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# IRD and its partnerships in Africa: science with meaning for us all

**In Africa, IRD and its African partners are pursuing their prime objectives of generating scientific knowledge and finding solutions to meet the challenges** of human, social and economic development. In the context of a continuing threat to the planet's future, IRD aims to contribute to the joint effort to preserve ecosystems through sustainable human activity and societal development. This is the driving force behind the institute's commitment to **Sustainability Science**<sup>1</sup>.

Africa is a continent of strong implication for IRD, where the Institute is active in all its fields of scientific expertise through numerous partnerships and research schemes. In terms of investment and human resources, Africa is IRD's prime geographical area of intervention, reflecting the priorities of French policy regarding state aid in favour of development. These priorities are set out in the programming act of 4 August 2021 relating to inclusive development and combating inequality worldwide, and in the successive CICID summaries of decisions<sup>2</sup>.

IRD is in line with the vision expressed by African countries during the consultation for drafting the **Global Sustainable Development Report** (2019): "Africa's transformation must come from within. **Nothing about us without us**". IRD supports this way of thinking, which has been extended to various founding events such as the New Africa-France summit (October 2021) and

the **Achille Mbembe**<sup>3</sup> report. IRD already contributes to the mobilities recommended by the report. The European Union-African Union Summit is calling for a new **alliance** to overcome **imbalances** and create a "renewed partnership for solidarity" between Europe and Africa.

Lastly, the Marseille Conference<sup>4</sup> organised under the French presidency of the European Council, announced the Marseille Declaration<sup>5</sup> that established common values and principles shared by all **European Union** partners for a mutually-beneficial cooperation with Africa that would serve scientific progress and sustainable development goals.

Through an innovative model of equitable partnership supporting joint research and committing to the joint production of knowledge, IRD and its partners are making science, training and innovation the prime levers for development **together with Africa**.

1 <https://www.ird.fr/science-de-la-durabilite-defis-cosav-ou-en-sommes-nous>

2 Interministerial committee for international cooperation and development

3 <https://www.vie-publique.fr/sites/default/files/rapport/pdf/281834.pdf>

4 <https://www.enseignementsup-recherche.gouv.fr/fr/pfue-inco-marseille>

5 <https://www.enseignementsup-recherche.gouv.fr/sites/default/files/2022-03/d-claration-de-marseille--17072.pdf>

# Research and training to meet societal challenges in Africa

IRD's methods of intervention adjust to the **changes taking place** across Africa and to the strategic priorities of the continent's partners within the eco-systems of higher education and research, as well as to socio-economic and political priorities.

The **Strategic and Scientific Steering Committees (SSSCs)** are forums for debate and discussion and are examples of the collaborative model that has been adopted with partners in each of the countries where the Institute operates. They unite scientific communities, IRD and institutional partners (both public and private) beyond the academic scope in order to programme and define strategies for the main objectives and schemes to which the scientists/key players will register their collaboration.

In addition to the Institute's scientific policy and the research schemes that underpin it, IRD is strongly involved in the programme for **Partnerships with African higher education**<sup>6</sup> (PEA) that reflects the two-fold approach of strengthening the capacity of African institutions and enhancing the worldwide image of French institutions. IRD is currently co-leading three of the seven projects selected and implemented in **Niger, Madagascar and Senegal**.

IRD has uploaded to the **WHEC2022**<sup>7</sup> platform a public policy paper about regional doctoral support in Africa entitled *PhD programs in Africa: the arrows, the targets and the archers*<sup>8</sup>. The aim is to assess the challenges faced by local players working to build scientific communities of excellence and to determine the conditions for the implementation of **PhD programmes at regional level**.

Another of IRD's key missions is to help scientific communities in African countries to **make their voices heard** among international bodies and to contribute to achieving **sustainable development goals**.

## A connected network

The Institute's expansion into multiple African countries is based on a network of representatives and contacts that allows it to sustain a long-term presence in a number of target countries while encouraging regional developments and offering guidance.

 **97**  
EXPATRIATE STAFF  
including **68** researchers  
**14** engineers and technicians  
**15** volunteers

**154** LOCAL  
PERMANENT STAFF

 **300**  
MOBILITIES  
SOUTH-NORTH  
SOUTH-SOUTH  
since 2017

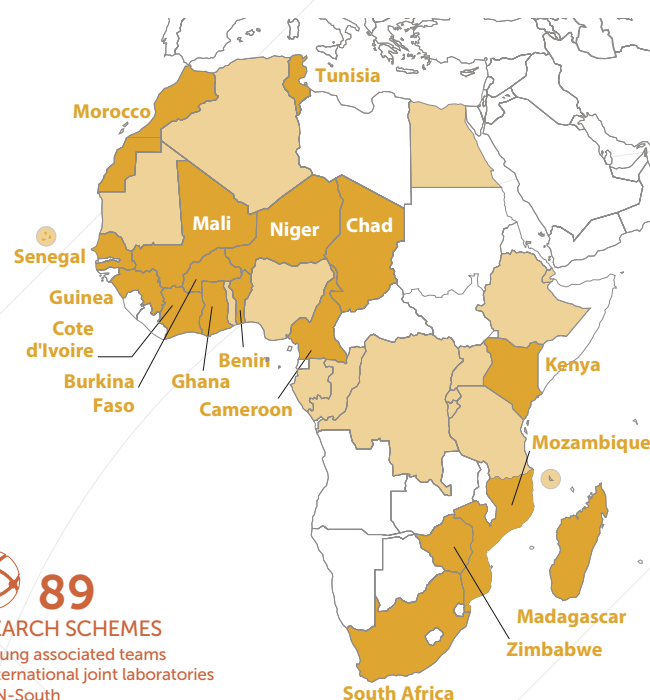
 **17**  
REPRESENTATIVES  
covering **36** African countries

ON THE MAP:

- Regional expansion representatives and contact persons abroad
- Extension territoriale

**120**  
LONG-TERM  
MISSIONS  
the equivalent of **328** months in 2022

 **89**  
RESEARCH SCHEMES  
**33** Young associated teams  
**24** International joint laboratories  
**32** IRN-South



## Taking action to meet global challenges

### FOR A SOLUTION TO EPIDEMICS

Alongside its African partners, IRD is taking both urgent and long-term measures to prevent and fight against epidemics (HIV-SIDA, Ebola, SARS-Cov2) in collaboration with other French and international organisations and sponsors. Support is provided in **diagnosing illnesses, monitoring epidemics** and organising the response of national healthcare systems, as well as for the development of scientific projects.

For example, the **ARIACOV**<sup>9</sup> and **AFROSCREEN**<sup>10</sup> projects, led largely by IRD, funded by the French Development Agency (AFD) and **involving** a number of laboratories in African countries, are contributing to the global response to the **Covid-19** pandemic.

In Guinea, the **Infectious Diseases Research and Training Centre (CERFIG)** is an integrated organisation developed with IRD to study infectious diseases and provide medical treatment. It contributes to the development of research and training projects and healthcare policies in Guinea.

International and interinstitutional cooperation – particularly that of IRD, **INSERM** and **ANRS | Emerging infectious diseases** with CERFIG – has led to the creation in 2022 of **PRISME**, an international world health research platform that is at the core of IRD's partnership strategies in the field of infectious tropical illnesses. This platform reflects the excellent **symbiosis that exists between French and Guinean players in higher education and research focussing on integrated approaches to world health**.

<sup>6</sup> <https://www.ird.fr/intranet/partenariats-avec-lenseignement-superieur-africain-la-france-renforce-son-soutien-aux>

<sup>7</sup> <https://www.ird.fr/ird-repond-present-pour-la-conference-whhec-de-lunesco>

<sup>8</sup> <https://whhec2022.net/resources/PHD%20PROGRAMS%20IN%20AFRICA%20-%20THE%20ARROWS,%20THE%20TARGETS%20AND%20THE%20ARCHERS.pdf>

<sup>9</sup> <https://www.ariacov.org/>

<sup>10</sup> <https://www.afroscreen.org/>

<sup>11</sup> The EDD-BIODIV LMI (international joint laboratory) unites multiple Ivorian partners and the African Centre of Excellence on Climate Change, Biodiversity and Sustainable Agriculture (ACE CCBAD).

## PRESERVING BIODIVERSITY

Of all the major environmental challenges, the protection and management of African biodiversity is probably still one of the most complex of all. To achieve a better understanding of the links between biodiversity, climate and food systems requires significant investment in interdisciplinary research programmes that combine global trends with more specific **local expertise** and circumstances.

With its partners, IRD has therefore decided to co-construct schemes (LMI, JEAI, IRN-South) around the closely-linked topics of **climate, biodiversity and sustainable development** in order to propose solutions and put them into practice.

In Cote d'Ivoire, the **EDD-BIODIV LMI**<sup>11</sup> (Ecology and sustainable development - biodiversity, agroecology and urban ecology) builds on savannah ecology studies

that have been conducted around the Lamto ecology station for over three decades. The laboratory is developing an area of research in agroecology and applications based on knowledge of the functioning of ecosystems and of their associated services.

In Madagascar, two regional projects funded by AFD and the French Facility for Global Environment, **DIDEM**<sup>12</sup> and **VARUNA**<sup>13</sup> emphasise the urgent need for action to preserve and ensure the good management of biodiversity and ecosystems both on land and at sea. These projects propose innovative participatory tools for the dialogue between **science, society and policymakers** in order to raise awareness, strengthen capacity and pool the efforts of all public and private players and members of civil society.

## FOR SUSTAINABLE AGRICULTURE

In a context of food security being threatened by climatic and political crises, IRD aims to promote research in favour of sustainable agriculture. With its network of African partners, IRD is co-building large-scale projects with a strong interdisciplinary focus to facilitate adaptations to climate change for the benefit of populations.

In the Sahara and the Sahel region, the **Great Green Wall**, project, the African Union's flagship initiative to fight against desertification and the deterioration of soils, is strongly supported at a national and European level. IRD is involved with the Great Green Wall Accelerator project announced at the **One Planet Summit**.

In Senegal, Zimbabwe, Kenya and France, the **DSCATT**<sup>14</sup> is exploring the potential of trapping carbon in cultivated soils while at the same time "intensifying" agriculture in a sustainable way. The project studies interactions between biophysical and socio-economic factors over various scales of space and time.

IRD is developing a number of training actions around these topics, especially in Senegal, Burkina Faso and Ivory Coast, through programmes such as **PARFAO**<sup>15</sup> and the training of PhD students.

## IRD research schemes

IRD's scientific policy, implemented within research schemes, is based on **nine major societal challenges and four cross-disciplinary ones** (agroecology, water as common property, inequalities, risks and crises).



Each scheme may handle more than one of these challenges.

- 1. Coastline and ocean
- 2. One health
- 3. Biodiversity
- 4. Sustainable cities
- 5. Georesources and sustainability
- 6. Climate change
- 7. Sustainable food systems
- 8. Migrations
- 9. Lands and soils

## Inspiring synergies

The Institute is a driving force that mobilises resources in favour of research partnerships with, and between, African institutions. This role can be seen within our joint research units in the framework of French university policies, at the level of research alliances such as Allenvi and Aviesan, as well as in supranational organisations.

In Africa, the **89 IRD research schemes – 33 young associated teams, 24 international joint laboratories and 32 IRN-South** – associated with IRD research units, facilitate the emergence and consolidation of permanent research teams and/or organisations.

In addition, the **ACE Partner**<sup>16</sup> project aims to create topic-based networks between 21 leading players in academic excellence in eight countries (Senegal, Cote d'Ivoire, Guinea, Niger, Nigeria, Ghana, Burkina Faso and Benin) and to promote their influence across Africa and beyond.

The programme is a real innovation in the South/South/North partnership model. It is the result of cooperation between IRD, the French Development Agency, the World Bank, the African Universities Association and the National Digital Technology & Science Research Institute (INRIA).

The programme aims to develop shared training programmes, boost academic mobility and, in the long run, go beyond the four existing networks on the topics of science & digital technology, responsible mining & sustainable development, sustainable water management, and infectious diseases.

<sup>12</sup> <https://www.ird.fr/projet-didem-dialogue-science-decideurs-pour-une-gestion-integree-des-environnements-littoraux-et>

<sup>13</sup> <https://www.expertisefrance.fr/fiche-projet?id=861344#:~:text=L'objectif%20global%20du%20programme,et%20de%20la%20soci%C3%A9t%C3%A9%20civile>

<sup>14</sup> Dynamics of carbon capture and storage in the soils of tropical and temperate agricultural systems.

<sup>15</sup> Promotion of agroecology in West Africa

<sup>16</sup> <https://www.ird.fr/acepartner>



The **African Research Initiative for Scientific Excellence (ARISE)** was launched under the Europe-Africa strategic partnership and was endowed with €25 million as part of the African Academy of Sciences (AAS). This programme, for which IRD contributed largely to its creation, **paves the way towards an Africa that has even more appeal at a scientific level, rallying the continent's young scientists to design and create the very best in future innovations.**

ARISE funds around forty excellence bursaries across the entire African continent. IRD has successfully supported four African beneficiaries of this programme.

The **Global Africa** programme, launched in 2021, contributes to the presentation, dissemination and reinforcement of research in human and social sciences across the continent. The new international, multidisciplinary and multilingual magazine, *Global Africa* was launched in Senegal in March 2022. Besides creating the magazine, the programme supports and encourages scientific production and boosts the scope of scientific publications in Africa.

The project is funded by AFD and led by IRD and the Gaston Berger University of Saint-Louis in **Senegal**, in partnership with the International University of Rabat in **Morocco** and LASDEL in **Benin** and **Niger**, the editorial infrastructure is rooted in the African continent and welcomes reflections on global issues and their challenges as seen from Africa and its diaspora.

## Mobilities and training for the benefit of young Africans

IRD is particularly keen to support young Africans by **supporting the training** of scientists within local higher education, research and innovation schemes, while encouraging their integration into international scientific networks and helping to facilitate the employability of young graduates.

Over the last twenty years or so in Africa, some **1,500 researchers** have worked closely with an IRD team and with the Institute's support. Since 2017, the Institute has granted its African partners the possibility of geographical mobility through a research scheme called **South-North and South-South Mobilities**. This has already resulted in over 300 mobilities of durations ranging from two months to a year in 28 different African countries.

 around  
**850**  
**ARTS PHD STUDENTS**  
and over **100** ongoing bursaries

 Between 2017  
and 2021  
**42%**  
**OF CO-PUBLICATIONS**  
with African partners  
out of a total of approximately  
**8,200** publications

The **thesis research grants in the South (ARTS bursary)** offers three years of support to young PhD students writing a thesis while alternating between an IRD laboratory and another in the Global South.

### SUPPORT FOR THE DIGITAL TRANSFORMATION

The **Digital4Development Hub** was launched in January 2021. Its management was entrusted to a consortium led by IRD and the Belgian development agency, Enabel.

This is the first operational component of the D4D Hub, a world-scale European project that aims to make Africa's digital transformation fair, inclusive and ecological.

IRD is very committed to the **dialogue between science and society** and is rolling out the international project **e-POP<sup>17</sup>** on the African continent along with RFI-Planète radio. Followed by a community of 100,000 people, young adults produce videos reflecting the observations and questions of populations affected by climate change and other global challenges.

Through its **Youth Clubs**, IRD researchers and their partner schools and associations coordinate action programmes for high-school pupils in order to facilitate the assimilation of scientific knowledge by citizens. Between 15 and 20 high-school and college students are conducting a scientific study on the challenges of sustainable development, including the fight against malaria, the safeguarding of biodiversity, urban development, migrations, climate change, food and the management of resources.

  
**18**  
**YOUTH CLUBS**

 **8**  
**COUNTRIES**  
**IN AFRICA**

 approximately **350**  
**YOUNG AFRICANS**  
**MOBILISED**



17 <https://epop.network>