



Open Science in the South Symposium

Management and openness of research data.

Panorama and perspectives in Africa.

Cotonou - October 25 to 27, 2022

<https://opensciencesud2.sciencesconf.org/>

Three years after the first edition, IRD, CIRAD and the National Academy of Sciences, Arts and Letters (ANSALB) organized the international symposium Open Science in the South in Cotonou. This edition focused on the management and openness of research products - data, protocols, algorithms, computer codes - in Africa, particularly in French-speaking Africa and Madagascar.

The objective was to provide an overview of approaches to the management and openness of research data in Africa, particularly in French-speaking Africa, and to share and promote good practices. It was based on feedback, success stories and workshops.

The interventions were articulated around the following thematic topics :

1. Recommendations and requirements of governments, institutions and research funders for open science
2. Management, sharing and dissemination mechanisms: practices, benefits, obstacles
3. Ethical and legal issues, editorial and economic models

Organization

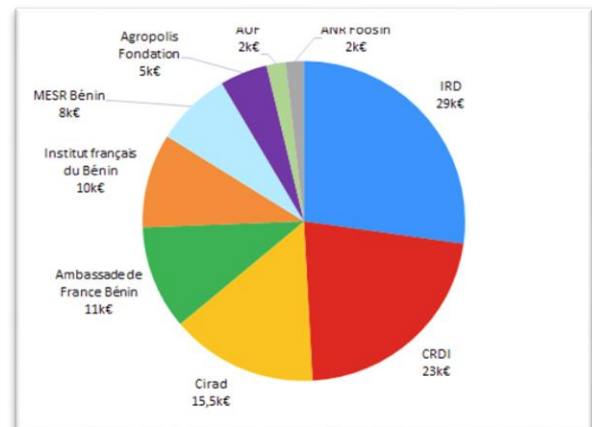
The second edition of the Open Science in the South conference was co-organized by IRD, Ansalb and CIRAD in partnership with the International Development Research Centre (IDRC), the French Embassy in Benin, the French Institute in Benin and the Agence Universitaire de la Francophonie (AUF).

The organizing committee included representatives from IRD (Mission Science Ouverte, Service de l'Information Scientifique et Technique, IRD representation in Benin), ANSALB and CIRAD (Direction Générale Déléguée à la Recherche et à la Stratégie, Dispositifs de Recherche et de Formation en Partenariat, Délégation à l'Information Scientifique et Technique, representative in Benin), i.e. a total of 17 people involved. The international scientific committee was composed of 10 scientists from Benin, Cameroon, Ivory Coast, France, Morocco and South Africa.



Budget

The organizers of the symposium relied on a global budget of 100,000 euros, the result of co-financing by the following actors : National Research Institute for Sustainable Development (IRD), International Development Research Centre (IRDC), CIRAD, French Embassy in Benin, French Institute of Benin, Ministry of Higher Education and Research of Benin, Agropolis Fondation, Agence Universitaire de la Francophonie and ANR Foosin. Nearly two thirds of the budget was allocated to cover the expenses of scientists from Southern countries.



Breakdown of funding for the Open Science in the South conference by contributors

International visibility and media coverage

As in the first edition, UNESCO placed the event under its patronage and it was included in the agenda of the International Year of Basic Sciences and Sustainable Development 2022. The Network of African Academies (NASAC) and the Wacren network provided moral support for the conference.

The conference has given rise to three articles in the Beninese press as well as an article on Scidev.net¹.

The RFI program "Autour du monde" broadcast on 30/11/2022 was dedicated to the event².



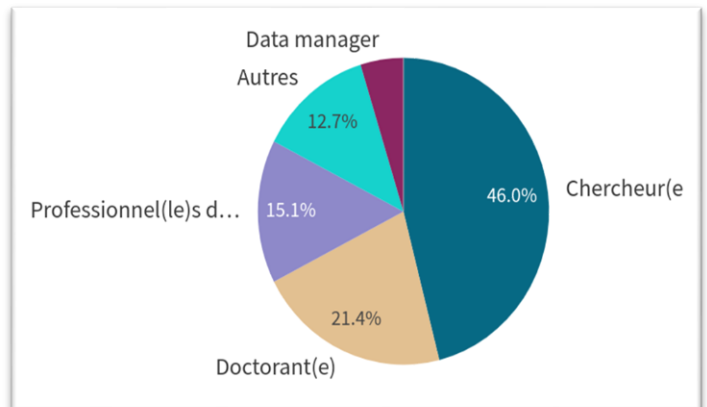
¹ <https://www.scidev.net/afrique-sub-saharienne/scidev-net-at-large/plaidoyer-pour-le-developpement-de-la-science-ouverte-en-afrique/>

² <https://www.rfi.fr/fr/podcasts/autour-de-la-question/20221130-comment-d%C3%A9coloniser-la-science>

Participation

These three scientific days brought together 135 participants of which nearly half were researchers and 20% doctoral students.

The assembly was composed of 46 women, i.e. one third of the participants.



The participants came from 20 different countries :

- Africa : 15 countries including 12 Sub-Saharan African countries (Algeria, Benin, Burkina Faso, Cameroon, Ivory Coast, Madagascar, Mali, Morocco, Niger, Nigeria, Democratic Republic of Congo, Senegal, South Africa, Togo, Tunisia)
- Europe : 4 countries (Germany, France, Netherlands, Switzerland)
- North America : 2 countries (Canada, United States of America)
- Asia : 1 country (India)



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Summary of discussions and exchanges

The symposium was opened in the presence of the President and CEO of IRD, the President of ANSALB and the Deputy Director of the Department of Environment and Society of CIRAD, as well as the Minister of Higher Education and Research of Benin, the President of the Network of African Science Academies (NASAC) and the Ambassador of France to Benin

➤ Barriers to sharing data

Among the reservations and reticence expressed by scientists during the conference, the risk of having their data stolen was mentioned several times. This fear is often linked to a lack of knowledge about the conditions and the individual and collective interest of sharing, or even opening up. Raising this fear implies establishing a climate of trust between partners.

Other fears, more specific to partners in the South, have been put forward, starting with the unfair advantage of opening up data between partners. Inequity of means between research structures in the North and the South determines very variable capacities to reuse shared data. The question of

the means available to research actors also determines the fact that African scientists have to finance the collection of their data, which reinforces their sense of ownership and dissuades them from sharing their data.

➤ **Resources to be strengthened**

Numerous interventions have raised the fact that the difficulties in sharing or opening the data produced by scientific communities are partly due to the lack of robust digital infrastructures allowing the management, dissemination and sharing of research data. On the other hand, the level of awareness-raising and training activities on open science issues and tools remains limited in many countries of the continent, which does not favor the generalization of open practices within academic communities.

➤ **The determining role of national open science policies**

If the sharing of research data remains embryonic in Africa, it is also because there are no national open science policies, except in Ethiopia and Côte d'Ivoire. However, there is a dynamic at work since several countries, including South Africa, are currently carrying out projects to formalize national policies. On the other hand, this political momentum should be reinforced by the African Open Science Platform project, presented by Nokuthula Mchunu, whose objective is to structure the African open science ecosystem and to encourage the formalization of open science policies.

➤ **A necessary inclusive dimension of open science**

As noted in the preliminary study conducted by Innocent Azilan, the primary source of motivation for sharing data among the African scientists surveyed remains the public interest and the common good. In order to respond to the multiple challenges facing African countries, the opening of science must be addressed to all political, economic and social actors. This implies both simplifying the conditions of appropriation and reuse of data and developing mediation actions aimed at strengthening scientific culture among citizens (Louise Bezuidenhout). In the same way, taking into account linguistic diversity is a necessary condition to give visibility to all the scientific productions made on the African continent.

➤ **A need to develop collaborations and networking of actors.**

Given the challenges to be met in order to implement a culture and practices of open science among African scientists, it is essential to promote and structure collaboration between these different actors. The pooling of resources must notably allow to respond to the lack of means available to scientists but also to share experience and good practices between open science actors. It is also important that these collaborations go beyond the African continent and that scientists participate in projects conducted within international networks, in order to promote their skills and to highlight the specific challenges of African research such as the diversity of scientific practices.