French agricultural research institute paves the way to open access: feedback from CIRAD

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Abstract

CIRAD works with developing countries to generate and pass on new knowledge, support agricultural development and fuel the debate on the main global issues concerning agriculture. When countries cannot afford to subscribe to expensive scientific journals, one way to help is to make publications freely accessible. For this reason, CIRAD's information policy focuses not only on scientific quality but also on open access. CIRAD's scientific and technical information (STI) service has played an important role in helping define priorities, finding funds to support open access, and improving the CIRAD publications database so that it complies with French and international document repositories. The first step of the institutional process was to inform researchers and help them publish in open access peer-reviewed journals. Two dedicated tools were designed: a public database called "Où publier" to help choose an appropriate journal, and a public website "CoopIST" to provide information and training resources for scientific writing and publishing. One major challenge was allocating an internal budget and identifying external funders who support open access. Another challenge was using the right tools - the CIRAD Agritrop database and the French open access archive HAL - to make CIRAD scientific publications both accessible and assessable. Indicators were generated from Agritrop to monitor progress towards open access: from 2009 to 2012, 22.3% of CIRAD articles were published in open access and the new plan aims to increase this percentage. CIRAD is also looking into ways of making its scientific datasets publicly available and accessible worldwide.

Tags: Digital libraries and repositories, Information access, Scholarly communication
Additional keywords: Information policy, Open access, Journal database, Scholarly open access publishing, Document repository

Introduction

CIRAD is a French state-owned agricultural research centre which works with developing countries. It has a staff of 1,800, including 800 researchers, nearly 300 of whom are located outside France and the French overseas departments and territories. Its mandate is to produce high quality scientific knowledge and to make it accessible, understandable, and usable worldwide, particularly by its Southern research partners (CIRAD, 2011, 2013). One of CIRAD's indicators, which endeavours to improve the scientific quality of its publications is the number of peer-reviewed articles published by CIRAD authors, which increased from 445 in 2005 to 746 in 2012, a growth rate of 68% in eight years. But beyond the quality of research results, ensuring their accessibility has become indispensable for CIRAD, as the growing cost of information (Ware & Mabe, 2012) is an obstacle to wide public access to scientific publications.

To support open access to its scientific knowledge, CIRAD has devised an information policy that matches French, European and international policies and recommendations. This involves creating a set of activities, allocating a specific budget, and designing dedicated tools to help CIRAD researchers and their partners make their publications freely accessible. The role of the CIRAD Scientific and Technical Information (STI) Service is to identify priorities and design sets of actions that are reviewed by the STI steering committee chaired by the Director of Research and Strategy and then to implement the actions that are approved.

This paper describes the main activities undertaken by CIRAD to make its publications more accessible, and to measure the results of its efforts, the aim being to help CIRAD identify the main objectives of its 2013-2016 plan and to track the progress CIRAD is making in achieving its open access strategy.

Informing researchers and helping them publish in open access journals

The first challenge for the CIRAD Scientific and Technical Information (STI) Service was to inform researchers about open access and the means available to make their publications freely accessible. For this purpose, two specialized public websites were designed: 'Cooperating in Scientific and Technical Information (CoopIST) and 'Where to publish' (*Où publier*).

The public CoopIST[1] website was launched by CIRAD in 2012. This web site targets French-speaking researchers and information specialists in developing countries. CoopIST provides information resources, tools and guidelines drawn up by CIRAD's editors and information specialists to facilitate access to -and management of- scientific information. Most of the contents are freely available under the Creative Commons Licence (Attribution-NonCommercial-ShareAlike[2]) to enhance information sharing within the Agricultural and Research for Development (ARD) community. Practical advice produced by CIRAD, such as "Publishing in an open access peer-reviewed journal" (*Publier dans une revue en libre accès*[3]) or "Disseminating your thesis on the Internet" (*Diffuser sa thèse sur Internet*[4]) is posted on the CoopIST website. Some advice on authors' rights is also provided via guidelines such as "Understanding a publisher's authors' rights agreement" (*Savoir lire un contrat d'édition*[5]) or "Protecting your authors' rights" (*Protégez vos droits d'auteurs*[6]).

The journal database "Where to publish" (*Où publier*)[7] was developed in 2012 by the STI Service. Its aim is to help researchers select the most appropriate peer-reviewed journals in which to publish papers in the fields of life sciences, social sciences, and agriculture. The database contains nearly 1,000 journals and displays the aims and scope of each journal, topics, types of content, impact factor, whether or not it is an open access journal, and whether it charges for publication. Via a link to the Sherpa/Romeo[8] and Heloise[9] web services, the database also displays the copyright and self-archiving policies of each journal. After authentication, CIRAD users can view other information including the exact impact factor and the names of CIRAD reviewers of the journal.

[1] CoopIST: Coopérer en information scientifique et technique (Cooperating in Scientific and Technical Information). (http://coop-ist.cirad.fr/).
[2] Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported (CC BY-NC-SA 3.0). (http://creativecommons.org/licenses/by-nc-sa/3.0/).
[3] Publier dans une revue en libre accès (Publishing in an Open Access peer-reviewed journal). (http://coop-ist.cirad.fr/aide-a-la-publication/publier-et-diffuser/publier-dans-une-revue-en-libre-acces/1-publiez-en-libre-acces-pour-diffuser-largement-vos-resultats).
[4] Diffuser sa thèse sur Internet (Disseminating your PhD thesis on the Internet). (http://coop-ist.cirad.fr/aide-a-la-publication/publier-et-diffuser/diffuser-sa-these-sur-internet/introduction).
[5] Savoir lire un contrat d'édition (Reading a publishing contract). (http://coop-ist.cirad.fr/aide-a-la-publication/publier-et-diffuser/savoir-lire-un-contrat-d-edition/1-verifiez-le-contenu-de-votre-manuscrit-et-les-droits-y-afferents).
[6] Protéger vos droits d'auteur (Protecting your copyright and related rights). (http://coop-ist.cirad.fr/aide-a-la-publication/publier-et-diffuser/proteger-vos-droits-d-auteurs/1-connaissez-vos-droits-moraux).
[7] Où publier: base d'informations sur les revues en sciences du vivant, sciences sociales et sciences de l'ingénieur appliquées à l'agriculture. (http://ou-publier.cirad.fr/).
[8] Sherpa/Romeo: Publishers copyrights & self-archiving. (http://www.sherpa.ac.uk/romeo/).
[9] Heloise. (http://heloise.ccsd.cnrs.fr/).

Identifying institutional, French, European and international funds to support open access publishing

The second challenge for CIRAD was allocating a special publishing budget and identifying existing external funders who support open access.

As a research centre and a publisher itself, CIRAD manages or co-funds three scholarly peer-reviewed open access journals: *Revue d'élevage et de médecine vétérinaire des pays tropicaux*[10], *Oléagineux Corps Gras Lipides* (OCL)[11], and *Cahiers Agricultures*[12]. CIRAD researchers and their partners are invited to publish freely in these full open access journals. *Revue d'élevage et de médecine vétérinaire des pays tropicaux* publishes articles on animal production and health in tropical regions, *Oléagineux Corps Gras Lipides* publishes articles on oilseed production and on the food processing chain, and *Cahiers Agricultures* publishes articles on agricultural research and rural development in general. A special annual budget is also allocated to the STI Service to support external open access journal publishers including BioMedCentral[13] and PLoS[14]. As a supporting member, CIRAD's researchers can publish in any BioMed Central, Chemistry Central or Springer Open journal with a 10% to 15% discount on the article-processing charge.

External funding programmes of interest to CIRAD's research teams and projects have been identified: for example, the French National Research Agency (ANR)[15] and the Seventh Framework Plan (FP7) of the European Commission[16], which allocates special funds for open access publishing or for depositing articles in an online repository. Depending on the recommendations made by each funding agency on publishing and access, the STI Service helps project leaders design and set up an appropriate communication plan for their research project and outputs.

Adapting the institutional database to conform with French and international document repositories

The third challenge facing CIRAD in opening up access to its research results was designing or identifying the right tools to record its scientific publications and make them freely accessible, in accordance with their authors' rights. This was achieved through two document repositories: the CIRAD Agritrop database [17] and the French open access archive HAL[18].

Agritrop is the database in which all CIRAD authors are required to deposit all the scientific documents they produce: books and book chapters, journal articles, conference papers and proceedings, theses and "accreditation to supervise research" *(HDR)* documents, scientific and technical reports. Agritrop provides access to 300,000 references and to 14,000 full texts which are available online. The STI service has created tables of journals linked to Agritrop to identify and to tag references to articles published in full open access peer-reviewed journals. The website "Publications by CIRAD staff"[19] displays published articles and tags articles published in open access journals. From 2009 to 2012, CIRAD published 690 articles in 139 full open access peer-reviewed journals. The 139 full open access journals

[10] Revue d'élevage et de médecine vétérinaire des pays tropicaux. (http://remvt.cirad.fr/gb/).
[11] Oléagineux Corps Gras Lipides. (http://www.jle.com/en/revues/agro_biotech/ocl/).
[12] Cahiers Agricultures. (http://www.jle.com/en/revues/agro_biotech/agr/).
[13] BioMed Central: The Open Access Publisher. (http://www.biomedcentral.com/).
[14] PLOS: Open for Discovery. (http://www.plos.org/publications/journals/).
[15] ANR: The French National Research Agency. (http://www.agence-nationale-recherche.fr/en/project-based-funding-to-advance-french-research/).
[16] Open Access in FP7. (http://ec.europa.eu/research/science-society/index.cfm?fuseaction=public.topic&id=1300&lang=1).
[17] Agritrop: CIRAD's documentary database on agriculture in tropical regions. (http://www.cirad.fr/en/publications-resources/documentary-resources/agritrop).
[18] HAL: hyper articles en ligne. (http://hal.archives-ouvertes.fr/index.php?halsid=rdva0jicpevpc7d0i3rfm3s671&action_todo=home).
[19] Publications by CIRAD staff. (http://publications.cirad.fr/en/).

represented 16.2% of the 856 peer-reviewed journals in which CIRAD authors published over the 3-year period (figure 1), and the 690 articles represent 22.3% of the 3,099 articles published by CIRAD in peer-reviewed journals over the same period (figure 2).
Of the 139 full open access peer-reviewed journals, 65 (47%) have an impact factor (IF)[20] and 79 (57%) have a SCImago Journal Rank (SJR)[21] (figure 3).

Figure 1. Number of peer-reviewed journals, including full open access journals, in which CIRAD published from 2009 to 2012.

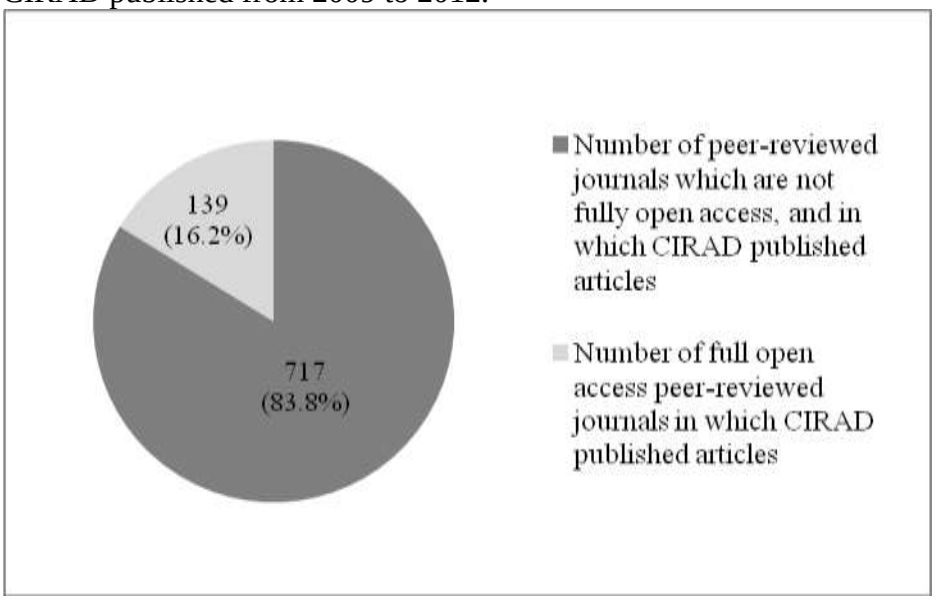
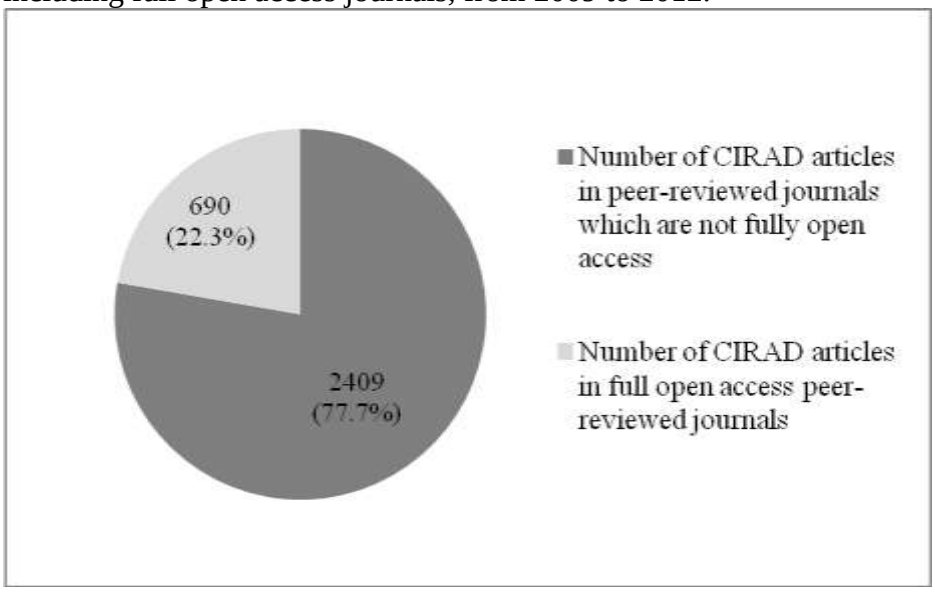
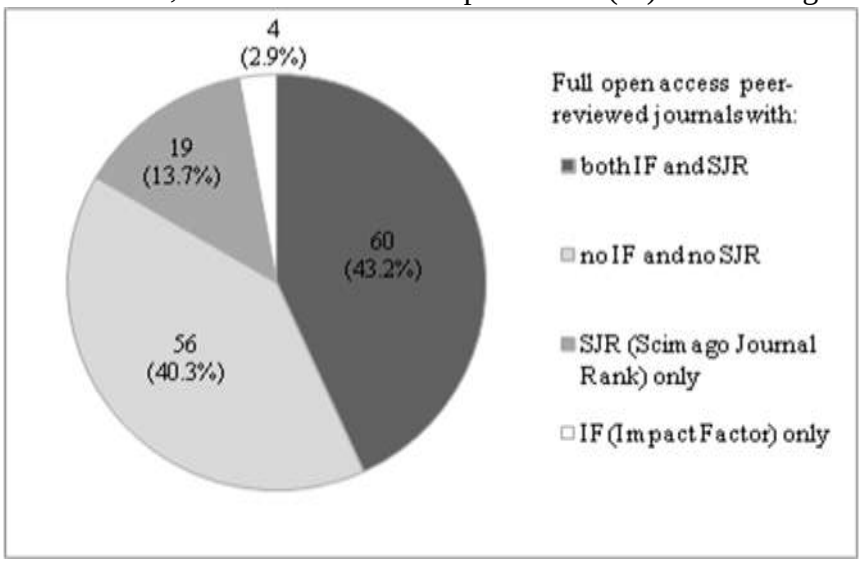


Figure 2. Number of articles by CIRAD authors published in peer-reviewed journals, including full open access journals, from 2009 to 2012.



[20] The Thomson Reuters Impact Factor. (http://thomsonreuters.com/products_services/science/free/essays/impact_factor/).
[21] Borja González, Pereira ; Vicente P. Guerrero-Bote; Félix Moya-Anegón, 2009. The SJR indicator: A new indicator of journals' scientific prestige (http://arxiv.org/ftp/arxiv/papers/0912/0912.4141.pdf).

Figure 3. Number of full open access peer-reviewed journals in which CIRAD published from 2009 to 2012, with or without an impact factor (IF) or a Scimago Journal Rank (SJR).



HAL is a multidisciplinary French repository set up and managed by CNRS (French National Centre for Scientific Research), for the deposit and dissemination of all types of scientific research documents. CIRAD has been involved in HAL since 2006 and has developed a special HAL-CIRAD interface[22] to enable CIRAD authors to deposit their own scientific and technical documents. In January 2013, nearly 2,000 full text scientific documents from research units linked to CIRAD were accessible via HAL.

Through its involvement in the French HAL repository, CIRAD is automatically involved in the European pilot projects, OpenAIRE[23] and DRIVER[24]. OpenAIRE aims to make publications from the Seventh Framework Programme (FP7) or from the European Research Council (ERC) publicly accessible. OpenAIRE is based on the DRIVER infrastructure designed to connect repositories in Europe and make them interoperable, like the French HAL repository.

Discussion and conclusion

The information policy implemented by CIRAD and the first results obtained show that opening up access to scientific knowledge is a long-term process which implies defining priorities, implementing a set of activities at different levels of the institution, designing dedicated tools to support authors, and measuring and displaying progress. The Scientific and Technical Information service plays a key role in implementing and assessing CIRAD's open access policy.

The information website and journal database, designed to help researchers find out more about open access and choose the right journal for their articles, are already successful as they share information on agricultural journals for the benefit of researchers. Finding outside funds and allocating an institutional budget to publish articles in full open access journals is the biggest challenge, as priorities have to be defined and financial means allocated at institutional level. It will probably still take some years to find the balance between strategic goals, financial means, and indicators related to output. The process of tracking and displaying results through the institutional database is still underway as it means creating and managing special tables.

[22] HAL-CIRAD open archive (http://hal.cirad.fr/).
[23] OpenAIRE: OpenAccess Infrastructure for Research in Europe. (http://www.openaire.eu/).
[24] DRIVER: Digital Repository Infrastructure Vision for European Research. (http://www.driver-repository.eu/).

From 2009 to 2012, 22.3% of CIRAD articles were published in open access. The aim of the 2013-2016 plan is to increase this percentage. In the coming years, CIRAD will continue to inform and train researchers in how to publish open access documents. In 2013, a CIRAD e-learning module (in French) entitled "Write and publish a scientific or technical document" (*Rédiger et publier un document scientifique ou technique*) will be issued as part of the FAO IMARK project (Information Management Resource Kit). The CIRAD database Agritrop will become an institutional repository, which will enable authors to deposit their scientific documents and to choose copyright licences and versioning. Agritrop will comply with the European pilots OpenAIRE and Driver, and with the international FAO Agris[25] database. A further challenge for CIRAD is to make its research datasets publicly available and accessible worldwide. This involves collecting, organizing, and describing existing datasets, and ensuring access to them. To achieve this objective, a pilot experiment involving CIRAD scientific teams and Support services, including the STI service, was launched in 2012.

References

CIRAD, 2013. Strategic Vision 2012-2022. [2013/05/20]. (http://www.cirad.fr/en/content/download/7725/82621/version/4/file/StrategicVision_ENG.pdf).

CIRAD 2011: Working together for tomorrow's agriculture, 2012. [2013/05/20]. (http://www.cirad.fr/en/media/documents/qui-sommes-nous/documents-essentiels/cirad-2011).

FMark Ware and Michael Mabe, 2012. The stm report: An overview of scientific and scholarly journal publishing. 3rd edition. The Hague, The Netherlands, International Association of Scientific, Technical, and Medical Publishers. [2013/05/20]. (http://www.stm-assoc.org/2012_12_11_STM_Report_2012.pdf).

[25] Agris: International Information System for the Agricultural Sciences and Technology (http://agris.fao.org/).