



## Knowledge Management Policies

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## introduction

The Africa Soil CAB International, originally established in 1910, is a not-for-profit science-based development organisation, operating under an international treaty agreement amongst its 48 Member Countries, registered in the UN. It has a Headquarters Agreement with the Government of the United Kingdom and operates through a network of centres located around the world. CABI's mission is to improve people's lives worldwide by providing information and applying scientific expertise to solve problems in agriculture and the environment.

To fulfil this mission in the 21<sup>st</sup> century we will work to make CABI a truly **knowledge-based organisation**. We will ensure that the knowledge we generate and the information and data we collate and communicate is shared with as wide an audience as possible through **open content, open processes and open infrastructure**. Our vision for 2020 states that "*we will be providing supporting data and scientifically validated information for most of the world's major strategic initiatives in agricultural and environmental development*", and these policies support that vision.

To create an enabling environment we will develop a series of Knowledge Management Policies aligned to existing and emerging global initiatives on access to research information and data. Governance for these policies will be through the executive management team of CABI. CABI is a signatory and founder member of the programme for Cohesion in Information for Agricultural Research and Development (CIARD) and the Global Open Data in Agriculture and Nutrition initiative (GODAN); we will align our policies with both the CIARD Checklist and GODAN Principles, and publish business-relevant data to International Aid Transparency Initiative (IATI) standards.

CABI's Knowledge Management policies recognise the balance needed between openness and the building of sustainable information resources. We know that ensuring openness can have costs as well as benefits for CABI and its partners. CABI's policies in this area reflect the requirements of both the needs of a scientific development organization and its publishing business.

CABI's publishing business is key to CABI's mission through production of high quality, globally recognised scientific and technical information products as well as providing financial support to CABI's overall business. CABI will make every effort to extend access to its commercial published information products to those who need them but are least able to afford them. CABI's products will, where possible, be made freely available through global access to research initiatives, especially in support of CABI's Member Country Development.

In 2014 CABI will develop a range of Knowledge Management Policies to address the following areas

- Policy governance, ownership and responsibility
- Opening Access
  - Open Access
  - Translation and language of access
  - Challenges of limited internet connectivity
  - Communication
  - Incentive systems
  - Expertise and support to opening and widening access
- Data Management
  - Data storage and preservation for future use
  - Metadata and the CAB Thesaurus
  - Open Data
  - Interoperability
  - Suitable repositories
  - Data citation
  - User data, ethics, confidentiality, anonymization
  - Data metrics for monitoring and evaluation of performance

- Tacit and explicit corporate knowledge
- Copyright, open licenses
  - Intellectual Property Rights

These policies will interface with and complement CABI's other knowledge-focussed policies and strategies, including Plantwise Policies, existing IPR policies and the IT Strategy. CABI like many organisations is involved in innovations in technology platforms, including mobile technologies, use of open and linked data, and cloud services. Consideration of both the opportunities presented by technology, and the needs to which those technologies can be applied will inform these policies. Similarly, it is recognised that the way in which knowledge is managed informs: how an organisation can improve its processes, the way in which its staff reflect and learn to improve practice, and the means by which it monitors and evaluates its performance and impact in the world.

## openness

CABI recognises that there are a range of potential barriers to access to scientific knowledge in agriculture and the environment, especially in areas where such knowledge can have most benefit: in developing nations. It is not enough to mandate for Open Access to scientific research in the conventional sense (that is removal of pay barriers to peer-reviewed science), rather CABI recognises that research outputs – data, information, and knowledge should be created, assembled, handled and communicated in ways that ensure that they will be as Available, Accessible and Applicable as possible (known as the three As in the CIARD principles). Barriers to knowledge access can be many and varied and include language, internet connectivity, poor website design, poor indexing or search engine discoverability, and poorly articulated research communication.

Greater openness in the way we work will widen access and be facilitated by implementing these policies. **Data and publications generated from our scientific work and development projects should be open and public as default.** CABI will seek to advocate for a greater understanding and acceptance of principles around opening access to research in its staff and key stakeholders, through delivery of both targeted awareness raising activity during and after policy development, and training on specific aspects of Open Access, Data Management and Open Data. **All CABI staff will be required to understand and implement the Open Access and Open Data Policies.**

## open access

We recognise the efforts made by our peers and donor community (e.g. DFID) to mandate for Open Access to research. Most significantly we note the significant effort made by the CGIAR in this respect. We acknowledge and agree with their assertion that Open Access:

*“enhances the visibility, accessibility and impact of ...research and development activities... improves the speed, efficiency and efficacy of research; it enables interdisciplinary research; assists novel computation of the research literature; and allows the global public to benefit from research.[there is recognition of] the benefits that accrue to individual researchers and to the research enterprise from wide dissemination, including greater recognition, more thorough review, consideration and critique, and a general increase in scientific, scholarly and critical knowledge”*

All information products generated from CABI's publically-funded scientific and development projects will be Open Access, subject to the legal rights and legitimate interests of stakeholders and third parties, including intellectual property rights, confidentiality, sensitivity (including price and politically sensitive information), farmers' rights and privacy.

CABI's Open Access policy will mandate that **all research projects shall at their inception have data management and open access plans** in place to maximise the openness of its research outputs, including research data. The technical trajectory for new product development should also consider intended open access and open data status at inception and provide justification for such status. Plans will be reviewed and updated to reflect publication strategy as a part of project end stage reporting.

CABI's scientists will provide timely unrestricted access to their research outputs online through either - i) Open Access Self-Archiving or ii) Open Access Publishing, referred to as Green OA and Gold OA respectively. All research programmes should cost the options open to them for publishing open access, and allocate funds from research grants for such activities.

**Open access self-archiving will be facilitated by CABI's development of an institutional repository** which will have as its public face an open access subset of CAB Abstracts. CABI's Chief Scientist will be arbiter on the quality of research outputs and will indicate which development project information product types will be made Open Access.

## data management

Open access to knowledge should not be restricted to the final outputs of a research programme. CABI recognises the importance of improved capture, storage and sharing of data to comply with organisational and funder requirements, and will provide training, guidance and support to researchers on all aspects of research data management to improve institutional practice. CABI's IT strategy will also need to provide the technology and support required to enable this.

Data is a vital asset for CABI's business and a key resource for scientists worldwide. Data not properly recorded is a much less valuable asset. As a priority **CABI will compare our data holdings against Digital Asset Frameworks (DAF) and produce a clear inventory of all our major data sets and data-rich products** indicating in each case open access status, licences, data format (both current and intended), and metrics of quality. **Better procedures, and IT capability will be developed over the next 2 years leading to data preservation, sustainability and use** in line with the Digital Curation Centre (DCC) working level guides. Older high-value data sets should be digitised where possible, and all new research programmes will archive data in such a way as to make it available to future initiatives. CABI recognises that improved project data management comes at a cost and will seek to provide both institutional support to managing knowledge, especially supporting decision-making about what and how to archive, and recommendations for how its scientists can make a case to donors to support improved practice in this area.

It is essential that there is organisational agreement about the relationship between CABI's commitment to Open Access and its role as a scientific publisher. Clear communication about the value publishing processes add in exposing hidden knowledge and making information more accessible and more usable. Where there is the need to charge for these services this should be explicit. Methods for data sharing and timeframes for release will seek to maximise the impact of data without jeopardizing the publication effectiveness of CABI scientists. Generally this should be no later than the release of first publication of the main findings of any study, or 3 years otherwise.

Data sets will be well described, with quality metadata corresponding to the highest international standards.

## open data

By greater opening of scientific and technical data for further reuse by CABI, its partners and the global scientific and development community, we join a shared agenda under GODAN to increase the supply, quality, and interoperability of data. We believe that open data promotes innovation, accountability, transparency, and shares data for global public goods. Open data improves the scientific process by promoting greater sharing of insights into how science is done; it provides a driver to increase data quality for publication and makes research more citable. Fully open data is unrestricted; free to use, reuse, and redistribute, subject only usually to the requirement to attribute and/or share-alike. Publicly funded government data usually falls under this category. Open data in open formats enables third parties to develop applications and services using such data that address public and private demands. Open data and the applications derived from them will be drivers to economic growth in both the developed and developing world; boosting private sector growth in technology innovation in developing countries is seen increasingly as an effective route to delivering meaningful and sustained improvements in livelihoods.

CABI will use appropriate copyright licences on its open data so as it can offer free use of information resources where that supports our mission or is a requirement under specific commercial consultancy agreement, protecting where appropriate our right to charge for our commercial products. **The default licences for CABI's datasets generated from funded research and development work will be cc-0 or cc-by.** Those datasets under non-commercial licences will be reviewed where these restrictions are seen as a barrier to their use.

Technical approaches will be employed to increase the openness of data. Data will be liberated from print-only formats and closed drives and made available on the Web (in whatever format) under an open license. Where possible it will be made available as structured data tables, increasingly using non-proprietary formats (e.g., CSV instead of Excel).

**Within 5 years CABI will have a roadmap to deliver 5-star open data for all its key datasets and open data-based products.** These will be open and fully machine readable, using URIs to denote concepts and data objects, so that people can identify CABI's material and its view of the data world. Linked open data (LOD) stores will tie CABI content to other people's to provide context, forming a CABI core of data resources. CABI will encourage others to reuse and repackage our data whilst seeking to preserve the contribution we have made to its collection and curation.

**Working with key strategic partners CABI will move its thesaurus from open access to open data.** Available in open and downloadable formats, it will be developed to map to and align with other thesauri and ontologies to create a Global Concept Scheme for agriculture and nutrition, providing a descriptive framework for the world's science and technical data in these fields.

We understand that open data does not always mean truly open if key beneficiaries do not have the ability to benefit from it either because they do not have the technical capacity to do so, or because it is not understandable to wider audiences. CABI will seek to mitigate against the development of new digital divides by building capacity in the use, reuse and repurposing of its data (and data that it curates) by all key stakeholders, especially in the areas of plant pests and diseases (through PlantWise), and invasive non-native species (through the Invasives Hub). **We will advocate for increased openness in pest, disease and invasive species data** (especially geospatial data), working with partners to understand and address concerns about opening up data.

#### **Communication as a knowledge issue**

Accessibility is as much about the presentation of information in a form audiences can understand and use, as it is about technical and systematic issues. It must be recognized that CABI actively disseminates knowledge rather than passively making it accessible. Therefore all research projects will include an active communications plan with audiences segmented, channels identified and budgets for these activities included.