surveillance of African swine fever

African swine fever is a significant threat to family farms in Madagascar. Using camera traps, an unprecedented study revealed discreet interactions between domestic pigs and bush pigs, shedding light on the risks of transmission of this devastating disease.

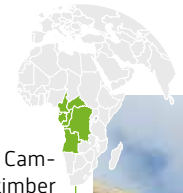
Bush pigs in the forests of Madagascar
© R. Rakotoarivony

A study in western Madagascar looked into the potential role of bush pigs in transmitting African swine fever (ASF), a virus that appeared on the island in 1997 and causes substantial losses on family pig farms. ASF is highly contagious, there are no vaccines available, and the disease causes up to 100% mortality in infected pigs. Although it does not affect humans, it has considerable socioeconomic impact, exacerbating poverty and food insecurity in rural areas. The NIFNAF project, in which CIRAD participated, used camera traps for the first time to observe interactions between domestic pigs and bush pigs, which were suspected of being natural virus reservoirs. Over three months, 26 cameras installed in ten villages in the Menabe and Boeny regions recorded a total of almost 18 000 images over 2600 nights, primarily around watering points and feeding and resting zones. No direct simultaneous interactions were observed between pigs and bush pigs. However, 44 indirect interactions were observed, with the two species frequenting the same sites a few hours apart. Those timings are compatible with the survival in the environment of several pathogens, including the ASF virus, suggesting that there is a theoretical risk of indirect transmission. The zones at greatest risk were at the interface between villages, agricultural zones and natural spaces, particularly near watering points. The study highlighted the fact that deforestation, animal roaming and extensive livestock systems increase the risks. It showed the importance of appropriate biosecurity measures in making rural livestock systems more resilient, although these are difficult for small-scale livestock farmers to implement. ■

ferran.jori@cirad.fr

Central Africa

Sustainable small-scale timber logging



Small-scale timber logging is vital for economic and social life in Cameroon, but remains largely marginal and informal. The freeze on timber exploitation permits (PEBOs) since 2012 has prevented loggers from operating legally, exposing them to precarity and criminalisation. The PROFEAAC Project implemented by CIRAD and its partners from 2020 to 2025 set out to put an end to the paradox by promoting legal, sustainable, recognised small-scale logging in central Africa. By means of a detailed analysis of the value chain, from forests to urban markets, the project revealed the risks of informality: the absence of controls, social injustice, a lack of environmental data, and gradual forest degradation. On the ground, PROFEAAC measured forest degradation using satellite imagery in eight villages in Cameroon, identified more than 70 small-scale logging sites and laid the foundations for environmental monitoring. It also supported forest restoration by distributing practical guides, trained dozens of sawyers in low-impact logging techniques and financial management, and supported the creation of local cooperatives. Lastly, PROFEAAC strengthened local governance. The results show that small-scale logging can be economically viable, socially equitable and ecologically sustainable, provided efforts to formalise, support and regulate it are kept up. ■

guillaume.lescuyer@cirad.fr

Trans-shipment of artisanal sawn wood in northern Cameroon
© G. Lescuyer, CIRAD

West Africa - Forests and Humid Savannah

Mechanisation to foster agroecological transition

Between May and July 2025, three field days organised in Ghana, Benin and Ivory Coast served to test mechanisation solutions suitable for plantain banana producers in West Africa. The days, held under the umbrella of the MECAWAT project and overseen by national research institutions with support from CIRAD, set out to address issues such as the arduousness of the producers' work, the efficacy of cropping operations, and the agroecological transition. The demonstrations concerned light, robust and fuel-saving prototypes designed for family farms: a mechanical weeding system that could be adapted to a rototiller, and a sucker planting tool. More than 50 participants per country—producers, advisors, technicians and researchers—were able to test the equipment and assess its usability, ergonomics, safety and the quality of the work it allowed. These participatory assessments served to pinpoint technical improvements and reveal new requirements, particularly in terms of harvesting, transport and irrigation. They paved the way for small-scale, accessible mechanisation, by means of continued research, funding, and involving local craftspeople. The aim is to offer simple, bespoke solutions capable of improving working conditions for producers long term and supporting agroecological transitions. ■

pauline.pugeaux@cirad.fr

Participants in a field workshop © MecaWAT

West Africa - Dry Zone

Rabies vaccination and prevention in Senegal

Inhabitants, veterinarians and the authorities in Kédougou, eastern Senegal, are working to fight rabies. Free vaccination of dogs and monkeys, community awareness-raising and vaccine supplies are boosting prevention and local health security, with the support of the AfriCam project.

Vaccination against rabies in southeastern Senegal by the AfriCam project © I. Diallo, CIRAD

The fight against rabies was central to the prevention operations carried out at Kédougou, in eastern Senegal, on 28 September to mark World Rabies Day 2025. The event combined community awareness-raising and free vaccination of dogs and monkeys, as well as the provision of rabies vaccines to veterinary posts and human health structures, to improve vaccine cover and facilitate treatment of bites. It was linked to the establishment in Kédougou by the AfriCam project of a community surveillance network and a bite monitoring system, which has since revealed that rabies is still a major risk, exacerbated by the presence of stray dogs and the lack of health monitoring for domestic animals. Between 1 and 27 September 2025, awareness-raising campaigns brought communities on board with home visits, flyers, podcasts and local radio broadcasts. World Rabies Day, organised on 28 September by Agronomes et vétérinaires sans frontières, the Institut Pasteur in Dakar and CIRAD, in collaboration with the health services and local authorities, made it possible to vaccinate more than 200 animals free of charge and supply veterinary services with an extra 500 vaccine doses, and human health structures with 85. The operation improved local people's knowledge of rabies, actively involved communities and the local authorities, and enabled the creation of a long-term monitoring mechanism. The AfriCam project, led by CIRAD and IRD, is the first operational phase of PreACTS (PREZODE in Action in the global South). Its broader aim is to prevent zoonosis emergence and spread by collecting and using data, strengthening multi-sector surveillance and directly involving local people in the detection and notification of unusual health events, thus contributing to global health security and pandemic prevention. ■

jean_hugues.caffin@cirad.fr

East Africa

Inauguration of a state-of-the-art biotechnology centre in Zimbabwe

On 21 May 2025, a state-of-the-art biotechnology centre was officially handed over to the University of Zimbabwe, marking a key stage in scientific cooperation between France and Zimbabwe to benefit research, public health and agriculture.

On 21 May 2025, France officially handed over a state-of-the-art biotechnology centre to the University of Zimbabwe, illustrating the long-term scientific cooperation between the two countries. The centre was funded by France to the tune of 2.8 million euros, and is a modern molecular diagnostic and serological laboratory intended to support disease surveillance, scientific research and innovation in the fields of agricultural and public health. The infrastructure was built in the course of the PACMAN (Platform for Agricultural Capacity building and Molecular diagnostics through Applied Networking) project, with 2 million euros of funding from the Agence française de développement, implemented by CIRAD in partnership with IRD, the University of Zimbabwe and the country's Directorate of Veterinary Services. At the end of the project, management of the centre and all of its equipment were handed over to the University of Zimbabwe. The centre has been open since 2023 at the Faculty of Veterinary Science, and is a major step forward in terms of building national scientific capacity. It was designed as a regional reference centre, and will give both Zimbabwe and the Southern African Development Community access to high-tech equipment, advanced research infrastructures and specialist training. It is intended to become a hub of excellence in terms of animal and zoonotic disease diagnostics and control. The handover was also an opportunity to discuss the expansion of Franco-Zimbabwean partnerships in education, research, and innovation. The project marks the start of a new chapter for Zimbabwe, boosting its scientific autonomy, regional resilience and role in tackling health challenges. It symbolises more than 30 years of fruitful collaboration between France, CIRAD and Zimbabwean institutions in favour of scientific development in Africa. ■

Official ceremony for the handover of the Biotechnology Centre to the University of Zimbabwe. Front row (L to R): Paul Mapfumo, Vice Chancellor of the University of Zimbabwe; Paul Mavima, Minister of Skills Audit and Development; Paul-Bertrand Barets, French Ambassador to Zimbabwe © L. Serpaud, French Embassy in Zimbabwe

martha.katsi@cirad.fr

Mexico, central America and the Andean countries

When cadmium threatens cocoa from the Andes: scientific and territory-based answers thanks to the ClimaLoCa project

In January 2019, the EU imposed strict limits on cadmium contents in cocoa powder and chocolate, prompting importers to prefer beans containing less than 0.5 mg of the heavy metal per kilo. However, in the Andean countries that produce cocoa (Colombia, Ecuador and Peru), natural concentrations often exceed that threshold. The new regulation has had a major impact on cocoa value chains, with worrying economic and social consequences for producers on low incomes, particularly in post-conflict zones. The ClimaLoCa project, implemented by The Alliance of Bioversity International and CIAT between 2020 and 2025 and directly involving CIRAD, set out to address these issues by means of a participatory, interdisciplinary approach associating soil science, genetics, socioeconomics and knowledge dissemination. The project served to (i) analyse the impact of the regulation and produce accurate maps of the risks linked to cadmium and to climate change in the Andes, (ii) develop technical solutions to reduce cadmium accumulation in cocoa beans, notably by adapting farming practices and using suitable genetic material, (iii) promote multi-stakeholder platforms to foster the development and scaling of mitigation strategies, and (iv) improve scientific coordination, data sharing and training, particularly for national analysis laboratories ■

Find out more:

French West Indies, French Guiana and Caribbean

Paracou, a key station for mapping global forest biomass

The Paracou station welcomes the Biomass satellite media and scientific teams © M. Trapon

The Paracou experimental station in French Guiana, managed by CIRAD, is an international reference site for global forest biomass mapping. It plays a key role in calibrating the observation models of the Biomass satellite, launched from the Kourou Space Centre on 29 April by the European Space Agency (ESA). This Earth Explorer mission is intended to measure forest biomass accurately, to better understand the role of forests in the carbon cycle and in climate change. Shortly before the launch, the main ESA scientific team visited the Paracou station, which is part of the GEO-TREES network. The visit involved a presentation of the site, the Biomass mission, forest inventory techniques, current research and the data collected by the Guyaflux tower. It encouraged dialogue between the various researchers involved and comparisons of different scientific projects. Observation satellites, combined with field and aerial data, are used for long-term, continuous tropical forest monitoring. However, there is still some uncertainty about biomass estimates and distribution. Thanks to its ability to penetrate the canopy, Biomass will provide new information on the state, dynamics and evolution of forest biomass stocks. ■

ariane.mirabel@cirad.fr

Continental Southeast Asia

Vietnam-Senegal: an agricultural alliance in favour of agroecology

The high-level scientific and political exchanges between Vietnam and Senegal are a good illustration of dynamic South-South cooperation in favour of agroecology and food security. By comparing their experiences of sustainable rice growing, the two countries have laid the foundations for stronger agricultural partnerships in the face of climate challenges.

In 2025, Vietnam and Senegal strengthened their agricultural and scientific cooperation under the umbrella of the FEF-R project, coordinated by CIRAD and supported by the French Ministry of Europe and Foreign Affairs. A pair of reciprocal study missions, organised between May and August, enabled more in-depth discussions of agroecology, sustainable rice growing and food security: a good illustration of South-South cooperation facilitated by France.

In May, a delegation from Vietnam went to Senegal to see public institutions, researchers, farmers' organisations and international partners and lay the foundations for partnerships. In turn, from 18 to 22 August, a high-level Senegalese delegation (Institut sénégalais de recherches agricoles, Programme national d'autosuffisance en riz, Société nationale d'aménagement et d'exploitation des terres du delta du fleuve Sénégal), accompanied by CIRAD, visited Vietnam. In Hanoi, its members were able to talk with the Vietnamese agricultural authorities, research centres, international donors and private-sector players.

The talks revealed shared challenges—climate change, salinisation, farming system resilience—, but also strong complementarities. Vietnam reported on its successful experience of agricultural transformation, having gone from being food-deficient to being one of the world's leading rice exporters, thanks to coherent public policies, efficient irrigation systems, a structured seed sector and low-emission practices. For its part, Senegal brought community-based agroecological innovations and a strong political commitment in favour of food sovereignty.

The delegation observed concrete agroecological practices within the framework of the ASSET project, and visited the ThaiBinh Seed firm, an integrated research, seed production and seed distribution model. The mission ended with the identification of possibilities for future cooperation: giving priority to rice, groundnut and cashew, skill building, and scientific exchanges and institutional agreements, with the shared aim of boosting food security long term. ■

linh.vo@cirad.fr
ciradvietnam@gmail.com

The Senegalese delegation visiting ThaiBinh Seed's rice breeding facilities © C. Quan, VAN news

Southeast Asian Islands

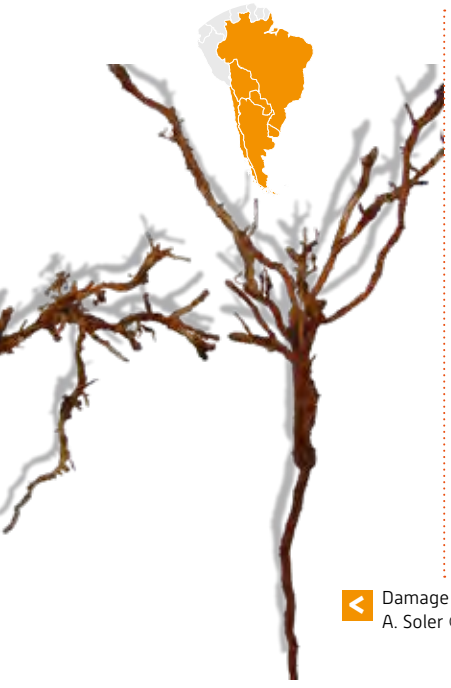
IndoKAKAO, a long-term partnership working for Indonesian cocoa

The IndoKAKAO project, led by France and Indonesia, aims to modernise the cocoa value chain in a sustainable way. It combines research, training, access to funding and social inclusivity, to improve quality, ecological resilience and the competitiveness of Indonesia producers.

Under the authority of the French Embassy and the Indonesian Ministry of Planning (Bappenas), and in cooperation with other Indonesian ministries, CIRAD is responsible for scientific and technical coordination of the IndoKAKAO initiative alongside Indonesian research organisations, private-sector players, associations, and cooperatives. The aim of the project is the sustainable modernisation of the cocoa value chain in Indonesia, along with improved economic attractiveness and social impact. IndoKAKAO rests on three main pillars. The first is the creation of a Technical Centre for Sustainable Cocoa Agriculture, with pilot sites in Java and Sulawesi. The centre will provide advisory services and technical training for 480 sector managers and will benefit nearly 20 000 producers, thanks to dissemination schemes, easier access to microcredit, and innovative teaching tools. The second pillar involves improving the Indonesian cocoa value chain. The project is strengthening its quality and exportability by disseminating good postharvest practices, establishing certifications, building commercial partnerships with international chocolatiers, and training professionals in organoleptic analysis to promote terroirs. Lastly, IndoKAKAO intends to make the value chain more ecologically resilient by means of agroforestry, reforestation, more resistant varieties, climate warning systems, and production in line with European "zero imported deforestation" standards. Social inclusion is central to the project: 50% of its direct beneficiaries are women, and young producers are due to receive specific support. IndoKAKAO was designed in collaboration with the Indonesian authorities, fits in with the France-Indonesian agreements signed in May 2025, and illustrates the strategic partnership between the two countries in favour of a sustainable, inclusive and competitive cocoa value chain. ■

jean-marc.roda@cirad.fr

Cocoa farming typical of Indonesian agroforestry mosaics, practised by very small farmers (0.5 ha on average) with cocoa and papaya gardens in the foreground and border trees in the background. © CIRAD



Damage typical of witches' broom disease A. Soler © CIRAD

Brazil and Southern Cone countries

Cooperating to control cassava witches' broom disease

In 2024, the presence of the fungus *Ceratobasidium (Rhizoctonia) theobromae*, which causes cassava witches' broom disease, was confirmed in French Guiana and the state of Amapá in Brazil. Over the past two years, the disease has caused major production losses and triggered substantial concern about food sovereignty, farm economic stability and preservation of the crops and traditions of Amazon peoples, for whom cassava is a vital resource. In response to the threat, cross-border scientific cooperation between EMBRAPA and CIRAD has been stepped up. After the launch of joint research in 2023, an international workshop was held in Belém (Brazil) in March 2025. It brought together more than 60 participants, who took stock of the disease, shared their grassroots experiences and pinpointed the emergency, surveillance and prevention measures required. A strategic workshop centring on the ImpresS *ex ante* participatory method, resulted in the definition of a joint vision and action pathways. The priorities identified are to conserve the diversity of Amazonian cassava varieties, protect local peoples' know-how and rights, step up health surveillance, integrate agricultural, food and regulatory aspects, and communicate on a regional level. This work is intended to structure a future research project in partnership, to limit the impact and spread of the disease in the Amazon. ■

brasil-conesul@cirad.fr

The workshop was held under the umbrella of two projects: DECODE, funded by the French Ministry of Agriculture and Food Sovereignty (DGAL-MASA), and FEFACCION, funded by the French Ministry of Europe and Foreign Affairs (MEAE).

Mediterranean, Middle East and Balkan countries

Strengthening partnerships to benefit agriculture in the Mediterranean

Farms in Morocco face climate change, water shortages and biodiversity erosion, challenges the country shares with most others in the Mediterranean. In this context, strengthening regional scientific partnerships appears to be a vital lever for adaptation and innovation. During the Morocco International Agricultural Show, two Moroccan researchers highlighted the importance of collaboration networks for research and training. Salama El Fatehi and Zhour Bouzidi, who have been working on international projects since the start of their careers, insisted on the central role of partnerships in research. Cooperation between institutions makes it possible to share knowledge and compare methods and discipline-based visions, and guarantees the scientific quality of the work done. Projects such as ARISER or eGroundwater illustrate this dynamic, by associating researchers from North and South to work on key topics such as crop diversity, water management or agro-ecosystem resilience. As well as generating knowledge, such partnerships facilitate training for junior researchers through mobility, co-supervision, internships and scientific writing workshops. These collaborations, founded on trust, solidarity and long-term human relations, help to build regional scientific capacity. For CIRAD, working together to tackle shared agricultural challenges in the Mediterranean is a vital lever for building sustainable, shared solutions. ■

Moroccan and French students at the Polydisciplinary Faculty of Larache, part of Abdelmalek Essaadi University© DR

sandrine.dury@cirad.fr

Réunion, Mayotte and Indian Ocean

Gluten-free péi bread to boost food sovereignty

In 2025, CIRAD in Réunion-Mayotte-Indian Ocean rolled out the roadmap for the French overseas regions. The roadmap is geared towards concrete solutions to address the challenges facing such regions, and among other priorities, it focuses on boosting food sovereignty. One of the leading projects aims to develop gluten-free bread made using local flours.

CIRAD, the Bras-Panon territorial food project (PAT) and the regional innovation and technology transfer centre (CRITT) in Réunion have joined forces to develop gluten-free péi bread, made using local resources. This innovation is intended to address two major challenges: Réunion's reliance on imported flours to make gluten-free products, and the need to promote local agricultural value chains. The study identified an optimum formula that combines taste, texture and nutritional quality: 43.3% cassava flour, 43.3% green banana and 13.3% sweet potato. Each ingredient brings complementary technological and functional properties, giving a stable, tasty product suitable for gluten-free diets, including for people suffering from coeliac disease. Above all, this initiative illustrates the merits of investigating as yet under-used local plant resources, while demonstrating the power of collective intelligence to combine food innovation, reduced imports and the transition towards a more sustainable diet. With support from the Réunion Regional Council and the EU, CIRAD and its partner the University of Réunion also officially launched the construction in 2025 of a regional technology platform to provide research and support for agrifood firms, on the Agrocampus site in Saint-Pierre, Réunion. The platform was designed as a strategic territorial development tool, and aims to foster innovation, encourage and speed up technology transfers to operators in the value chain, and boost the use of local agricultural resources. ■

© D. Josserond, CIRAD

david.josserond@cirad.fr

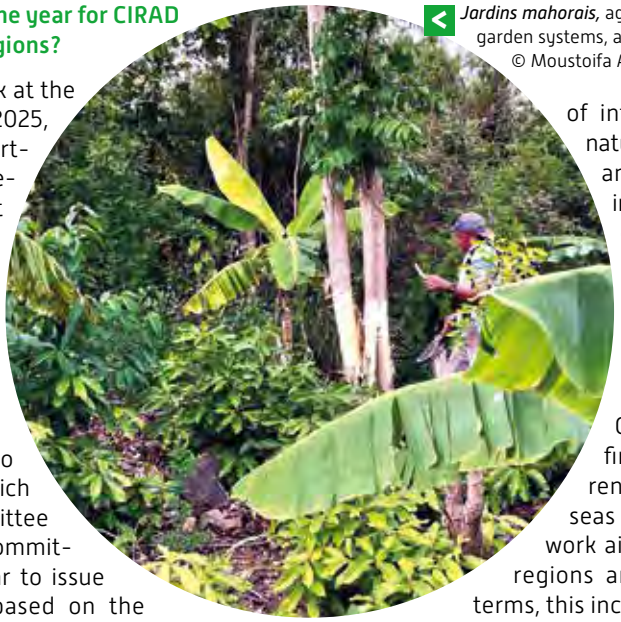
Partnerships to benefit research and territories

The year 2025 marked a key stage in implementation of the 2024-2028 French overseas regions roadmap. Supporting research and partners in difficulty while stepping up efforts to network was the common thread of the work done by Jean-Marc Thévenin, French Overseas Regions Officer at CIRAD, over the year. Interview.

What were the main highlights of the year for CIRAD as regards the French overseas regions?

I would like to start by looking back at the official launch, at the very start of 2025, of the roadmap drafted with our partners in 2024. Our strategy was presented in detail at a specific event on the CIRAD-AFD stand at the Paris International Agricultural Show, attended by the Directorate General of Overseas Regions (DGOM), and to the ODEADOM Board of Trustees and the AFD Three Oceans Directorate.

This was also an opportunity to launch a monitoring committee, which took over from the advisory committee set up to draft the roadmap. The committee will meet once or twice a year to issue guidance and make proposals based on the actions carried out.



Jardins mahorais, agroforests resulting from diverse market garden systems, are an asset in the face of climate change © Moustoifa Ali

The year was marked by the consequences of a devastating weather event, cyclone Chido, which hit Mayotte on 14 December 2024. What was CIRAD able to do following the disaster?

After being asked to provide emergency support, the establishment was also asked to come up with a programme of support for R&D players in Mayotte. It submitted a project to the French Ministry of Overseas Regions in early July 2025, structured around the following guiding principles: (i) the climate-agriculture-food nexus, (ii) actions relating to the agroforestry systems specific to Mayotte (*jardins mahorais*), which are assets for resilience that should be promoted and developed, and (iii) actions to develop and promote animal production and boost sanitary protection in the territory.

In terms of partnerships, what progress was made in 2025?

Several agreements were signed with various partners, which strengthen our institutional links, links with players from the higher education and research sector, and links with the private sector. To quote just a few examples: the CIRAD-INRAE-Government of French Polynesia tripartite framework agreement; the framework agreement between CIRAD and the Ministry of Overseas Regions signed at the Paris International Agricultural Show; the CRESICA consortium agreement (a consortium of research and higher education organisations in New Caledonia), aimed at strengthening scientific cooperation on research topics of interest for New Caledonia (use of natural capital, improved human health, analysis and support of social and institutional change); the Convention of Ministry of Agriculture associate experts; and a framework scientific cooperation agreement with Cosmetic Valley.

Network coordination was also central to our activities. The Directorate General of Overseas Regions confirmed its confidence in CIRAD by renewing its leadership of the "overseas cosmetopoeia" network. The network aims to mobilise players in overseas regions around cosmetopoeia. In concrete terms, this includes supporting grassroots operations such as inventories of plants and their traditional uses for cosmetic purposes.

Meanwhile, the French agricultural innovation and transfer networks (RITAs) are entering a new phase. The Directorate General for Education and Research at the Ministry of Agriculture, Agrifood and Food Sovereignty has granted new funding for nationwide coordination, led by CIRAD, CTA and the French Chambers of Agriculture, for a five-year period.

Could you tell us a bit more about the stepping up of "research result transfer" operations?

The aim is to make sure that grassroots agricultural professionals take scientific innovations on board more frequently and effectively. To this end, within the RITAs, we are working together on new transfer and coordination methods involving active teaching. We are also working on measuring impact, which donors increasingly insist on, choosing ad hoc indicators. We are also setting up an incubator to support project set-up operations.

Our coordination activities are helping to improve the appropriation of research results by the agricultural profession. They involve setting up partner networks, circulating information, and showcasing knowledge through webinars, symposiums and seminars organised at the Paris International Agricultural Show and in the overseas regions. ■

outremer@cirad.fr

A sustained learning dynamic for greater impact

"It is not just about providing and reporting numbers to prove usefulness of research – it is also about capturing HOW research generates impact and FOR WHOM, and therefore about the learning process that results from it, which in turn helps to better design future research interventions for enhanced impacts."

Agroforestry system including coffee, tour of the ECOFFEE project experimental sites © CIRAD

This comment is drawn from a policy brief entitled "A 'culture of impact': what can research organisations gain from it?", published in 2025*. It sheds light on current changes in research evaluation and steering, which now centre on understanding its concrete effects and beneficiaries. CIRAD is firmly part of this dynamic, as shown by its strategic choices and the resources it has mobilised to build a culture of impact within the organisation and among its partners. The ImpresS team, with its novel configuration that guarantees synergy between various different skills and disciplines, at the interface between research and support, is contributing to this institutional drive.

Approaches geared towards outcomes, to benefit interventions

Support and training are two of the main lines of work for the ImpresS team, and are conducted in close collaboration with teams from CIRAD's Research Impact and Marketing Service. These operations are intended to build capacity among the establishment's teams and those of its partners in terms of outcome-oriented approaches (OOAs). In 2025, the project teams (seven in all, including ECOFFEE, Agralife, Forest investment programme - Ivory Coast) and two platforms in partnership for research and training (AGROFORESTA and TRACE) built specific change theories. Four other projects, including TerrAmaz and AfriFoodLinks, have used OOAs for their monitoring and evaluation systems (MESs) and to organise moments of reflection and learning.

TerrAmaz project reflection and learning workshop © C. Proietti, CIRAD

In all, seven training sessions on the ImpresS *ex ante* approach and MESs were offered to CIRAD staff and partners, and tailored to their specific requirements. A special module on impact within Horizon Europe projects was organised, along with two sessions for external participants in collaboration with MSH-Sud, the RAPPSO regional network and ISTOM.

At the heart of assessments in 2025: anticipation, co-research and science-policy relations

The strategic support mechanism for research impact assessment funded three assessments aimed at documenting changes in practices and the contributions of CIRAD's interventions and those of its partners:

- Assessment of the contribution of an anticipation method, participatory co-elaboration of scenarios (COEPS), to the development of new attitudes, capacities and practices among players in Fatick and the Niayes (Senegal), and links with agroecological transition in those territories.
- Analysis of relations between organisations in the rural world, development and research, as part of the DINAAMICC project (Madagascar) and of the contribution of those collaborations to innovative bespoke solutions that can be used by local players.
- Assessment of the collaboration between CIRAD, a veterinary pharmaceuticals firm and policymakers in eight countries, to highlight the mechanisms that facilitate or restrict the use of scientific data to bolster vaccination strategies.

* Ferré M., Blundo Canto G., Ramírez-Gómez M. M., Stachetti Rodrigues G., Vásquez Á., Rodríguez G., Goulet F., Louafi S., De Romémont A., 2025. A "culture of impact": what can research organisations gain from it? Montpellier, CIRAD, *Perspective* 66. **https://revues.cirad.fr/index.php/perspective/article/view/37959**

Combining theoretical frameworks and assessment methods to address the challenges of assessing complex interventions

Assessing complex interventions such as clusters of projects under a multi-annual programme (eg the ACIAR programme in Vietnam) or multi-country projects based on adaptive strategies to co-construct solutions, training and technical support (eg the Rooted in Diversity [RiD] project), poses specific challenges for research teams. Using quantitative or qualitative approaches in isolation may be insufficient to answer impact assessment questions.

By combining different methods, the ImpresS team, in collaboration with researchers from MOISA (CIRAD), ISRA and other partners, is able to develop and apply bespoke approaches that serve to answer stakeholders' questions and are tailored to the conditions in which they are applied. This hybridisation serves to analyse the processes by which interventions are conducted, causal mechanisms, changes and outcomes and, wherever possible, to measure the added value of the intervention as regards a specific variable.

Equity in partnership relations: exchanges are ongoing with the F3E network, academic and non-academic partners, and within projects

This topic was the common thread for the collaboration between F3E and CIRAD to organise two webinars for the communities of practice on OOAs led by the two organisations. The webinars involved a researcher from the Institute of Development Studies and an independent assessor, who shared their experiences in terms of promoting equity and using decolonial approaches to manage and assess projects. The experience of the Fair Sahel and ClimOliveMed projects was used as the basis for a guide to monitoring and assessing partnership relations aimed at fostering inclusive governance, effective communication and greater commitment on the part of project stakeholders. ■

equipeimpress@cirad.fr

Replay of the webinar on equity within partnerships

Method for monitoring and assessing partnership relations

Transmission between generations and training: value chains are looking to the future

Whether by organising specific events or attending events organised by others, CIRAD's Tropical Supply Chains Office was involved in a number of operations in 2025. Interview with Head of Office Alexia Prades.

CIRAD

What were the highlights of 2025 for the Tropical Supply Chains Office?

The year got off to an active start with our participation in the scientific meetings organised by CIRAD's DGD-RS. The meetings, which offered a real opportunity for scientific management talks between the units, departments, regional offices and the various structures in charge of transverse scientific management at CIRAD, were a key moment that served to launch the scientific programme for the year. However, before I talk about 2025, I would like to go back to the end of 2024, when we embarked on a fundamental operation with our inter-generational meetings. The operation continued in 2025, since this is a major issue for value chains. We need to make sure that senior scientists pass on their know-how to their junior colleagues as quickly and flexibly as possible. This is all the more crucial in that tropical value chains are largely overlooked in academic courses, and scientists therefore need a period of "peer learning" at the start of their career. The highlights of 2025 included the launch of a project on "training with and for value chains", which has already proved very fruitful. We began by working with the Higher Education and Professional Training Office to map the various training courses relating to value chains, whether academic or geared towards professionals. This allowed us to list roughly a hundred courses of all types, most of them active, but also to rediscover courses that were on hold and would be worth relaunching. The courses identified included interventions at ISTOM, covering the sugarcane, coffee, cocoa, coconut and oil palm value chains. We also contribute at Masters level, to varietal breeding courses for the cotton value chain, for instance, in Benin, or with Institut Agro on

2025 annual value chain meetings, organised by the Office and the tropical value chain research coordinators © CIRAD

Picnic at CIRAD's annual tropical value chain meetings © CIRAD

the coconut value chain, to present the many outlets, products, co-products, etc. During the next stage, we are going to modernise these courses, with a dual aim: to offer more interactive, open training more accessible to people in the global South (through hybrid formats or e-learning) and to move towards more multi-value-chain courses. All value chains can learn from others. Lastly, while most of our courses are offered in French, we are hoping to become multilingual (English and other languages).

How did the now traditional value chain meetings go?

Our annual tropical value chain meetings, a highlight of the year, fit into CIRAD's in-house scientific agenda. They are usually held in April. For our value chain research coordinators, they are a chance to talk to our heads of research units, directors of department, regional directors and colleagues from DGD-RS. Around fifty people attended this year, with a fun programme intended to guarantee maximum participation. We had workshops on the EU Deforestation and Forest Degradation Regulation (EUDR) and on the digital divide. These topics raised issues shared by several tropical value chains, whether geared towards export or domestic markets. It is important to share perspectives across value chains, and also to allow units that have not previously worked much, if at all, on these topics, to express themselves. As regards the EUDR, a number of units also took the opportunity to work on a definition of "forests".

In addition to these two events, what did you produce in 2025, and what are your plans for the coming year?

Two new roadmap summaries were published (sorghum and millet, and rubber). Two new value chains, the remits and names of which are still under discussion, are currently drafting roadmaps to be published in 2026: "legumes" and "trees, wood and forests". ■

alexia.prades@cirad.fr

Exchanges, training and communication

Partnerships

CIRAD is reinforcing its alliances for action

A new year of engagements and partnerships for the establishment, with a few standout dates…

[February]

Third TSARA General Assembly

The strategic reinforcement and development of the TSARA initiative to transform food and farming systems through research in partnership with Africa were ratified during the Paris International Agricultural Show at an assembly attended by its 32 member institutions. The event saw ENA Meknès (Morocco) and CIRAD (France) take over the co-presidency of the initiative.

[June]

CIRAD signs a strategic partnership on food security and agricultural transformation with the Indonesian Ministry of National Development Planning (Bappenas)

As part of the 2025-2045 Indonesian National Long-Term Development Plan, CIRAD will be helping Bappenas draft sustainable agricultural policies and promote food sovereignty, climate resilience and the inclusion of rural areas. The memorandum of understanding will initially centre on two flagship projects, on cocoa and coconut.

[October]

Framework agreement with Cosmetic Valley

CIRAD and Cosmetic Valley, which coordinates the French perfumery-cosmetics sector, have signed a framework scientific cooperation agreement. It consolidates the existing partnerships between the two structures and recognises their joint interest in expanding an emerging field of scientific study—cosmetopoeia—in tropical and Mediterranean zones.

Framework agreement with the Chinese Academy of Fishery Sciences

A framework cooperation agreement with the Chinese Academy of Fishery Sciences (CAFS) marks a major stage in strengthening CIRAD's scientific partnerships with China. The signing, built on more than 60 years of expertise in aquaculture, is part of a sustained cooperation drive that already includes several Chinese institutions.

The IIH is supporting innovation ecosystem structuring in West Africa

Eleven partners, including CIRAD, meeting at the Maison des Relations Internationales in Montpellier during the Euro-Africa Montpellier Biennale, signed a collaboration agreement in the presence of FAO and IFAD. The International Innovation Hub (IIH) has thus launched its first collaborative project with academic and innovation support players in three West African countries: Benin, Ivory Coast and Senegal.

[December]

LSD: the French Minister of Agriculture tasks CIRAD with a complementary risk analysis

CIRAD is a national reference laboratory for bovine lumpy skin disease (LSD). In December, the French Minister of Agriculture, Agrifood and Food Sovereignty tasked CIRAD with coordinating a group of scientific and technical experts, for an analysis of the risks surrounding the feasibility of targeted culling of infected animals in zones where immunity has developed.

Scientific information and open science at CIRAD: a reaffirmed goal

CIRAD's early commitments in terms of open access to publications (signing of the Berlin Declaration on open access to knowledge as far back as 2006) and subsequently of open science fit perfectly with its belief in "common goods". They echo the profound changes this drive has brought with it, on both a national and international level.

Agritrop, the CIRAD open archive, celebrates its tenth anniversary, and is ever more visible

Agritrop, the CIRAD publications database, was set up in 1986 and became an institutional open archive in 2015. This development fits in with a global drive for instant, open, free access to scientific knowledge, without restrictions on use. In 2025, a decisive step was taken with the establishment of a gateway between Agritrop and HAL, the national open archive. That gateway automatically transfers the metadata and full texts of publications deposited in Agritrop to HAL. More than 10 500 publications have already been transferred, with regular automatic updates. Thanks to the use of shared identifiers (ORCID, RNSR, ROR, ANR, CORDIS), the metadata in the two systems are interconnected. The gateway avoids the need for authors to deposit their publications twice, which significantly reduces their workload. It also boosts the national and international visibility of CIRAD's publications, while guaranteeing that they respect national open access policy.

Helping scientists with good open science practice

Helping the establishment's scientists understand the issues surrounding open science and adopt the consequent good practices is one of the objectives set out in the 2024-2026 DiscO roadmap. In 2025, it resulted in a proposal of new, attractive types of training and awareness-raising days for CIRAD staff members:

- In-house webinars and training accessible to all CIRAD scientists in France and elsewhere, on research data management and dissemination and good practice in terms of scientific information searches.
- Awareness-raising days on subjects that may be of interest or controversial: CIRAD Love Data Week, which enables a yearly inventory of players, tools and outputs relating to research data, codes and software; and a day co-organised with the Ethics and Research Integrity Office on dubious or predatory publishers served to provide a better understanding of the phenomenon, measure its extent and discuss ways of protecting against such publishers.
- Carrying on from the serious game *"Libérez la science: un jeu FAIR Play"* (Free science: a FAIR Play game), CIRAD support and research services have developed a new game: "Data Steward". The game is intended to enable a better understanding of the life cycle of data and the merits of data management plans, and is used as a training and animation tool at scientific meetings.

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Open science, bibliometric indicators and artificial intelligence

The year 2025 was marked by CIRAD's HCERES audits. In this context, DiscO helped the establishment's research units to identify publications and produce bibliometric indicators. CIRAD is continuing its push for open access: according to the Baromètre de la science ouverte (BSO - Open Science Barometer), the rate of open access to CIRAD scientific publications grew steadily between 2020 and 2024. Some 87% of 2023 CIRAD scientific publications were available on open access in 2024. AT the same time, DiscO set up a specific working group on AI, to analyse the available tools and change scientific information search and analysis practices. ■

anne.toulet@cirad.fr

Increasingly regional, interconnected platforms

The relevance of the regional level of the platforms in partnership for research and development (dPs) was confirmed in 2025, by both the scope of the two new platforms inaugurated during the year and a drive for firmer anchorage to regional research centres.

The regional dimension is now a marker shared by most of the dPs. Their expertise, recognised across their zone of operation, is a strategic asset that should be promoted.

More systematic opening up to regional research centres on the part of dPs

Regional agricultural research, training and development centres, such as SEARCA or CORAF/WECARD, could become members of all the dPs in their region, to play a structuring role. It was this ambition that guided CIRAD's participation, in 2025, in the workshop to build the ASEAN Framework, coordinated and hosted by SEARCA. The centre, which is currently only a member of the SALSA platform in the region, could broaden its involvement to encompass the five existing dPs. In Latin America and the Caribbean, IICA is already a member of three out of the four dPs, while in West Africa, CORAF/WECARD is only a member of dP IAVAO. In East and southern Africa, neither ASARECA nor CCARDESA are currently members of any dP. Opening up and regional structuring could be the guiding principle for the future of the dPs.

New regional groupings

Following the shift towards a regional approach for the dPs, the two new platforms launched in 2025 involve partners from several countries in the same region The Sol AfricaO platform, devoted to soil functioning and health, associates eleven partners from West Africa: from Benin, Burkina Faso, Ivory Coast and Senegal. The platform is the first initiative co-constructed on the "Team France" scale, with joint human and financial input from CIRAD, INRAE and IRD. As such, it is not officially a "dP". The construction of dP TRACE (Transforming Agriculture for Animal, Crop, and Ecosystem Health in the East African Rift) benefited from European funding via the RMRN-AE (Regional Multiactor Research Network on Agroecology) led by icipe. TRACE associates eight institutions from East Africa (Ethiopia, Kenya, Uganda and Tanzania), along with CIRAD, IRD and icipe. It is a novel alliance at the interface between the One Health approach and agroecology. Moreover, the assessment of the Amazonian territories (TeAmaz) dP validated its opening up to Colombian partners, with extensions planned to Peru and French Guiana. This regional dynamic also applies to dPs that initially concerned just one country, which are currently reflecting on their future, such as the Agroforestry systems in Central Africa (Agroforesterie Cameroun) dP.

Representatives of the 12 organisations belonging to the new dP TRACE in East Africa © CIFOR-ICRAF

Transversality is central to the dPs

One of the main added values that CIRAD brings to the dP network is its capacity to mobilise them collectively in order to foster interactions, whether regional or thematic. In particular, this ambition is reflected in the Annual dP Days held in Montpellier in June, attended by the coordinators of each platform. The transverse topics in 2025 concerned the science-policy interface, the acceleration of the digital transition, and support for the transition to healthy territories. Transversality was also boosted by involving the dP leaders and CIRAD coordinators in the first Scientific and Geographical Partnership Strategy Days. The event allowed the dPs to talk to CIRAD's priority research topic officers, value chain research coordinators and heads of unit, during workshops structured around topics of shared interest. This transverse approach is also anchored in the organisation of the CIRAD Value Chains Day, which aims to boost the synergies between value chain and dPs. ■

dispositifs.partenariat@cirad.fr

The dPs, a novel type of scientific partnership

CIRAD and its partners have been building platforms in partnership for research and training (dPs) since 2009. They are long-term alliances with shared governance, fostering critical mass and interdisciplinarity. Shared research programming has resulted in a portfolio of projects, often funded following competitive calls.

The dPs in figures:

CIRAD is a member of **23** dPs

1000 people, including **154** on assignment from CIRAD

194 partner organisations

77 countries

3 international institutions

5 CGIAR centres

CIRAD-ECOM, a renewed partnership on coffee

In 2025, the historic partnership between ECOM, a world leader in commodity trading, and CIRAD took a decisive step forward. This was prompted by a shared wish to coordinate scientific research and industrial applications more effectively, and to switch scales to guarantee more sustainable coffee. Interview with Laurent Bossolasco, Asia Pacific Regional Sustainability Manager at ECOM.

How and in what way did the partnership between ECOM and CIRAD change in 2025?

Laurent Bossolasco: The partnership between ECOM and CIRAD is both historic and decisive: it began in 2003 with projects on integrated crop pest management and planting material. As time went by, it became more structured, and 2025 was a key stage, as we redefined the outlines of our collaboration. We separated two components: breeding, which concerns varietal development, and integrated pest management, with the BROCAP® trap to control the coffee berry borer. In 2025, we signed an agreement on planting material, which covers all the activities linked to breeding and to dissemination of the resulting varieties. We also laid the foundations for an upcoming operating agreement for the BROCAP® trap. Everything is now clear and structured, with a committee representing ECOM and CIRAD for each component, making our collaboration more dynamic and transparent. This alliance illustrates the complementarity between scientific research and industrial needs: the aim is to bring technology out of the laboratory and make it available to producers. We are setting up field plots and developing projects funded by the European Union, such as BOLERO. Access to new technology allows us to make coffee growing more attractive for producers, with better profitability and ecological resilience. Our partnership with CIRAD is also highly symbiotic: for instance, our laboratory in Nicaragua (one of the few that is breeding arabica), and CIRAD's robusta and arabica collections really mark us out. We are working with roasters to make this technology available, sometimes with up to 100% funding, to support sustainable production. This has a dual aim: to guarantee the future of coffee over the coming 10, 15 or 25 years and tackle the challenges of climate change, with technology that helps produce more with less labour, fertiliser and water.

What are the partnership's strong points and prospects?

LB: The strong point is that it enables the concrete application of research. The big challenge in 2026 will be the change in scale: building local partnerships and adapting the technology on a local level, not just top down. We are working with national organisations: for instance, CIRAD, ECOM and the Indonesian Coffee and Cocoa Research Institute are collaborating to introduce the Mundo Maya variety, which is resistant to coffee leaf rust, into Indonesia. Similar agreements are currently under way in Vietnam. We have been working on these initiatives for many years: registering varieties can take anything up to six years, and the BREEDCAFS project, launched in 2018, put Vietnam and Asia on the map to promote the establishment of a second regional hub (in addition to Latin America) for the introduction and dissemination of new varieties. A sign of the dynamism of the CIRAD-ECOM partnership is that we are renewing the Breeding 4 Future research agreement and will be hosting a CIRAD researcher in Vietnam to ensure coherent field work and prepare new projects. 2026 looks set to be a great year for our cooperation in Asia-Pacific, boosting the impact and sustainability of our varietal innovations. ■

herve.etienne@cirad.fr

BOLERO project

BREEDCAFS project

Jabnde, a tool to optimise dairy cow feeding based on the resources available on the farm

Dairy production in sub-Saharan Africa rests on complex feed systems combining rangelands, crop residues, fodder and concentrates, which are difficult to balance while remaining economically viable. To this end, CIRAD and INRAE have developed Jabnde, a web and mobile app for family-run dairy farms in Africa, to help them formulate balanced individual feed rations at optimum cost. The tool has been tested in several countries, and has given excellent results, notably a 37% cut in the cost of rations and a 25% increase in profit margins in Burkina Faso. Digital development was funded by CIRAD and INRAE and supported by CIRAD's Innovation Hub from 2022 onwards. The app is due to be available free of charge from Google Play Store in 2026, following a six-month test phase that saw downloads from a dozen or so countries. ■

Download the Jabnde app

sofia.carmeni@cirad.fr

Since 2020, Cirad'Innov® has offered solutions for the entire range of stakeholders—start-ups, SMEs and large groups, professional federations, NGOs, territorial authorities and public agencies—that can make direct use of them.

A renewed strategy for greater impact

With a new Head, CIRAD's Higher Education and Vocational Training Office embarked on a major change in direction in 2025. Frédéric Diez presents his ambitions, major operations for the year and the growing importance of e-learning.

CIRAD

What are your objectives in your new job?

Frédéric Diez: One of my main aims was to make CIRAD's training offering more legible and coherent. When I arrived, I noticed that training was mainly seen as one of the ways of disseminating research results—an essential task—, but that that did not always make it possible to respond in detail to the needs expressed by our partners. I am therefore keen to push for a change in stance: starting more from what partners need when building new training programmes. The second defining objective is to produce a roadmap for the office, to set out a clear strategic vision centring on three pillars: professionalising those who provide training, innovation in terms of teaching, and the impact of our training operations and how to measure it.

What were the main operations in 2025?

FD: 2025 was marked by several defining operations. First of all, we boosted the office in terms of human resources, to stabilise it at three full-time-post equivalents, the bare minimum required to manage our projects long term. We also merged two e-learning platforms, called Moodle PRISME and DGDRS, with the support of the DRH training service. This was one of the most important operations of the year. Lastly, we improved the reliability of our indicators in terms of continuing vocational training, notably thanks to the Dendreo system, which has been in use since 2024.

Why is it important to expand e-learning, and how can we go about it?

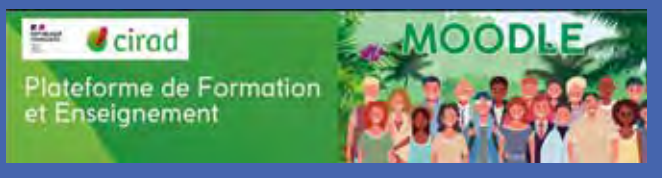
FD: The aim is to satisfy the needs of our international partners by offering training they can take from home, which cuts costs, reduces their carbon footprint, and allows us to reach a wider audience and overcome the logistical, political or climate constraints that may apply to physical courses. The new Moodle platform (see box) is the main lever. It has been entirely redesigned in terms of ergonomics and security, as it is hosted by CIRAD. The next strategic lever is training our trainers, with the support of the DRH training service. They will have an initial Moodle training session in early 2026, probably by e-learning. ■

frederic.diez@cirad.fr

Expansion of CIRAD's One Health e-learning offering: the example of PRISME

Since 2020, PRISME, a CIRAD-ENSV/FVI platform for partnership devoted to training, teaching and innovation in terms of teaching in the field of One Health and livestock production for the global South, which is part of UMR ASTRE, has been building an e-learning offering based on the Moodle open source solution. This strategy has enabled the design of reference modules such as the fundamentals of epidemiology, of epidemiosurveillance or of food safety. In 2026, the dynamic will be boosted by the launch of a One Health module co-constructed with VetAgro Sup and IAV Hassan II. PRISME's integration into a transverse Moodle platform at CIRAD is a key stage in structuring its institutional e learning strategy. It will boost the visibility of teaching offerings under the CIRAD banner, content dissemination, and pooling of resources between UMRs. This development fits in with a logical, coherent rationale that will benefit strategic training services in terms of One Health.

elise.le_bihan@cirad.fr



Training in Biofunctool®: assessing soil health, but not only that…

Biofunctool® is a tool for measuring soil health comprising a set of nine indicators. It takes account of three ecological functions: carbon dynamics, nutrient cycles and soil structure maintenance. Biofunctool® can be used in the field with very little prior laboratory preparation, and serves to aggregate data based on low-cost, easy-to-use indicators. It was developed around a decade ago, and evolves iteratively as it is used and as training is conducted. In 2019, CIRAD built a training course in the use of the tool for a wide audience.

Interview with Jim Félix-Faure, soil health measurement tool designer with UMR Eco&Sols, a trainer, and Amandine Faury, task officer for market gardening on living soils with the ADAF - Arbre et Sol Vivant association, who has taken the course.

CIRAD

Interview with Jim Félix-Faure

What exactly is the Biofunctool® training course?

The course lasts three days, plus an optional additional day. The principle is to learn by doing, with an initial half-day of theory indoors, workshops on the indicators plus preparation for field work, followed by field work. The third day is given over to feedback on the field work: consideration of all the indicators and discussions with participants of examples of results from different environments. At the end of the course, each participant should be capable of carrying out every stage. The optional day is devoted to practical exercises to teach participants how to calculate the soil health index.

After several years of existence, what is your assessment of the course?

Since the course was launched, we've trained around a hundred people in Montpellier and organised a number of courses on the ground, in tropical and Mediterranean countries (Brazil, India, Kenya, Laos, Thailand, Vietnam) and in the French overseas regions (Guadeloupe, Réunion). Apart from the fact that the course is popular, the network of users it has served to build helps us to adapt the tool by identifying sticking points. The Biofunctool® indicators are continually being improved, to make it easier to use and reduce the amount of laboratory work required. We are also trying to make the indicators more pertinent, notably as regards nutrient cycles, by adding measurements of new elements (for instance phosphorus). External technical evolutions are also available. A collaboration with the Sagne cooperative, for instance, has enabled the development of an automatic tool to measure the rate of water infiltration into the soil and a low-cost portable spectrophotometer. The course is clearly attracting growing numbers of participants from outside CIRAD, and its educational value is increasingly being recognised. It allows dialogue with farmers or students, either in the field when taking measurements or during result analysis. ■

CIRAD

Interview with Amandine Faury

Could you tell us about your organisation and explain why you took the Biofunctool® course?

The ADAF - Arbre et Sol Vivant association was set up in Drome Ardèche about ten years ago, and deals with development through agroecology and agroforestry. We organise training courses in agroecological practices for farmers and also help groups of women market gardeners, winegrowers and farmers with conservation agriculture. I took the course as part of an action research project on the impact of agroforestry practices on market gardening on living soils. I had read a scientific article about Biofunctool® and was keen to train to be able to monitor trials better and provide farmers with technical support.

What did you get out of the course and who do you think could benefit from it?

The course has allowed me to study soil health in a more comprehensive, detailed way. Before the course, without the Biofunctool® tool, we used to study soil health with just one bioindicator: earthworms. Farmers also had elements that could be measured, such as organic matter contents, but that was not enough and too partial. The course has allowed me to rely on a well-established method with several indicators that were already stable, a scientifically validated method. I have also benefited from support since the course, with answers to my questions when interpreting data. We have been able to discuss the results of our research with trainers from CIRAD and INRAE. I have also had access to data interpretation equipment. I would recommend the course to anyone who wants to study the impact of their practices on soil health. ■

Find out more: www.biofunctool.com

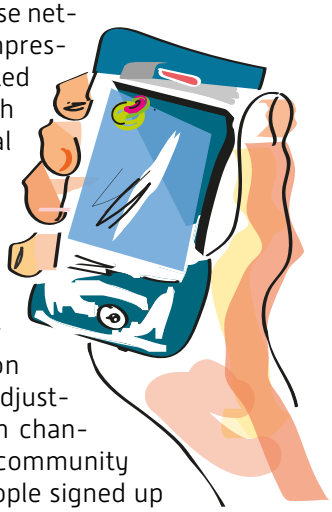
biofunctool@cirad.fr

CIRAD's impact and visibility

CIRAD boosted both its visibility and its influence in 2025: the shift to digital was successfully negotiated, the media mobilised, strategic publications made accessible, and CIRAD had a strong presence at major events. In-house and external communication operations promoted CIRAD's projects, skills and commitments, consolidating staff cohesion and pride in being a part of it.

In 2025, CIRAD changed its digital communication strategy, suspending its account on the social network X (formerly Twitter) and refocusing its publications on LinkedIn, Facebook, Instagram, YouTube, and now BlueSky.

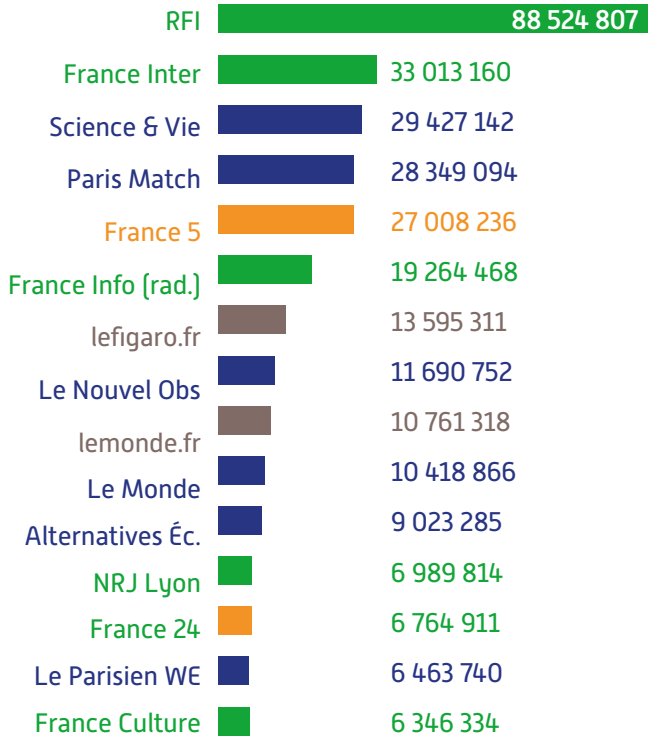
New channels, new audiences: the shift to digital has been successfully negotiated



The content published on those networks totalled 1 699 829 impressions across the year. It boosted its presence on LinkedIn with the launch of an institutional newsletter, which after just four issues already had 40 000 subscribers, proving the public's clear interest in receiving in-depth, "editorialised" information on our activities and the issues on which we work. Despite the adjustments to our communication channels, 2025 saw our online community grow significantly: 62 721 people signed up to CIRAD's accounts, bringing the total number of subscribers to 183 581, 15% up on 2024. These results confirm the pertinence of the strategic choices made and the growing attractiveness of the content we offer, while demonstrating CIRAD's ability to adapt its digital communication operations to changes in trends and platforms.

Scientific content widely reported in the media

The year 2025 was marked by the substantial presence of CIRAD researchers in the media during Climate COP30 in November: no fewer than 70 appearances, including around 30 articles in the French press, 26 radio programmes, eight TV appearances and seven international articles. In all, across the year, CIRAD appeared more than 1600 times in the French-speaking media, with a cumulated audience of more than 100 million people, plus 4000 online mentions of CIRAD internationally, all languages combined. The 50 press releases published on the CIRAD website totalled 25 000 single visits. Those releases kept journalists up to date with the latest scientific results, the impact of targeted projects, as well as new projects or research networks, and also with events at which they could meet CIRAD scientists. Half the releases concerned CIRAD's activities at its regional offices: eight on Montpellier, three each on Southeast Asia and the French overseas regions (including the roadmap for the overseas regions), two on Madagascar and southern Africa, four on West and central Africa, one on North Africa, one on central America and one on Brazil (COP30). The French overseas regions were in the news more than usual, notably following cyclone Chido in Mayotte and the chikungunya epidemic in Réunion, which prompted a number of requests from journalists. Topics such as emerging animal diseases, the resilience of agriculture in the light of climate change, and food sovereignty, were also in the spotlight in mainland France, proof if proof were needed that CIRAD's remit is more relevant than ever.



Impact in terms of audience of more than 1600 mentions of CIRAD in the French-speaking media, per outlet

Strategic documents to make CIRAD's operations easier to understand

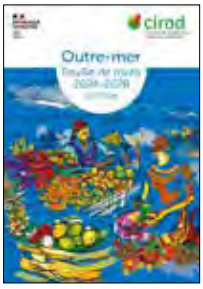
In terms of institutional documents, the office has produced clear, concise summaries of several major texts: the 2024-2026 Scientific and Partnership Strategy Objectives (OSSPs), the French overseas regions roadmap, and two value chain roadmaps (sorghum and millet, and rubber). These products, designed to make it easier for several target audiences to grasp the issues at hand, fit in with a push to make the establishment's strategy more accessible. Two regional brochures—central Africa and West Africa-Dry Zone—were added to the institutional collection, highlighting CIRAD's capacity to work at grassroots level. The year was also marked by the publication of two Science Horizon policy briefs (on social ecosystem health and crop biodiversity), and two position papers (on the circular economy and climate change-resilient farming and food systems), with the latter produced for Climate COP30. These contributions reflect the establishment's commitment to informing public debate and suggesting innovative solutions to global challenges. The institutional website recorded almost 800 000 visits in 2025, and nearly 1.1 million single page views. Virtually all of this output is available in French and English, with certain documents also available in Spanish and/or Portuguese.

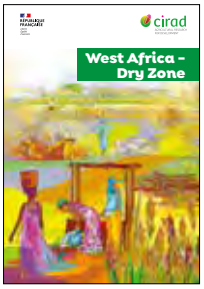
Inform, influence, inspire: CIRAD at the main events of 2025

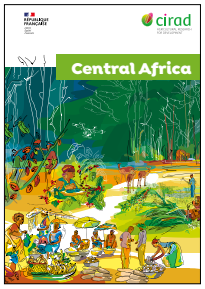
In 2025, CIRAD stepped up its presence at major national and international events, taking part in the Paris International Agricultural Show, the International Exhibition of Agriculture and Animal Resources (SARA) in Abidjan, the Morocco International Agricultural Show (SIAM) and the International Science Festival. It continued its efforts to popularise science via the Fête de la science, the *Sud de Science* Festival and the *Bar des Sciences* in Montpellier. CIRAD was also involved in strategic political summits such as the Nutrition for Growth Summit in favour of healthy, sustainable food systems, the *Fabrique de la diplomatie* organised by the French Ministry of Europe and Foreign Affairs, and Climate COP30. That presence at a range of very different events illustrates CIRAD's dual role as an expert advisor to policymakers and a scientific mediation player working with the general public.

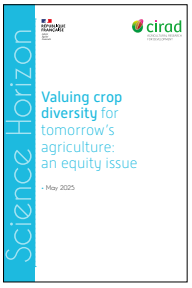
In-house communication: a year of shared bonds of commitment

In 2025, CIRAD's in-house communication supported and promoted the major transformations at play within the organisation: AI, scientific excellence, renewed strategies, societal engagement and human cohesion. By putting skills and knowledge sharing centre-stage, it acts as a catalyst for meaning and collective pride. With a publication every other day, the organisation's intranet site took a journalistic look at current events, with a practical stance and accessible articles to forge stronger links between groups within CIRAD. In-house communication also supported strategic developments by organising federative events—induction days for new recruits, the 2025 annual convention *(Rencontres)*, and a day devoted to generative AI—to foster ethical debate, cohesion and decompartmentalisation of the various services within the establishment. It reported on day-to-day changes: risk prevention, the financial balance, sovereign digital tools, responsible mobility, community action and awareness-raising about disability in the workplace. By promoting collective successes and the range of professions within the organisation, it serves to boost the pride felt by the men and women who make up CIRAD. ■









Access the CIRAD document library

The year 2025 was rich in various types of publications for CIRAD and its partners: co-publications, guidance notes and reports, works for the general public, scientific works and studies, and so on...

All these written materials serve to promote our research.

Co-publications

What will future farming systems in Senegal look like?

A report published jointly by CIRAD, the Bureau of Macroeconomic Analysis of the Senegalese Institute of Agricultural Research, and the Food and Agriculture Organization of the United Nations (FAO), in collaboration with the Government of Senegal and DyTAES, presents contrasting visions of the future of agriculture in Senegal by 2050. It suggests three scenarios for the future: an agroecological scenario, an agroindustrial scenario, and an intermediate scenario called green coexistence.

Analyse prospective de l'agriculture sénégalaise en 2050 : agro-industrie versus agroécologie ? Rapport sur la prospective « AgroEco2050-Sénégal », R. Prudhomme, V.D. Ahoun, C.S. Fall, M. Piraux, and B. Dorin, 2025, CIRAD, Paris, ISRA-BAME, Dakar, and FAO, Rome.

Stories of change

Following an initial compilation of stories of change published in late 2024, CIRAD, along with a consortium of Agrinatura member organisations, has published a second book on the innovations rolled out within the framework of projects under the DeSIRA initiative, funded by the European Union.

Pathways to agrifood system transformation: From Local Innovation to Policy Changes. Stories of change across Africa, Asia and Latin America from the DeSIRA initiative. R. Guillonnet, R. Ramírez, B. Triomphe, A. Toillier, P. Henriquez, A. Dolinska, and M. Perez (eds.), 2025, CIRAD, Paris, 96 p.

Download the book:

Guidance notes and reports

Social-ecological system health

One Health approaches are increasingly popular, particularly since the Covid-19 crisis. However, they remain difficult to implement. In a new policy brief, CIRAD suggests a way of putting them into practice, taking a holistic approach to health on a territory scale.

Social-ecological system health: promoting sustainable relations between biodiversity, agriculture and health in territories, S. Baufumé, A. Binot, A. Caron, R. Duboz, M. de Garine-Wichatitsky, JP. Laclau, T. Lefrançois, S. Louafi, A. Lury, M. Peyre, *Science Horizon*, CIRAD, Paris, February 2025, 12 p.

A call for crop biodiversity

The only way to preserve crop biodiversity is to use it. It is a key to the agroecological transition, which calls for equitable access and revised governance if it is to provide protection against a backdrop of multiple crises. This position is explained in the latest issue of *Science Horizon*, the CIRAD institutional policy brief.

Valuing crop diversity for tomorrow's agriculture: an equity issue, S. Baufumé, C. Billot, D. Fonceka, F. Jankowski, V. Labeyrie, C. Leclerc, S. Louafi, J-F. Rami, M. Thomas, G. Trouche, *Science Horizon*, CIRAD, Paris, May 2025, 12 p.

The virtues of a circular economy for food systems

Reducing losses, making use of resources and empowering territories: the circular economy is a powerful driver for action towards food system sustainability. This position paper outlines the main areas of CIRAD's research in this field.

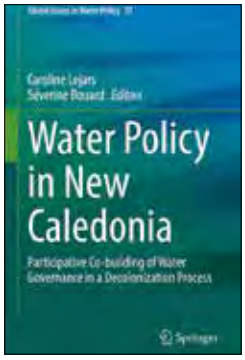
The circular economy, a driver of more sustainable food systems, D. Berre, J. Blin, T. Teixeira Da Silva Siqueira, T. Wassenaar, M. Weil, *Position*, CIRAD, Paris, May 2025, 12 p.

Deforestation: the importance of legality

An issue of *Perspective* looks at deforestation from the point of view of legality. It is vital to distinguish between legal and illegal deforestation and coordinate data between institutions, notably in the Amazon and in countries such as Brazil and Colombia, to reduce tropical deforestation.

Why legality is important in fighting deforestation in the Amazon, M.-G. Piketty, D. Katz Asprilla, G. Briceño Castillo, J. Camacho, M. Chesnes, L. Blanc, *Perspective* 67, 2025, CIRAD, Montpellier, 4 p.

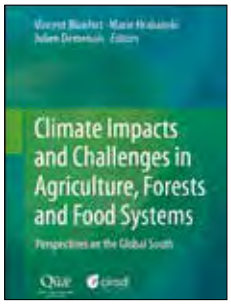
Scientific works, journals and studies



Co-constructing water policy in New Caledonia

A new book retraces how a water policy was established in New Caledonia. It was co-written by scientists and political players, and looks back at the co-design process that served to define strategic objectives reconciling the often diverging interests of the various stakeholders.

Water Policy in New Caledonia, C. Lejars, S. Bouard, Global Issues in Water Policy no. 32, Springer, June 2025, 270 p.



Farming and food systems in the light of climate change

A book coordinated by CIRAD looks at the range of strategies for transforming the world's farming, food and forestry systems sustainably in response to climate change. It is published in French by Editions Quae, and will be available shortly in English, published by Springer. It is intended for policymakers and civil society, and was covered in a 12-page position paper entitled *Climate Impacts and Challenges in Agriculture, Forests and Food Systems: Perspectives on the Global South,* available on the website www.cirad.fr.

Climate Impacts and Challenges in Agriculture, Forests and Food Systems: Perspectives on the Global South, V. Blanfort, J. Demenois, M. Hrabanski, Springer, 2026.

Pastoralism under pressure

As pastoral livestock systems come under growing demographic, environmental and political pressure, a collective work coordinated by CIRAD takes stock of the dynamics at play and the levers for action to ensure sustainable rangeland management.

Élevages et pâturages sous tension, nouveaux regards sur les territoires méditerranéens et tropicaux, K. Alinon (scientific coord.), G. Duteurtre (sc. coord.), J. Lasseur (sc. coord.), René Poccard-Chapuis (sc. coord.), "Matière à débattre et decider" Collection, éditions Quae, June 2025, 262 p.

Building healthier food systems

The 2025 EAT-Lancet Commission has released its report on healthy, sustainable, and just food systems, presenting the most comprehensive global scientific evaluation of food systems to date. CIRAD participated in the meta-analysis of the report.

The EAT–Lancet Commission on healthy, sustainable, and just food systems, J. Rockström *et al., The Lancet*, Volume 406, Issue 10512, 2025, 1625-1700.

Works for the general public

Of forests and men

What does the future hold for forests? Jacques Tassin, an ecologist with CIRAD, has brought together 25 researchers from various fields to look into this vast question and disprove the supposed incompatibility between forests and humanity.

Vivre la forêt, J. Tassin, coord., éditions Odile Jacob, May 2025, 288 p.

More publications on

https://partage-connaissances.cirad.fr/en

https://www.quae.com/

DGD-RD

Strengthening balances, securing the establishment and simplifying day-to-day operations

Over the past year, the Office of the Director General in charge of Resources and Organisation (DGD-RD) has focused its operations on three defining priorities to benefit the establishment as a whole: redressing and consolidating financial balances, improving risk management and anticipation, and continuing to simplify internal processes, to improve the services provided to CIRAD staff.

Since last year, DGD-RD has built and overseen a plan to redress the balance, for a strategic transition (PRETS). The plan, which was drafted collectively with CIRAD General Management, departments, and research and service units, aims to ensure a rapid rollout (within two years) of concrete actions for positive economic impact.

A stronger financial balance

The possibilities envisaged in the plan, which are deliberately wide-ranging and without taboos, notably include a revision of how CIRAD's budget is compiled, to improve financial management in real time, optimisation of the efficiency and profitability of our activities (activities under contract, analyses of time spent), development of contractual resources, and better project cost coverage. The aim is to strengthen financial balances rapidly in order to give the establishment some room for manoeuvre, without questioning its strategy prematurely. The PRETS is paving the way for more in-depth strategic examination planned for the next Objectives, Means and Performance Contract (COMP), within a healthier economic framework.

Improved risk management

DGD-RD has continued and stepped up its risk management and anticipation operations, in various fields: cybersecurity (a new IT charter in 2025, stronger security policy); health, safety and security (training, installation management, chemicals and waste); legal risks and procurement (procurement guide, anti-bribery compliance, more secure contracts); and governance, with the creation of an Audit and Risks Committee linked to the Board of Trustees. These transverse operations, which are part of the blueprint for support services, are intended to bring about a long-term reduction in the establishment's weak points, while offering its staff a protective work environment by building a real culture of security.

Simpler, better day-to-day operations

In spite of the constrained regulatory and budgetary environment, DGD-RD has continued its efforts to simplify and improve its services. Significant progress has been made with the renewal of certain major contracts (catering, health insurance, IT services, and logistical and security services for the Montpellier site). Alongside that, many processes have been simplified by introducing or adapting digital tools (mission management, soft mobility, service centre portal) and the provision of guides, training and support to facilitate use and satisfy the requirements of CIRAD's teams more effectively. ■

anthony.farisano@cirad.fr
dgd_rd@cirad.fr

"Mission Artificial Intelligence": making generative AI a tool to support research and jobs

While the use of AI in science is nothing new, the rapid adoption of generative AI tools in working practices and the issues linked to such technologies prompted CIRAD to launch "Mission AI" in June 2024. The mission comprises two related components: "AI for science" and "generative AI for all". There were several significant operations in 2025, with the aim of helping the establish and its staff with this transformation, including:

- Mapping AI skills: production of a frame of reference for nine skills and initial indexation of employees;
- A survey of generative AI use: 1/3 of employees answered. 63% of them use generative AI, with more than 30 tools quoted;
- Construction of transverse, participatory governance involving support services and scientific management;
- A day of awareness-raising about generative AI and the launch of specific AI training;
- Concrete experiments with tools on an establishment, research unit and project scale;
- Coordination of a French inter-establishment working group on AI, with CIRAD involved in its activities in Montpellier. .

These various advances bear witness to a collective dynamic aimed at making generative AI a tool to support research and jobs, while respecting CIRAD's values. It will continue in 2026.

claire.roche@cirad.fr

ethics in common

Participatory science, climate, AI: research ethics in action

The INRAE-CIRAD-IFREMER-IRD Ethics in Common Committee addresses the ethical issues that may be raised by research in France and overseas, in the fields of food, agriculture, the sea, the environment and sustainable development, particularly those that concern the relationships between science and society.

More than ever, the INRAE-CIRAD-IFREMER-IRD Ethics in Common Committee's actions are anchored in today's world. For instance, 2025 saw the publication of new guidance, on participatory research, and work on adaptation to climate change and artificial intelligence.

New guidance, on participatory science and research

The highlight of the year was the publication in June of guidance note no. 17, devoted to participatory science and research. These practices include non-scientific players—citizens, associations, collectives, professionals—in producing scientific knowledge. The committee stresses that such approaches offer a major opportunity to bring science and society closer together, take greater account of knowledge resulting from grassroots experience, and boost confidence in research. They can help generate more relevant knowledge of use in tackling environmental, agricultural and food challenges. However, the guidance pinpoints several ethical questions: the risk of symbolic participation without any real power, insufficient recognition of participants' involvement, imbalances between scientific knowledge and citizen knowledge, and ambiguities around individual responsibilities. The committee stresses the need to clarify the objectives of projects, guarantee transparency, mutual respect and recognition of contributions, and support researchers involved in such approaches. This guidance prompted a joint response from management at the organisations concerned, committing to step up management and institutional recognition of participatory research.

New self-referral: research on adaptation to climate change

The reflection undertaken was prompted by the fact that research on adaptation to climate change raises complex dilemmas such as the choice of research priorities, involvement of the most vulnerable population groups, coordination of technical solutions and social transformations, and researchers' responsibility in informing public decisions. A webinar on the topic, open to staff from all four organisations and their partners, was organised on 12 March 2025. The event enabled the committee to present the first guidelines established for the self-referral, and to compile the experiences and questions of researchers faced with such issues in the field.

Preparation of a new referral concerning artificial intelligence (AI)

2025 also saw the launch of a debate on artificial intelligence. Following a referral from all four CEOs, the committee began its discussions of the increasing use of AI in research activities: data production and analysis, decision support, and automation of certain scientific practices.

This debate aims to look into the impacts of AI on research professions, the transparency of results, scientific responsibility, algorithmic bias or relations between researchers, digital tools and society. It tallies with a desire to anticipate, to support the development of such technologies while preserving fundamental research values. ■

estelle.jaligot@cirad.fr

Find out more:

Download guidance no. 17 (in French):

Sustainable development and social responsibility

Engaging and taking concrete action

CIRAD's social responsibility is an integral part of its scientific and institutional strategy. This takes the form of engagements and concrete action regarding environmental transition, working conditions, inclusion, solidarity and territorial belonging.

The past year has marked a new stage in the structuring and implementation of CIRAD's ambitions in terms of sustainable development and social responsibility, with measurable actions and concrete mechanisms to benefit people, territories and the planet.

Breakdown of CIRAD's greenhouse gas emissions

Environment, low-carbon trajectory and energy savings

Reducing our environmental impact is a major strategic priority. The full report on greenhouse gas (GHG) emissions, based on 2023 figures, has been published on the ADEME GHG balance platform, confirming CIRAD's determination to continue to improve. The priority for 2024-2026 is to reduce emissions linked to air travel and energy, two major factors in the establishment's carbon footprint.

To support this trajectory, managers have been provided with more stringent management tools. After the launch of CiO2 in 2023, the "Trajectoire CiO2" tool now serves to monitor and analyse emissions linked to missions and mobility continuously, reliably, automatically and exhaustively. The mechanism helps to inform decision making and steer practices that emit less GHG.

CIRAD is also preparing the continuation of its environmental policy in partnership with ADEME, via two structural projects. "Act'Sup", launched in 2024, aims to define the establishment's low-carbon trajectory up to 2050, while the "Parcimonie" project is intended to promote project eco-design and environmental sobriety within business practices.

To this end, CIRAD is banking on awareness-raising and training. In-house officers have been trained to organise "2tonnes" workshops, a teaching experiment centring on simulating low-carbon transition scenarios. The aim is to allow everyone to understand the levers for action and contribute to a realistic, motivational transition.

CIRAD is also continuing its action in favour of energy-efficient buildings. Its participation in the *CUBE État* national challenge (an energy-efficient building competition) is one illustration. After its bronze medal for the Baillarguet campus in Montpellier in 2023-2024, the establishment renewed its commitment for 2024-2026, with the Lavalette campus. This approach encourages concrete actions, co-designed by users and technical services, to improve energy sobriety and performance. It fits into the broader energy blueprint, which structures investment and use planning and prioritisation.

Collective mobilisation and responsible practice

Ground operations play a central role in changing practices. In September, a new "Cleaning Day" encouraged teams to sort and recycle office waste. The operation served to reduce the volumes in storage, increase recycling and raise awareness of day-to-day behaviour. Any re-usable equipment was sent to a sheltered employment organisation, boosting the initiative's social and inclusive impact.

Sustainable mobility is also a major lever. Since 2024, the sustainable mobility payment has been encouraging employees to cycle to work, to car-share or to use public transport, on every site in mainland France and overseas. There is a -160-tonne difference in CO_2 between teams practising "sustainable mobility" and theoretical individual conventional car use.

Our sense of territorial and cultural belonging is also mirrored in novel initiatives. To mark the opening of the fifth line in Montpellier's tram network, providing rapid, low-carbon travel to the Lavalette campus, a mural was painted on the wall of the CIRAD site, in collaboration with the city transport company TaM, the MO.CO. modern art museum and donors. Pauline Pagès-Lloberas and Paul Rousseau created a work that mixes the urban landscape, science and nature, notably inspired by their residency in Cameroon alongside Barthélémy Toguo, who was behind the plant-based design of the Line 5 trams. The project illustrates the dialogue between art, research and society.

Safety, solidarity, quality of life and working conditions

An inter-establishment webinar organised with IRD and INED brought together more than 130 participants to discuss the issues surrounding the declaration of handicaps, (rights, care and inclusion). The fact that CIRAD has joined the #activateurdeprogres community reflects its belief that employing people with handicaps is a factor for collective progress. European Disability Employment Week saw a range of awareness-raising operations and in-house exchanges, while our participation in the Handijob forum allowed us to meet around 50 candidates and plan inclusive recruitment prospects.

Quality of life and working conditions for staff members assigned overseas are also receiving increased attention. A participatory approach launched in 2024 enabled a shared diagnosis and served to draft a of action covering the entire mobility cycle: preparation, assignment and return. It encompasses management, partnership, health, safety/security and private/family life aspects, to ensure clearer, more coordinated support.

As regards prevention, CIRAD drafted a consolidated policy in terms of professional and biological risks in 2025. It follows on from the work begun in 2021 and reaffirms our chosen approach, covering every field: biological and chemical risks, risks linked to international operations, psycho-social risks and musculoskeletal disorders. Its operational rollout rests on a programme of operations in 2024-2026, to protect our employees, partners, other population groups and the environment.

Solidarity and social engagement

CIRAD has community operations with local territories and associations. In December 2024, a fleet of 17 bicycles was transferred to the Maison des territoires du monde et de la solidarité internationale, as part of a workshop to train marginalised young people to repair and maintain bicycles. The initiative is intended to benefit reintegration, skills transfer and the circular economy.

CIRAD's teams also stepped up to the mark for the annual Christmas collection for the Secours populaire organisation. Its staff contributed almost a cubic metre of toys and books that were subsequently distributed to families and children in difficulty.

Our commitment to health issues was reflected in 120 colleagues' participation in the "Montpellier Reine" charity run in aid of breast cancer research. This collective involvement raised almost 2000 euros.

Social responsibility is an integral part of our strategy

These various initiatives clearly show that social responsibility is an integral part of CIRAD's remit. Environmental transition, care for people, community engagement and dialogue with territories form a coherent whole that benefits responsible research and sustainable impact. By reinforcing its management tools, mobilising its teams and forging partnerships, CIRAD is continuing to build a model establishment capable of coordinating research that is at once inclusive, open, useful and engaged, for sustainable development and social exemplarity. This collective dynamic is a vital lever for tackling climate, social and health challenges and contributing, alongside its partners, to fairer, more sustainable development pathways worldwide. ■

cathy.grevesse@cirad.fr

© P. Pagès-Lloberas and P. Rousseau

Key figures

SCIENCE

Number of articles published*

Source Agritrop, figures as of 31 January 2026

957 in peer-reviewed journals, including:

554 co-published with partners from the global South

755 with open access

9 projects
helped to boost impact by impresS
IMPACT OF RESEARCH IN THE SOUTH

7 monitoring and assessment operations
7 training sessions

PARTNERSHIP

Number of senior scientific staff members on assignment outside mainland France in 2025

* FTE: full-time equivalents Source: SIRH-GDDRD, as of 31 December 2025

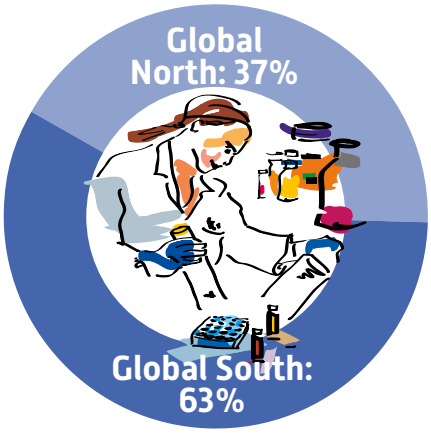
French overseas regions	Africa	Asia and Oceania	Americas and Caribbean	Europe	Total
159 FTEs	123 FTEs	33 FTEs	36 FTEs	7 FTEs	358 FTEs

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

TRAINING

413 PhD students supervised or co-supervised by CIRAD in 2025

6187 hours of training provided



244 interns

Source: SIRH - DGD-RD

PROJECTS

CIRAD manages a portfolio of **857 active multi-year projects.**

In 2025, **320 projects** were signed:

27% with public research donors

27% with public development donors

33% with private donors

13% with overseas territorial authorities

108 new projects signed with socioeconomic players

IN A NUTSHELL

CIRAD employs

1750 people,

including **1200 scientific** staff members,

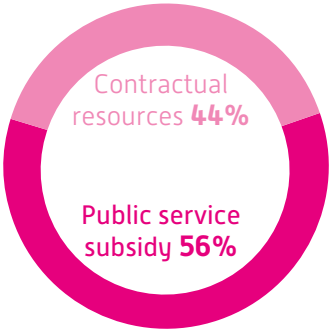
of whom **850 are researchers**

88/100 INDEX ÉGALITÉ FEMME HOMME

RÉPUBLIQUE FRANÇAISE

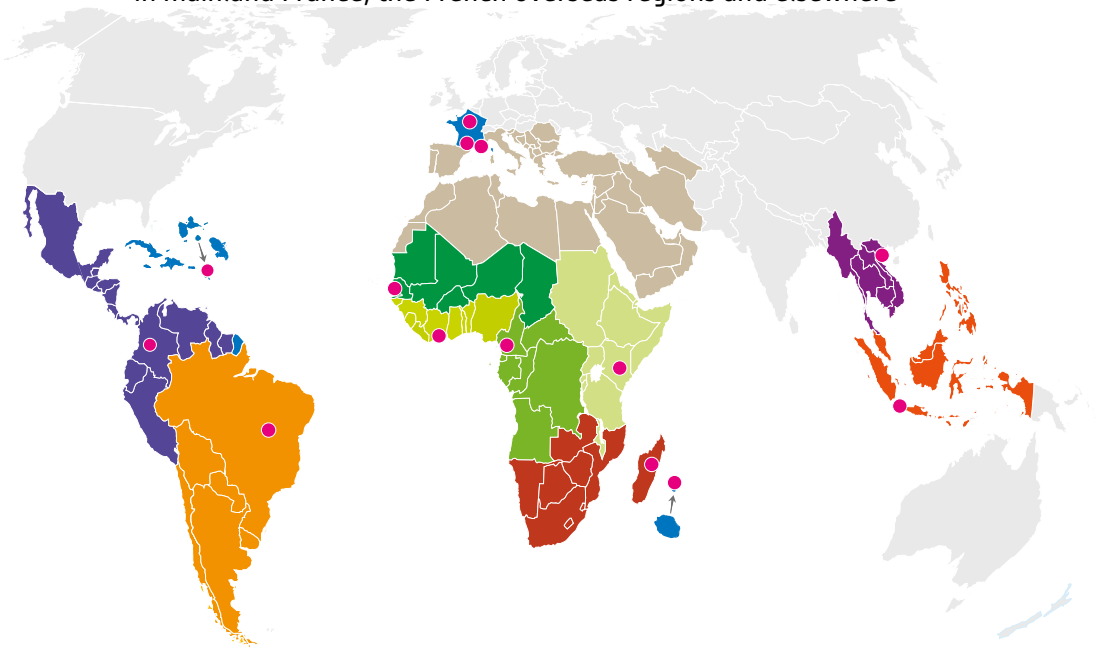
Annual Budget

€ 245M



14 regional offices

in mainland France, the French overseas regions and elsewhere



200 partner institutions

Organisation chart (as of 31 December 2025)

Advisors to CEO
Thierry LEFRANÇOIS
Nadine ZAKHIA-ROZIS

Communication Office
Marie-Laurence POUXVIEL

Evaluation Systems Office
Jean-Michel VASSAL

Public Affairs Office
Anna BOERI

Board of Trustees

Chair
Élisabeth CLAVERIE DE SAINT MARTIN

Regional offices overseas

Central Africa: **Thierry LEROY**
East Africa: **Patrice GRIMAUD**
Southern Africa and Madagascar: **Jean-Marc BOUVET**
West Africa - Dry zone: **Ibra TOURÉ**
West Africa - Forest and Humid Savannah: **Serge MARLET**
Continental Southeast Asia: **François ROGER**
Southeast Asian islands: **Jean-Marc RODA**
Brazil and Southern Cone Countries: **Pierre MARRACCINI**
Mediterranean, Middle East and Balkan countries: **Sandrine DURY**
Mexico, Central America and Andean countries: **Tanguy LAFARGE**

Research Impact and Marketing Service
Pascal DOLL

Partnerships Office
Sélim LOUAFI (acting)

Europe Office **Inese ROZENSTEINE**

Quality, Social Responsability and Research Infrastructures Office
Cathy GREVESSE

Tropical Value Chains Office
Alexia PRADES

Scientific Information and Open Science Office
Anne TOULET

Higher Education and Vocational Training Office
Frédéric DIEZ

Incentive Operations Office
Sasha LEGRAND VALDES

Board of Directors

Director General in charge of Research and Strategy (DGD-RS)
Jean-Paul LACLAU

Directors of Scientific Departments

Biological Systems Department (BIOS)
Delphine LUQUET

Heads of research units (by department)

BIOS

UMR AGAP Institut
Claire BILLOT

UMR AMAP
Raphaël PÉLISSIER (IRD)

UMR ASTRE
Nathalie VACHIERY

UMR CBGP
Renaud VITALIS (INRAE)

UMR DIADE
Yves VIGOUROUX (IRD)

UMR INTERTRYP
Philippe SOLANO (IRD)

UMR PHIM
Jean-Benoît MOREL (INRAE)

UMR PVBMT
Hélène DELATTE

UMR: joint research unit
UPR: internal research unit
US: service unit

Organisation chart (as of 31 December 2025)

INRAE-CIRAD-IFREMER-IRD
"Ethics in Common" Committee
President: **Patrick DU JARDIN**

Ethics and Research Integrity Office
Estelle JALIGOT

Science Council
Chair: **Catia GRISA**

Works Council (CSE)
Secretary: **Pierre DEFAUT**

Director General in charge of Resources and Organisation (DGD-RD)
Anthony FARISANO

▼
Performance of Tropical Production and Processing Systems Department (PERSYST)
Éric JUSTES

▼
Environments and Societies Department (ES)
Claire CERDAN

▼
PERSYST

UPR AIDA
Julien DEMENOIS

UMR ABSYS
Frédéric GAY

US Analyses
Marie TELLA

UPR BioWooEB
Jean-Michel COMMANDRÉ

UMR Eco&Sols
Laurent COURNAC (IRD)

UPR GECO
Luc DE LAPEYRE

UPR HortSys
Fabrice LE BELLEC

UMR ISEM
Nicolas GALTIER
(Université de Montpellier)

UMR QUALISUD
Sabine GALINDO

UPR Recycling and Risk
Frédéric FEDER

▼
ES

UMR ART-DEV
Denis PESCHE

UMR CIRED
Philippe QUIRION (CNRS)

UMR ECOFOG
Stéphane TRAISSAC
(AgroParis Tech)

UPR Forests and Societies
Daniel CORNELIS

UMR G-EAU
Marcel KUPER

UMR INNOVATION
Ronan LE VELLY (Institut Agro)

UMR MOISA
Paule MOUSTIER

UMR SENS
Philippe MÉRAL (IRD)

UMR SELMET
Guillaume DUTEURTRE

UMR TETIS
Pierre MAUREL (INRAE)

See the list of research units with full names on page 60

Regional Offices in mainland and overseas France
Île-de-France: **Anthony FARISANO**
Montpellier – Occitanie: **Vincent FABRE-ROUSSEAU**
French West Indies, French Guiana and Caribbean: **Magalie JANNOYER**
Réunion, Mayotte and Indian Ocean: **Éric JEUFFRAULT**

Accounts and Finance Service
Thierry COULOUMIES

Human Resources Service
Aurélie BOTTA

Installations and Maintenance Service
Arthur GOUBET

Information Systems Service
Laurence ROUSEAU

Legal Affairs and Compliance Office
Alexandrine REY

Health and Safety Office
Anthony FARISANO (acting)

Archives Office
Yann COMBOT

Procurement Office
Malaurie SALLES

Performance and Internal Auditing Office
Fabienne KNOEPFLIN

Head of Security and Defence
Pierre CARREL

Organisation (as of 31 December 2025)

BOARD OF TRUSTEES

Chair:
Élisabeth Claverie de Saint Martin

Guy Perrin (alternate: Marjolaine Chiriaco), representing the Ministry of Higher Education, Research and Space

Jean-Sébastien Conty (alternate: Louise Burdloff), representing the Ministry of Europe and Foreign Affairs

Oudi Serva (alternate: Loïc Biwand), representing the Ministry of French Overseas Regions

In the process of being nominated (alternate: Marie-Laure Van Qui), representing the Ministry of Public Action and Accounts

Benoit Bonaimé (alternate: Cyril Kao), representing the Ministry of Agriculture and Food Sovereignty

Thierry Blandinières, Managing Director of the agricultural cooperative group In Vivo

Philippe Mauguin, President, Institut national de recherche pour l'agriculture, l'alimentation et l'environnement (INRAE)

Josefa Leonel Correia Sacko, Angolan Ambassador to Italy

Mariam Sow, Executive Secretary, ENDA PRONAT

Valérie Verdier, Chairman of the Board and CEO, IRD

Bertrand Walckenaer, Deputy Director General, Agence française de développement (AFD)

Elected staff representatives:
François Affholder • **Thomas Balenghien**
Nathalie Cialdella • **Françoise Gérard**
François-Régis Goebel • **Laurence Ollivier**

Secretariat: **Alexandrine Rey,** Legal Affairs and Compliance Officer, CIRAD

Participants as of right, in an advisory capacity:
Daphné Prévost, Controller for Economy and Finance, Ministry of Higher Education, Research and Space • **Anthony Farisano,** Director General in charge of Resources and Organisation, CIRAD • **Pierre Defaut,** Secretary, CIRAD Works Counci • **Yves Delmas,** auditor

SCIENCE COUNCIL

Chair: **Catia Grisa,** tutor and researcher, Federal University of Rio Grande do Sul (UFRGS) (Porto Alegre, Brazil)

Vice-Chair:
Béatrice Rhino, researcher with UMR HORTSYS (Le Lamentin, Martinique)

Anyangwe Florence Angaba-Fonteh, professor, Dschang University; Vice-Dean for Research and Cooperation, Faculty of Agronomy and Agricultural Sciences, University of Bamenda (Cameroon)

Jean Christophe Avarre, Scientific Director, Ecology and Biodiversity of Inland Ecosystems Department (ECOBIO), IRD

Fabrice Declerck, Chief Science Officer, EAT Forum (since 2016) and Senior Scientist, Alliance of Bioversity and CIAT-CGIAR

Marijke D'Haese, Head, Department of Agricultural Economics, Faculty of Bioscience Engineering and Professor of Rural Development Economics, Ghent University (Belgium)

Thong Le Quang, Dean, Faculty of Animal Science and Veterinary Medicine, Nong Lam University, Ho Chi Minh City (Vietnam)

Nathalie Munier-Jolain, Deputy Director General of Science and Innovation, INRAE

Olivier Gros, University Professor of Biology of Organisms, University of the French Antilles

Sébastien Praud, Global Lead of Breeding Technologies, Limagrain Vegetable Seeds (LVS)

Tahiana Ramananantoandro, Head, Department of Forestry and Environment, École supérieure des sciences agronomiques (ESSA), University of Antananarivo

Elected staff representatives
Laurence Boutinot • **William's Daré** • **Muriel Figuié**
Olivier Gibert • **Béatrice Rhino**

Secretariat:
Céline Cardi (DGD-RS) • **Bénédicte Favreau (UMR AGAP)**

INRAE-CIRAD-IFREMER-IRD ETHICS IN COMMON COMMITTEE

President: **Patrick Du Jardin,** Professor and Head of Laboratory at the University of Liège, Gembloux Agro-Bio Tech Faculty; agricultural engineer; PhD in agricultural sciences and biological engineering, plant physiology and nutrition specialist

Vice-President:
Valérie Masson-Delmotte CEA senior scientist, climate and environmental science laboratory (Paris Saclay University); member of the French national ethics consultative committee; graduate of Ecole Centrale Paris; PhD in energetics and physics of fluids

Catherine Boyen, PhD in plant biology; Director of the Biological Station in Roscoff

Bernard Bret, geographer specialising in Latin America; former professor at the University of Lyon III

Denis Couvet, agricultural engineer; professor at the French National Museum of Natural History; President of the Foundation for Research on Biodiversity

Mark Hunyadi, professor of social and political philosophy at the Catholic University of Louvain (Belgium); associate professor at the Paris Institut des Mines-Télécom and at EHESS; member of the Orange Ethics Committee

Agnès Michelot, professor of public law specialising in environmental law; member of UMR LIttoral ENvironnement et Sociétés (LIENSs), CNRS-University of La Rochelle; Director of the CNRS Research Federation on Environment and Sustainable Development (FR CNRS 3097); Vice-President of the International Centre for Comparative Environmental Law for the European Region (CIDCE); Vice-President and Honorary President of the French Society for Environmental Law

Pascale Moity Maïzi, professor of socio-anthropology at Institut Agro Montpellier; member of UMR SENS; coordinating member and leader of the AGRITERRIS International Research Network (IRD, INRAE, Institut Agro in France)

Marie-Geneviève Pinsart, philosopher; professor at the Free University of Brussels Research Center for Applied Ethics; member of the IRD Consultative Committee on Ethics for Research in Partnership (CCERP)

Philippe Preux, professor of computer science at the University of Lille; member of the CRIStAL laboratory and the INRIA research centre in Lille; specialist in data-driven machine learning, particularly in the fields of health, agroecology and sustainable development

Ricardo Serrão Santos, professor at the University of the Azores; permanent member of the Portuguese Academy of Sciences and emeritus member of the Portuguese Academy of the Navy; former pro-rector at the University of the Azores; President of IMAR (Interuniversity Institute of Marine Research) in Portugal; former Member of the European Parliament and Minister for the Sea

Youba Sokona, professor specialising in water, energy, environment and sustainable development; Vice-Chair of the Intergovernmental Panel on Climate Change (IPCC); member of the African Academy of Science; coordinator of the African Climate Policy Centre (ACPC)

Filip Volckaert, emeritus professor, Catholic University of Louvain; expert in marine landscape genomics and marine organism connectivity (including fish evolution, population genomics, traceability and co-evolution); member of the Belgian Zoological Society, the European Society for Evolutionary Biology, the British Isles Fisheries Society and the Flanders Marine Institute. Doctor of Oceanography

Secretariat:
CIRAD, **Estelle Jaligot** • INRAE, **Claire Lurin** IFREMER, **Marianne Alunno-Bruscia** • IRD, **Ghislaine Thirion**

GENERAL MANAGEMENT

Chief Executive Officer:
Élisabeth Claverie de Saint Martin

Thierry Lefrançois, Nadine Zakhia-Rozis, advisors to CEO

Anna Boeri, Head of Public Affairs

Marie-Laurence Pouxviel, Head of Communication

Jean-Michel Vassal, Head of Evaluation Systems

Estelle Jaligot, Head of Ethics and Research Integrity

OFFICE OF THE DIRECTOR GENERAL IN CHARGE OF RESEARCH AND STRATEGY

Director General
Jean-Paul Laclau

Deputy Director General
Thierry Fourcaud

Deputy Director General
Sélim Louafi

Assistant Director General
Sylvie Lewicki

Pascal Doll, Manager, Research Impact and Marketing Service

Lisa Blangy, Deputy Manager, Research Impact and Marketing Service

Inese Rozensteine, Head, Europe Office

Sélim Louafi, acting Head of Partnerships

Anne Toulet, Head of Scientific Information and Open Science

Sasha Legrand Valdés, Head of Incentive Operations

Cathy Grevesse, Head of Quality, Social Responsibility and Research Infrastructures

Alexia Prades, Head of Tropical Value Chains

Frédéric Diez, Head of Higher Education and Vocational Training

Jean-Marc Bouvet, Regional Director, Southern Africa and Madagascar

Sandrine Dury, Regional Director, Mediterranean, Middle East and Balkan countries

Patrice Grimaud, Regional Director, East Africa

Tanguy Lafarge, Regional Director, Mexico, Central America and Andean countries

Thierry Leroy, Regional Director, East Africa

Serge Marlet, Regional Director, West Africa - Forest and Humid Savannah

Pierre Marraccini, Regional Director, Brazil and Southern Cone Countries

Jean-Marc Roda, Regional Director, Southeast Asian islands

François Roger, Regional Director, Continental Southeast Asia

Ibra Touré, Regional Director, West Africa - Dry Zone

OFFICE OF THE DIRECTOR GENERAL IN CHARGE OF RESOURCES AND ORGANISATION

Director General, Regional Director Île-de-France
Anthony Farisano

Deputy Director General
Pierre-Jean Ballard

Assistant Director General
François Laporte

Vincent Fabre-Rousseau, Regional Director, Montpellier-Occitanie

Nathalie Séguret, Deputy Regional Director, Montpellier-Occitanie

Magalie Jannoyer, Regional Director, French West Indies, French Guiana and Caribbean

Isabelle Mialet-Serra, Deputy Regional Director, French West Indies, French Guiana and Caribbean

Éric Jeuffrault, Regional Director, Réunion-Mayotte and Indian Ocean

Jean-Cyril Dagallier, Deputy Regional Director, Réunion-Mayotte and Indian Ocean

Thierry Couloumies, Manager, Accounts and Finance

Sophie Gavelle, Deputy Manager, Accounts and Finance, in charge of Central Accounts and Finance Services

Benoît Cervello, Deputy Manager, Accounts and Finance, in charge of Decentralised Accounts and Finance Services

Aurélie Botta, Manager, Human Resources

Laurence Rouseau, Manager, Information Systems

Arthur Goubet, Technical Manager, Installations and Maintenance

Alexandrine Rey, Head, Legal Affairs and Compliance

Yann Combot, Head, Archives

Malaurie Salles, Head, Procurement Office

Fabienne Knoepflin, Head, Performance and Internal Auditing

Anthony Farisano, Acting Head, Health and Safety

Scientific departments and research units
(as of 31 December 2025)

BIOLOGICAL SYSTEMS DEPARTMENT (BIOS)

Delphine Luquet, Director

Martijn ten Hoopen, Deputy Director

David Berthier-Teyssedre, Assistant Director

Guilhem Lacombe, Assistant Director

Genetic Improvement and Adaptation of Mediterranean and Tropical Plants (UMR AGAP Institut)

Animals, Health, Territories, Risks, Ecosystems (UMR ASTRE)

Botany and Modelling of Plant Architecture and Vegetation (UMR AMAP)

Centre for Biology and Management of Populations (UMR CBGP)

Diversity-Adaptation-Development of Plants (UMR DIADE)

Host-Vector-Parasite-Environment Interactions in Neglected Tropical Diseases due to Trypanosomatids (UMR INTERTRYP)

Plant Communities and Biological Invaders in Tropical Environments (UMR PVBMT)

Plant Health Institute Montpellier (UMR PHIM)

PERFORMANCE OF TROPICAL PRODUCTION AND PROCESSING SYSTEMS DEPARTMENT (PERSYST)

Éric Justes, Director

Dominique Pallet, Deputy Director

Loïc Brancheriau, Assistant Director

Sylvie Mouras, Assistant Director

Agroecology and Sustainable Intensification of Annual Crops (UPR AIDA)

Biodiversified Agrosystems (UMR ABSys)

Water, Soil and Plant Analysis (US Analyses)

Biomass, Wood, Energy, Bioproducts (UPR BioWooEB)

Integrated Approach to Food Quality (UMR QUALISUD)

Functional Ecology and Biogeochemistry of Soils and Agrosystems (UMR Eco&Sols)

Agroecological Functioning and Performances of Horticultural Systems (UPR HortSys)

Ecological Functioning and Sustainable Management of Banana and Pineapple Cropping Systems (UPR GECO)

Institute of Evolution Sciences of Montpellier (UMR ISEM)

Recycling and Risk (UPR Recycling and Risk)

ENVIRONMENTS AND SOCIETIES DEPARTMENT (ES)

Claire Cerdan, Director

Denis Gautier, Deputy Director

Pascal Bonnet, Assistant Director

Guillaume Lescuyer, Assistant Director

Sandra Vander Stuyft, Assistant Director

Actors, Resources and Territories in Development (UMR ART-DEV)

Centre for International Research on Environment and Development (UMR CIRED)

Ecology of the Forests of French Guiana (UMR ECOFOG)

Forests and Societies (UPR F&S)

Water Management, Actors, Territories (UMR G-EAU)

Innovation and Development in Agriculture and Food (UMR INNOVATION)

Montpellier Interdisciplinary Center on Sustainable Agri-food Systems (social and nutritional sciences) (UMR MOISA)

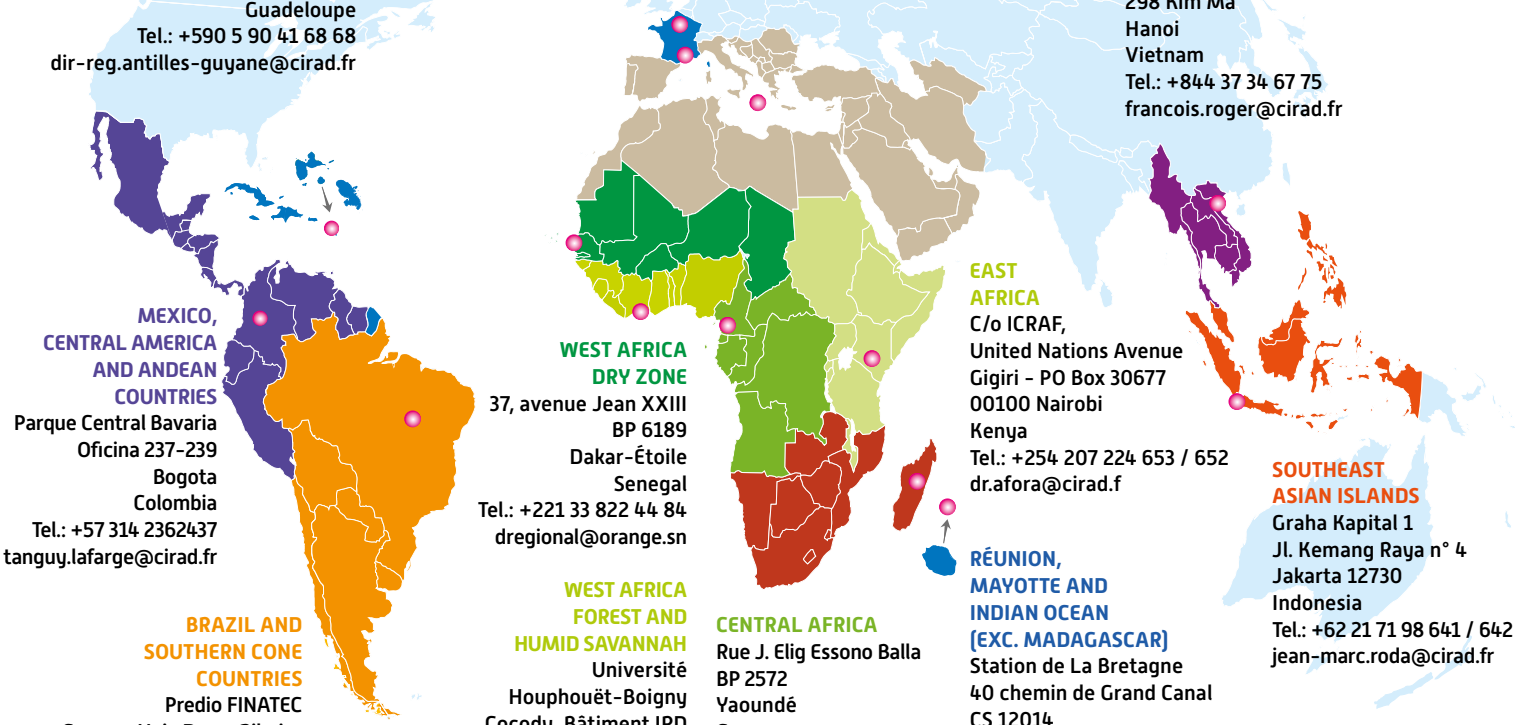
Knowledge, Environment and Societies (UMR SENS)

Mediterranean and Tropical LIvestock Systems (UMR SELMET)

Land, Environment, Remote Sensing and Spatial Information (UMR TETIS)

UMR: joint research unit • UPR: internal research unit • US: service unit

Regional office addresses



ÎLE-DE-FRANCE
42, rue Scheffer
75116 Paris
France
Tel.: +33 1 53 70 20 21
drif@cirad.fr

MONTPELLIER-OCCITANIE
Avenue Agropolis
TA 178/04
34398 Montpellier Cedex 5
France
Tel.: +33 4 67 61 49 34
dr-mo@cirad.fr

MEDITERRANEAN, MIDDLE EAST AND BALKAN COUNTRIES
Avenue Agropolis
TA 179/04
34398 Montpellier Cedex 5
France
Tel.: +33 4 67 61 49 47
sandrine.dury@cirad.fr

FRENCH WEST INDIES, FRENCH GUIANA AND CARIBBEAN
Station de Neufchâteau
Sainte-Marie
97130 Capesterre-Belle-Eau
Guadeloupe
Tel.: +590 5 90 41 68 68
dir-reg.antilles-guyane@cirad.fr

CONTINENTAL SOUTHEAST ASIA
Cité diplomatique de Van Phuc
Bureau 102, Bâtiment 2G
298 Kim Ma
Hanoi
Vietnam
Tel.: +844 37 34 67 75
francois.roger@cirad.fr

MEXICO, CENTRAL AMERICA AND ANDEAN COUNTRIES
Parque Central Bavaria
Oficina 237-239
Bogota
Colombia
Tel.: +57 314 2362437
tanguy.lafarge@cirad.fr

WEST AFRICA DRY ZONE
37, avenue Jean XXIII
BP 6189
Dakar-Étoile
Senegal
Tel.: +221 33 822 44 84
dregional@orange.sn

EAST AFRICA
C/o ICRAF,
United Nations Avenue
Gigiri - PO Box 30677
00100 Nairobi
Kenya
Tel.: +254 207 224 653 / 652
dr.afora@cirad.f

SOUTHEAST ASIAN ISLANDS
Graha Kapital 1
Jl. Kemang Raya n° 4
Jakarta 12730
Indonesia
Tel.: +62 21 71 98 641 / 642
jean-marc.roda@cirad.fr

BRAZIL AND SOUTHERN CONE COUNTRIES
Predio FINATEC
Campus Univ Darcy Ribeiro
Caixa Postal 4522
CEP. 70842-970
Brasilia-DF
Brazil
Tel.: +55 61 33 66 16 01
brasil-conesul@cirad.fr

WEST AFRICA FOREST AND HUMID SAVANNAH
Université
Houphouët-Boigny
Cocody, Bâtiment IRD
01 BP 6483
Abidjan
Ivory Coast
Tel.: +225 07 22 48 18 41
ciradci@aviso.ci

CENTRAL AFRICA
Rue J. Elig Essono Balla
BP 2572
Yaoundé
Cameroon
Tel.: + 237 222 21 25 41
cirad-cm@cirad.fr

RÉUNION, MAYOTTE AND INDIAN OCEAN (EXC. MADAGASCAR)
Station de La Bretagne
40 chemin de Grand Canal
CS 12014
97743 Saint-Denis Cedex 9
La Réunion
Tel.: +262 2 62 72 78 00
dir-reg.reunion@cirad.fr

SOUTHERN AFRICA AND MADAGASCAR
Ampandrianomby
BP 853
Antananarivo 101
Madagascar
Tel.: +261 20 22 406 23
dregion@cirad.mg

Working together for tomorrow's agriculture

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

Its works with its partners to build knowledge and solutions for resilient farming systems in a more sustainable, inclusive world. It mobilises 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, health (of plants, animals and ecosystems), sustainable development of rural territories, and their resilience to climate change. CIRAD works in some fifty countries on every continent, thanks to the expertise of its 1750 staff members, including 1200 scientists, backed by a global network of some 200 partners. It also supports French scientific diplomacy operations.

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

cirad
AGRICULTURAL RESEARCH FOR DEVELOPMENT

42, rue Scheffer
75116 Paris
France

cirad.fr

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