



RÉPUBLIQUE
FRANÇAISE

Liberté
Égalité
Fraternité



cirad

AGRICULTURAL RESEARCH
FOR DEVELOPMENT

East Africa



The CIRAD regional office

18
employees



including 17 scientists

10 PhD and
5 Masters
students
supervised each year



6 priority
research
topics



Biodiversity
Climate change
Food systems
Territories and collective action
Agroecological transitions
One Health

4 tropical
agricultural
value chains



Coffee • Cotton
Dairy • Sorghum and millet

1 platform
in partnership
for research
and training



8 research
units



35 active
projects



143
missions
a year



30
partner
institutions

20 local

2 regional

8 international

East Africa



One platform in partnership for research and training (dP)

Transforming Agriculture for Animal, Crop and Ecosystem Health in the East African Rift

TRACE

This regional partnership, based on transdisciplinary collaboration, is working to support agro-socio-ecosystem health through research and collective action.

This means fostering agroecological transitions in order to build productive, sustainable farming systems that benefit human, plant, animal, soil and ecosystem health. It relies on co-constructing knowledge and developing solutions tailored to local contexts, in close collaboration with farmers' organisations, civil society, the private sector and public institutions in Ethiopia, Kenya, Tanzania and Uganda.

A new alliance to reconnect research and life in the territories of the Great Rift valley in Africa | CIRAD



Herd of Ankole cows, a typical East African race © B. Faye, CIRAD

CIRAD in East Africa



Kilimanjaro (Kenya)
© byrdyak, Adobe stock

In East Africa, a region of marked contrasts where family farming and pastoralism face significant climate threats, CIRAD is working to support sustainable food system transformation. Its engagement is structured around strategic partnerships with international centres and national research and education establishments. Its operations are geared towards the agroecological transition, agro-ecosystem health and concerted natural resource management, to boost the resilience and food security of populations in the region.

The CIRAD regional office for East Africa is based in Nairobi, Kenya. The establishment's researchers work in several countries in the region, notably Ethiopia, Kenya, Tanzania and Uganda. Its teams conduct research and development projects in partnership with local universities, agricultural research organisations and NGOs, and major international research centres (icipe, ILRI, IITA).

Transforming agriculture through agroecology and ecosystem health

East Africa is characterised by considerable heterogeneity, marked by economic contrasts and political or climate instability. The region's people, who mostly live in rural areas, depend on family farming, which is particularly vulnerable to shocks such as extended droughts and recurrent

flooding. In this context, food insecurity is closely linked to territorial fragility and difficult market access.

In response, CIRAD has placed the agro-ecological transition at the heart of its operations, to make food systems more resilient. Through the TRACE platform in partnership, we are working with our partners to co-construct innovative solutions to improve soil, crop and animal health. In particular, our approach makes use of living labs and regional networks to foster sustainable, inclusive production systems.

To address the challenges encountered at the biodiversity-health-agriculture nexus, our scientists are developing a One Health integrated approach, which is vital in a region dominated by pastoral livestock production and co-existence with wildlife. Lastly, capacity building and academic training are a strategic pillar for long-term support of public policy and economic transformation in the region.

Main fields of research

- Agroecology and soil fertility
- Ecosystem functioning and biodiversity management on the fringes of protected areas
- Agroforestry and conservation agriculture
- Animal health, environment and health risks
- Pest and disease control
- Geographical indications (GIs), product quality and market access
- Livestock husbandry and production systems
- Public policy and governance
- Coffee value chain
- Cotton value chain
- Dairy value chain

Research geared towards six priority topics



Biodiversity, agriculture's best worker
© T. Brévault, CIRAD

Biodiversity

Using pollinators to protect crops

Pollination by insects and pest regulation by natural enemies are among the vital ecosystem services that biodiversity provides for farming. Preserving that biodiversity is vital for guaranteeing the sustainability of farming systems. It governs both yields and resilience to hazards, particularly climate risks. However, pollinators are currently under direct threat from two types of pressure resulting from agricultural activities: pesticide use, which devastates pollinator populations, and semi-natural habitat (hedges, trees, fallow) losses linked to the expansion and simplification of cultivated landscapes.

The Polliculture project in Tanzania is assessing the impact of insecticides and tree cover on pollinators and the pollination service they provide. It is also testing the hypothesis that there may be synergy between pollination and the natural defences of cotton plants. The aim is to demonstrate that a reduction in chemical input use, combined with optimum pollination, can maintain and even improve cotton yields compared to conventional methods, thus paving the way for nature-based protection solutions.

Period > December 2025 to June 2027



Climate change

Agroforestry innovations to benefit resilience

Innovative agroforestry, involving people, trees, crops and livestock, is being rolled out to boost rural livelihoods and resilience to climate change in Africa. This is the topic of the GALILEO project, which aims to boost people's economic resilience to climate change while preserving biodiversity in sub-Saharan Africa. The growing effects of climate disruption are making people more vulnerable, par-

ticularly due to the increasing scarcity of water supplies and the reduction in economic activity during the dry season. GALILEO is funded by the EU Horizon Europe programme and the Swiss Confederation, and relies on an innovative participatory approach that encompasses agroforestry, crops, livestock production and local know-how. It is serving to co-develop specific agroforestry solu-

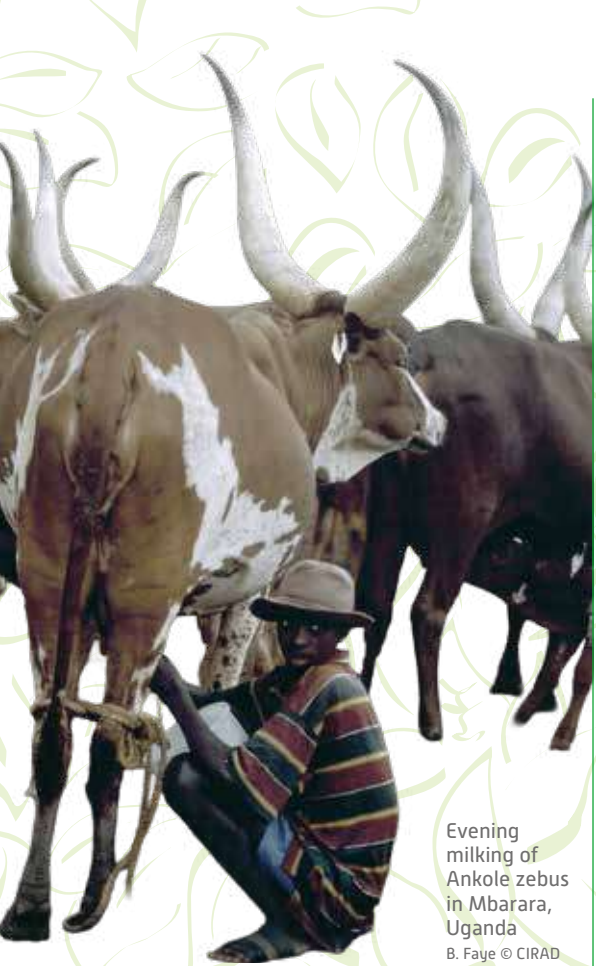
tions capable of significantly improving agricultural performance.

The project is co-coordinated by CIRAD, with a large consortium of 24 partners including research institutions, universities, private-sector players and local organisations. It is being implemented in four African countries: Cameroon, Ghana, Kenya and Senegal. GALILEO aspires to act as a reference in terms of resilient agroforestry in Africa, reconciling ecosystem preservation, adaptation to climate change and economic development.

Period > January 2025
to December 2028



Landscape with agroforest hedges in Uganda
E. Torquebiau © CIRAD



Evening milking of Ankole zebus in Mbarara, Uganda
B. Faye © CIRAD

Food systems

Working towards a more productive, low-carbon, sustainable and resilient dairy sector

The Dairy Interventions for Mitigation and Adaptation (DaIMA) project is working to transform the dairy sector in East Africa, to make it more resilient and productive and reduce its greenhouse gas emissions. It is being implemented in Kenya, Rwanda, Tanzania and Uganda, to support a sector that is of strategic importance for food security and rural incomes, but that is very exposed to drought and animal diseases and performs poorly in terms of production.

DaIMA is supporting an overall improvement in dairy systems by working on several levers: animal health; livestock feed; access to veterinary services; value chain organisation; and access to funding. The project is encouraging the adoption of more sustainable, efficient livestock husbandry practices, to boost productivity while reducing environmental impact. It

is also focusing on innovation; capacity building for local players; involving small-scale dairy producers and cooperatives; and including women and young people in dairy value chains.

DaIMA is funded by the Green Climate Fund, and is combining adaptation to climate change and reduction of emissions in an integrated approach intended to transform livestock systems sustainably.

Period > 2025 – 2033



One Health

Monitoring disease vectors to protect populations

The Integrated multi-vector-borne diseases platform to assess how global change impacts transmission (IMPACTING) is working on vector-borne diseases—malaria, dengue, chikungunya, river blindness and sleeping sickness—that have a long-term impact on health and the economy in sub-Saharan Africa and primarily affect the most vulnerable people. In response to risks linked to climate change and urbanisation, IMPACTING suggests using a One Health approach to monitor and control the spread of vector insects (mosquitoes, ticks, tsetse flies).

The project, which is funded by the EU Horizon Europe programme and led by a consortium of eleven institutions in Africa (Cameroon, Kenya, Mozambique) and Europe (France, Portugal), is developing an interactive dashboard based on innovative predictive models. The tool allows decision makers to visualise the risks in real time and optimise public health operations.

IMPACTING is banking on co-construction with communities and local capacity building. By integrating science and citizen action, the project is securing the long-term health of local communities in the face of environmental crises.

Period > June 2025 to May 2029



Molecular analyses in the field for early pathogen detection [xenomonitoring] during a regional training session in Kenya
© IMPACTING project

Agroecological transitions

A regional network to promote agroecology in the region

The regional multi-actor research network on agroecology in East Africa (RMRN-EA) was set up in response to the climate emergency and food challenges, and associates researchers and academic players from Kenya, Tanzania and Uganda, working to speed up the agroecological transition. Within the network, CIRAD is coordinating living labs in which farmers and scientists are working together to design the agroecological systems of the future.

The work centres on a shared diagnosis of the obstacles and assets specific to each territory, followed by co-conception workshops to design solutions tailored to grassroots realities. The resulting “bespoke” agroecological systems are subsequently tested in the field and gradually improved, paving the way for a range of transition pathways.



Co-conception workshop, Greenshade Group, Machakos, Kenya © E. Kimulu, icipe

This multi-institutional consortium, steered by the International Centre of Insect Physiology and Ecology (icipe) and funded by the EU DeSIRA programme, is modernising university courses, structuring scientific data and informing public policy. Its governance puts women and young people at the heart of the decision-making process, to guarantee an equitable transition that restores ecosystems and secures regional food supplies.

Period > November 2024
to October 2028



Territories and collective action

Livestock farmers, States and partners working together to transform pastoral systems

The Regional Livestock Programme (RLP) aims to boost the resilience of livestock systems and pastoral communities in East Africa and the Horn of Africa, encompassing Ethiopia, Kenya and Somalia. The sector is vital for the food security and livelihoods of millions of people, and the programme is therefore helping livestock farmers cope with climate, health and economic crises. It is working on several levels: better climate resilience and sustainable natural resource management; improved access to water for livestock; more effective animal health monitoring and veterinary services; and greater access to markets. It is promoting innovative approaches to secure rangelands and reduce the risks linked to recurrent droughts.

The programme relies on regional cooperation between States, technical institutions and local communities, to harmonise policy and facilitate cross-border exchanges. It pays particular attention to women and young people, who are key players in transforming livestock systems, taking an inclusive approach and working to create jobs for them.

By means of this integrated approach, the RLP is helping to build more sustainable, productive and resilient pastoral systems, to address the challenges of climate change.

Period > Due to run for 12 years, with an initial phase from 2023 to 2027



Main partners

Kenya

- Kenya Agricultural and Livestock Research Organisation (KALRO)
- University of Nairobi (UoN)
- University of Embu
- International Centre of Insect Physiology and Ecology (icipe)
- International Livestock Research Institute (ILRI)
- International Institute of Tropical Agriculture (IITA)
- Center for International Forestry Research and World Agroforestry (CIFOR-ICRAF)

Uganda

- National Agricultural Research Organisation (NARO)
- Makerere University
- PELUM Association
- Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)
- Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)

Ethiopia

- Ethiopian Institute of Agricultural Research (EIAR)
- Addis Ababa University (AAU)
- Mercy Corps
- African Union (AU)

Tanzania

- Tanzania Agricultural Research Institute (TARI)
- Sokoine University of Agriculture (SUA)

Rwanda

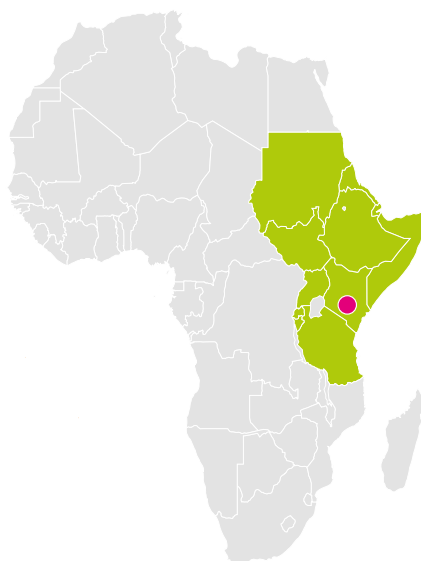
- One Acre Fund
- Rwanda Agricultural and Animal Resources Board (RAB)
- University of Rwanda

Burundi

- Institut des Sciences agronomiques du Burundi (ISABU)
- Société sucrière du Mosso (SOSUMO)

CIRAD
Regional Office for
East Africa

CIRAD c/o ICRAF
United Nations Avenue,
Gigiri
PO Box 30677
00100 Nairobi
Kenya
dr.afora@cirad.fr



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

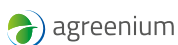
Its works with its partners to build knowledge and solutions for resilient farming systems in a more sustainable, inclusive world. It mobilises science, innovation and training in order to achieve the Sustainable Development Goals. Its expertise supports the entire range of stakeholders, from producers 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 science diplomacy operations.

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

Working together for tomorrow's agriculture



42, rue Scheffer
75116 Paris
France



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