IITA DATA AND INFORMATION MANAGEMENT POLICY

Key definitions[1]

- *Data* is facts, figures or individual pieces of information that is captured through the operation of the Institute. In the scientific community, data is the recorded factual material commonly accepted as necessary to validate research results. Information is data that has been interpreted so that it has meaning for the user.

- *Data management* is the function that develops, manages and executes policies and processes that collect, protect, deliver, and enhance the value of data and information assets to meet the data availability, quality and security needs of the Institute.

- A *data management plan* (DMP) is a formal document that outlines how an activity or project will produce, collect, process, store and publish data both during the research/activity and after the research /activity is completed. In developing a data management plan, researchers should consider which data would be required to verify their results and which data would have the highest potential and value for reuse by others. The DMP forms the basis of data management throughout the project lifecycle.

- *Data security* refers to methods of protecting data from unauthorized access, modification, or destruction.

- *Information* refers to data that have been processed into a meaningful form.

- *Institutional repository* is a service for storing and providing online access to digital content.

- *Metadata* is structured data that describes and/or enables finding, managing, controlling, understanding or preserving data over time. Metadata includes, but is not restricted to, characteristics such as the content, context, structure, access, and availability of the data.

1. Introduction

In its Refreshed Strategy 2012-2020, the International Institute of Tropical Agriculture (IITA) considers access to data and information among the critical cross-cutting areas in agricultural research for development and indicates its commitment to ensuring the widest possible access to its research outputs and knowledge products[2]. The Institute is also aware of its obligations under both the funding agencies in relation to the management of data and information and the increasing prevalent view that the output of publically funded research should be made accessible where possible and needed.

The Institute regards the management of research data to be an integral part of good research practice that protects the intellectual and financial investment made in its creation and enables it to be shared and validated. IITA supports the principles of open access to publicly-funded research

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[1] These definitions are adapted from The DAMA Guide to the Data Management Body of Knowledge (DAMA-DMBOK), 1st Edition 2009, p.4 and from http://data.research.cornell.edu/content/glossary

[2] IITA (2012). IITA'S Refreshed Strategy 2012-2020.

outputs. Data generated at the Institute is recognised as an institutional asset that when shared openly not only increases the visibility of IITA's research but also facilitates public engagement and creates new opportunities for knowledge exchange and collaboration.

This Data and Information Management Policy reflects IITA's intention to establish good data and information management practice throughout the research lifecycle as part of the institution's commitment to research excellence. The Policy supports IITA's strategic objectives by ensuring that IITA data and information and research finding/output are accessible. The Policy is aligned with the CGIAR Open Access and Data Management Policy [3] and the CGIAR Principles on the Management of Intellectual Assets[4].

2. Objectives

By adopting such a policy, IITA seeks to:

- Promote open access to data and information produced at IITA in order to facilitate data and information discovery, sharing and collaboration;
- Clarify responsibilities so that researchers and research support staff understand what is required from them;
- Set out the Institute's obligations including the provision of facilities for the management of data and training, support and guidance on good practice in data and information management;
- Improve access, discoverability, usability and visibility of the Institute's research outputs, documents and knowledge products, innovations and technologies;
- Protect the legitimate interests of the Institute and of other parties;
- Ensure that data and information are protected from unauthorized access and mitigate the risks associated with the theft, loss, misuse, damage or abuse.

3. Scope

The Policy reflects IITA's intention to implement the CGIAR Open Access and Data Management Policy. The Institute strives to make accessible all data and information related to its operations, research projects and programs and to share its knowledge with the widest possible audience. This policy applies to all staff, visiting scientists, postgraduate fellows, trainees, students, temporary staff and consultants engaged by IITA. It also applies to all data and information products in any medium, including:

- Journal articles;
- Reports, books and book chapters;
- Data and databases, models and algorithms;
- Laboratory notebooks, field notebooks;
- Questionnaires, transcripts;
- Audio, video and photographs;
- Metadata, software website and its content and applications;
- Standard operating procedures, guidelines, manuals and protocols.

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[3] http://www.cgiar.org/resources/open/
[4] http://www.cgiar.org/consortium-news/principles-on-management-of-intellectual-assets-approved/

Regarding research, the policy applies to all projects where IITA is the lead institution. If the Institute is not the leader, then the contractual agreement must specify the principles guiding the management of data and research outputs generated by the project.

While the Data and Information Management Policy applies to all IITA data and information, legal and contractual obligations limit the application of this Policy in some cases. Also, the Institute does not provide access to data and information of which the dissemination could compromise new findings, the security of staff and their families, partners and IITA assets.

Researchers are encouraged to negotiate copyright terms with publishers when the publisher does not allow archiving, reuse and sharing. This should be done by adding the official CGIAR author addendum to a publishing contract. An addendum is a document used to change the terms of a form agreement to change the terms of a publisher's standard publication agreement to ensure that scientists retain certain rights to use the publication and to post it online.

Where the Institute is involved in any collaborative research project, researchers should ensure that collaborators are aware of the obligation to publish results in Open Access. The agreement must consider and make arrangements to manage the intellectual property, the ownership of equipment, research data and primary materials and the authorship and publication prior to the commencement of the research project.

4. Principles

The following principles are set forth to govern the appropriate usage and management of data and information:

- Unless explicitly agreed the Institute rather than any individual or unit, owns the data and information created by researchers and other staff during the term of their employment with the Institute;
- The Institute undertakes to provide appropriate resources, training, support and guidance to researchers and research support staff around data management;
- Data management is a shared responsibility within the Institute and staff will work in partnership to satisfy the requirements of the Policy, establish a culture of sound data management practice, and realize the benefits of data sharing;
- All IITA staff are responsible for making themselves familiar with and adhering to this Policy;
- If a staff leaves the Institute, he or she must pass on the stewardship of any data created during their employment before their departure. In the absence of an agreed successor for the data and information, the stewardship will devolve upwards to the Data Management Unit.
- Management and sharing of data should be supported through the allocation of funding;
- All projects must have from their inception a data and information management plan (DMP), which addresses the arrangements for data management throughout the project life-cycle and for the long term preservation;
- The ownership, use and sharing of data and outputs produced by/and with IITA should be referred to in all relevant documents and procedures;
- Data and information will be managed as a corporate resource to support decision making, the delivery of programs and projects, the administration of the Institute and to improve partnership and collaboration and the quality of services to all stakeholders;

- Data and information will be stored, documented, archived and made accessible for the long term in accordance with contractual, funding and legal requirements;
- Data and information will be managed according to defined needs and according to data management principles, standards, procedures, guidelines ;
- All data and information must be accompanied with the metadata;
- IITA will comply with legal and regulatory requirements relating to research data management, such as those relating to ethics, data protection in line with the Research Ethics Policy and the Code of Conduct to support IITA integrity.

5. <u>Relationship with Intellectual Property Rights</u>

With respect to copyright and intellectual property rights, this policy will operate in conjunction with the CGIAR Principles on the Management of Intellectual Assets. The policy supports the publication of materials under Creative Commons licenses to promote the sharing of knowledge and the creation of open research data and outputs, particularly in Sub-Saharan Africa.

A clear agreement regarding sharing data and research outputs with project partners must be put in place before any project start date. Likewise when working with the private sector, the increased intellectual property considerations must be taken into account when agreeing on data sharing and publication details.

6. <u>Roles and Responsibilities</u>

All staff, visiting scientists, postgraduate fellows, trainees, students, temporary staff, interns and consultants engaged by IITA handling data and information are responsible for the management and security of the data and information they create, capture, store and use. They should familiarise themselves with this Policy and the associated Research Ethics Policy, the CGIAR Open Access Policy, the Policy on Intellectual Property and the respective guidelines and procedures. However, the following roles and responsibilities are defined, for specific staff and groups, for the purpose of establishing clear governance and accountabilities over data and information.

Management

- Provide support and leadership to ensure that the objectives of the Policy can be delivered;
- Provide appropriate communication, training and advisory services to ensure that data and information are made available, subject to meeting appropriate requirements, in the location specified in the data management plan;
- Provide safe, secure and sustainable infrastructure and repositories to make data and information available, while respecting the rights of stakeholders in terms of confidentiality, intellectual property and data ownership;
- Encourage the use of existing technologies to maximize efficiencies and investments already made in existing technologies;
- Encourage researchers to publish in peer-reviewed open access journals;
- Ensure that performance assessment includes data and information management
- Provide support and assistance to national agricultural research systems in terms of data and information management.

The IT, Data and Information Management Oversight Committee

- Provide leadership and strategic direction for the Institute-wide IT infrastructure and services, data and information management;
- Provide governance and oversight around IITA's IT, Data and Information management;
- Promote best practice support of the Institute's data and knowledge creation and dissemination through the provision of the best possible IT infrastructure and services to promote Open Access and collaboration;
- Approve implementation of newly introduced data repositories and ensure they are in line with the Policy;
- Oversee the implementation and monitor the compliance with the Policy;
- Approve and endorse any data policies, processes, standards and guidelines.

Data Management Unit

- Provide guidance to project managers, researchers and support staff in developing data management plans to ensure that plans are realistic and in compliance with the policy;
- Manage and maintain institutional data and information repositories;
- Provide guidance and guidelines relating to good research data management practice;
- Support researchers and support staff in executing their responsibilities under the Policy;
- Develop procedures and guidelines for managing data;
- Promote the use of best practices for managing data;
- Provide capacity development programs on data management.

Heads of Units

- Ensure that data management plans (DMPs) that addresses the management of data and information of their units and projects within their units are developed and implemented in line with IITA Policy and procedures;
- Ensure the quality of data so that it is usable and fit for purpose;
- Promote good practice in data and information management;
- Ensure that staff and students are aware of their responsibilities and obligations in data and information management;
- Promote training where gaps in data management skills are identified.

Researchers

- Include cost and time implications of data storage and management in grant proposals;
- Develop DMP that addresses the creation, management, storage and publication of data and the production of descriptive metadata;
- Ensure the quality of data so that it is usable and fit for purpose;
- Ensure that research data are deposited and preserved in appropriate repository, unless specified otherwise in the DMP;
- Plan for the custodial responsibilities for research data on departure from the Institute;
- Consult with the Data Management Unit regarding good practice in research data management;
- Publish in peer-reviewed open access journals;
- Inform students, post doctoral fellows and visiting scientists and consultants of the Institute Policy and mentor them regarding good practice in data management.

Students

- Familiarize themselves with all IITA relevant data and information management requirements prior to undertaking research;
- Implement good practice in data management.

Database, Web and Platform Managers

- Implement, document and maintain processes, technologies, and procedures to comply with data integrity, security confidentiality and accessibility to meet institutional requirements;
- Provide data and information management services which result in the highest quality data in their specific subject area;
- Implement and maintain data and metadata quality requirements and rules for assigned data sets;
- Support staff training to ensure that data is captured and used accurately and appropriately;
- Provide input into data policies, standards and procedures;
- Champion the implementation of data management standards and processes.

Information and Communication Technology Unit

- Provide technical infrastructure and operational database support including management of the database management system platform, back-up of databases and monitor/improve database performance;
- Provide guidance on use and implications of the different storage options to ensure they are fit-for-purpose;
- Ensure integrity and security of data and information;
- Ensure appropriate procedures and systems are in place to support business continuity and disaster recovery.

Knowledge Centre

- Manage the institutional repository of information products;
- Provide guidance on the categorization and classification of research data and outputs;
- Provide details of IITA designated repository, as well as procedures for publishing and archiving publications.

Capacity Development Office

- Development of staff skills and data and information management competencies in collaboration with the Data Management Unit and the Information Technology Services Unit;
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- To support the Data Management Unit in the development of implementation procedures and incentives to improve data and information management.
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Human Resources Unit

- Ensure that competencies, skills and attributes related to data and information management are included in relevant staff job description and performance assessment;

- Ensure that custodial responsibilities for data and information are included in the Handover Notes to ensure the continuity and the smooth transition and operations.

Project Administration Office

While it is the responsibility of the researcher to ensure that the ownership of and intellectual property rights in all data are agreed formally, the Project Administration Office will ensure that agreements are aligned with the CGIAR Principles on the Management of Intellectual Assets.

Proposal Development Office

- Support researchers in making sure adequate funds are allocated to data and information management in grant proposals.
- Ensure that projects will adequately include budget for data and information management, including funding for Article Processing Charges (APC) where so is possible in view of donor guidelines;

Internal Audit

- Audit systems and procedures for managing data and information are adequate to ensure security against unauthorized access and adequate protection of privacy, confidentiality, and assets;
- Assess whether the processes in place for managing data and information are adequate to support IITA programs and services and in compliance with policies;
- Audit whether processes and structures in place adequately inform, direct, manage, and monitor the activities required to meet data and information management objectives.

7. <u>Data and information retention, sharing and disposal of data</u>

- The Institute will provide mechanisms and services for storage, backup, registration, deposit and retention of data and information assets in support of current and future access, during and after completion of projects in accordance with backup policy and procedures;
- In accordance with the CGIAR Open Access and Data Management Policy, data and information should be made available for access and re-use within a reasonable time after the completion of research, provided there is no legal, ethical or commercial reason why this should not be done;
- Data and information will be managed in a way that follows guidelines and procedures to ensure appropriate security and integrity of the data, including personal or sensitive data, compliance with confidentiality and data and information protection law, respect for ownership and intellectual property rights.

8. <u>Review arrangements</u>

This Data and Information Management Policy and the arrangements for its implementation will be reviewed and updated as required by the The IT, Data and Information Management Oversight Committee to ensure that it continues to meet IITA service delivery requirements.

9. <u>Relationship with existing policies</u>

Research data will be managed in accordance with IITA's other policies and guidelines, such as:

- Code of Conduct;
- Email Policy;
- Human Resource Policy Manual;
- IITA Whistleblower Policy;
- Research Ethics Policy;

10. Disclaimer

IITA accepts no liability to any consequence resulting in relation to the data use. The recipient assumes full responsibility for complying with all relevant national regulations and rules as to the usage of the data. Reference to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not constitute or imply its endorsement, recommendation, or favoring by IITA.