23 July 2018

System Management Board commentary on the Review of the CGIAR OA-OD Policy & Implementation Support[1]

A.   Overall Commentary

1.   The Board strongly believes in the importance of OA-OD to maximize the impact of CGIAR by expanding the range of users and beneficiaries of research outputs, enhancing the effectiveness and capacity to enable innovation of the research, and increasing the visibility and recognition of the research and CGIAR as a System. The OA-OD Policy empowers CGIAR to lead on OA-OD for agricultural research for development. The Board sees compliance with the Policy under the terms of CGIAR's Intellectual Asset Principles as an important foundation to harness the capabilities of the data revolution and Big Data to accelerate innovation and impact and transform agricultural research for development.

2.   The Board takes note that the stakeholders interviewed and surveyed feel that the Policy is concise and appropriate in terms of scope and detail and aligns well with "FAIR" principles (referring to findability, accessibility, interoperability and reusability), increasingly accepted as the standard since about 2015, particularly for open data. Although "FAIR" as a concept was formally introduced after the Policy was approved, the Board notes that it is now thoroughly incorporated in the design, implementation and reporting of open data efforts in CGIAR through the work of the OA-OD Initiative. The Implementation Guidelines of the OA-OD Policy were initially prepared with focus on implementation planning and support, and they have served that purpose well, but the Board agrees that there may be areas where the Guidelines could be revised and expanded.

3.   The Board recognizes that despite the still relatively early stage in comprehensive implementation of the OA-OD Policy, the review team reports that the Policy has already resulted in a cultural shift in Centers and CRPs. Feedback from stakeholder interviews attests that progress is being made and needs of infrastructure are being addressed, and the Policy has been instrumental in community-building towards achieving open access for resources and data, and greater awareness of its benefits and requirements. It is considered positive that this is true not only for the data and information managers, but also researchers across the System who increasingly recognize the importance of OA-OD in their work and mission.

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[1] This commentary is prepared pursuant to Article 8.1(tt) of the *Charter of the CGIAR System Organization (June 2016)*, which provides that the System Management Board's role is to '*review IEA evaluations of the CGIAR Portfolio, functions and structures and provide comments to the System Council for its consideration'.* It was endorsed by the System Management Board with effect from Friday 20 July 2018 (Decision Reference SMB/M9/EDP3).

4. Further, the Board recognizes that there are several areas needing intensification of efforts to achieve comprehensive implementation of the Policy and to work towards OA-OD and FAIR across CGIAR. One area being that unlike open access to publications, open data is relatively new; globally, there are still open questions regarding open data, relating to data quality, data prioritization, common ownership of data, data storage procedures and other data management practices. Overall guidance has been developed, but new tools, approaches and ways of thinking need to be embedded in the daily work of staff to ensure that high quality, relevant data is being made open, interoperable, and reusable via accepted common standards.

5. The Board agrees that it is therefore important to address resourcing for OA-OD at both Center and System levels, by encouraging appropriate budgeting for FAIR and open data and publications and systematizing and streamlining requirements, standards, approaches, and tools, perhaps through the work of the new Big Data Platform. Further, the Board suggests that CGIAR's Funders have a key role in facilitating FAIRness by articulating clear requirements to accelerate and incentivize ongoing efforts.

6. The Board therefore welcomes the continuation of many of the Phase I OA-OD activities via the "Organize" module of the Big Data Platform since the beginning of 2017. Phase I significantly supported early implementation of the Policy, and it is expected that the volume, variety and quality of FAIR research outputs and the associated culture will continue to grow through Big Data Platform activities.

7. The main areas where Centers and programs have received central support for implementing the OA-OD Policy are Communities of Practice (CoP) for shared advancement of OA-OD efforts, the Open Access Support Pack of materials from CGIAR and beyond, and consultancies. Two CoPs were set up, namely the Open Access Working Group and the Data Management Task Force. These have well-qualified and engaged champions and leaders who have been crucial in sharing information, exchanging experiences, and participating in working groups on shared standards and technical approaches, and consolidating views of the professionals involved in developing best practices and solutions. The working groups within the communities have taken ownership of and work on specific issues and are reported to be potentially effective if results continue to be communicated to the wider community, establishing linkages also to the network of legal experts who deal with intellectual assets. The Board recognizes that CoPs have enhanced capacity through Phase I workshops and note that capacity development remains an important need going forward. The Board agrees that the Implementation Guidelines and the Support Pack are important, and the System would benefit from these being updated.

8. The Board finds the work done on indicators for assessing the extent of "FAIRness" of data laudable, as also the development of an implementation plan by most Centers according to the template provided. The Board recognizes that to support full implementation there needs to be clear governance and management mechanisms in place as well as a clear mapping of roles and responsibilities including for the Big Data Platform and the System Management Office. The Board is pleased to note that OA-OD activities in 2014 and 2015 correlate with "massive growth in the

number of published datasets in most Centers" (as per IEA's review; p3), although there is high variance across Centers in open vs. restricted access datasets. Although the review suggests that monitoring progress may be an issue, the Board understands that the Big Data Platform's "Organize" module already has in place ways to monitor progress towards both OA-OD and FAIRness.

9.   The Board supports the review team's suggestion that full implementation depends on open access being mainstreamed in Centers by leadership and management, with support and promotion from the System Organization. This includes championing OA-OD requirements and benefits by senior leadership; training, promotion and incentivization for researchers; communication across CoPs, including data managers, knowledge managers, legal experts and IT personnel; and planning and budgeting for OA-OD in project development, as well as in Center business plans as OA-OD often has costs beyond the project life-cycle. The Board agrees with the importance of the Policy being clearly communicated within Centers and that OA-OD issues and challenges are kept on the agenda of Center senior management. The Board suggests exploring where links with the Big Data Platform might provide synergies in these efforts.

B.   Specific comments on recommendations

10.   The review provided six (6) recommendations which the Board has considered and provides comments on, and, where appropriate, indicates any current or planned activities bearing on the recommendation.

Recommendation 1. **Taking into account lessons from the implementation to date, the Implementation Guidelines should be expanded to reflect the current phase of implementation and future needs at Centers and programs.** The additional content should include the following:
- Clarity in System-level governance and management roles for both OA and OD oversight and reporting reflecting CGIAR's governance transition in 2016 and establishment of the Big Data Platform;
- Aspects of data management that are particularly pertinent to open data, such as data prioritization, curation and quality;
- Templates for legal compliance and process for legal clearance (complementing guidelines for intellectual assets policy);
- Guidance for workflows for tracking progress towards OA-OD, and sharing lessons;
- Guidance for compliance to ethics in data publishing;
- Minimum requirements of repositories for open access;
- Guidance on promotion and incentives.

11.   The System Management Board agrees with this recommendation and noting that the world of data science and Big Data is evolving fast and has changed significantly since the Policy was finalized in 2013 after formal review by CGIAR's Independent Science and Partnership Council (ISPC). Given the widely accepted standard of FAIRness in enabling data mining and value addition, the Implementation Guidelines

of the Policy need to be revisited and revised as needed to ensure alignment with FAIR for all information products, but with metadata as well as data in particular to make good on the potential for transformation via the data revolution.

12.   The OA-OD Initiative is now an integral part of the Big Data Platform, with the "Organize" module coordinating activities, the CoPs and their working groups, and supporting implementation of FAIR data and publications. The Board recognizes the need for a clear definition of compliance, both operational and technical, and the roles that various entities would play in ensuring the necessary compliance.

13.   The Board supports the System Management Office working closely with the Platform, and leveraging its new tool called GARDIAN, which already enables not only the discovery of publications and data across all Centers and CRPs, but enriches the associated metadata to allow more robust linking and querying across these. Amongst many other discovery and visualization functionalities, GARDIAN is able to track progress towards OA-OD and FAIR resources by providing real-time measures of open versus restricted information products as well as their FAIRness for the CGIAR System, and for each individual Center.

14.   The Board notes that requirements for open repositories were included in the Template provided to Centers to draft Implementation Plans in line with the Implementation Guidelines. Recognizing the variability in OA-OD across Centers, a thorough budget table template was also provided in this document to enable Centers to easily estimate costs for line items of relevance to them, as was guidance on licensing, to complement a 2-page licensing workflow and data management workflows in the OA-OD Support Pack.

15.   The Big Data Platform is undertaking (1) a comprehensive assessment of privacy, security, and ethics in relation to the data life cycle, including collection, management, sharing and reuse, and (2) a CGIAR-wide overview of the licensing landscape to better support Center efforts toward standard and machine-readable licenses.

16.   Considering the above points, the Board supports actions to further develop simple and practical, but improved guidelines and to determine appropriate compliance responsibilities.

Recommendation 2. **The System Management Office should promote greater interaction among data managers and intellectual property and legal experts through joint activities and capacity development events of the respective communities of practice so as to enhance best practices and workflows that address all aspects of OD management.**

17.   The Board partially agrees with this recommendation, supporting the actions proposed but noting that these would be more appropriately handled by the Big Data Platform. Additionally, the Board notes that while there are already efforts to coordinate data managers and information specialists at Centers and CRPs, with these facilitating strong engagement of experts in key technical areas, initiatives to

raise awareness and facilitate interaction amongst other personnel that handle the administrative and operational aspects of OA-OD may also be beneficial.

18.   The Board observes that the Big Data Platform's "Organize" is coordinating data managers and information specialists at Centers and CRPs via Center representation on the Open Access Working Group and the Data Management Task Force and in the five relevant CoPs of the Platform's "Convene Module" listed below:
   a.   The Community for Spatial Information,
   b.   Data-Driven Agronomy,
   c.   Socioeconomics for Development,
   d.   Ontologies, and
   e.   Crop Modeling.

19.   The Platform Secretariat also works through a network of Big Data Focal Points from each Center, communicating with them on a monthly basis. The Secretariat also communicates regularly with Center DGs and DDGs, not only to inform leadership about key activities and accomplishments, but also to advocate for support to OA-OD FAIR efforts and personnel at their Centers.

20.   Guidance was issued in 2017 along with seed funding to Centers to empower their activities towards FAIR and open data and other information resources; this guidance included a strong recommendation that data managers, information specialists, IP and legal experts, and IT specialists at Centers meet regularly and communicate frequently to ensure best practices in all aspects of issues related to OA-OD and FAIR data.

21.   The Board also recognizes that the Big Data Platform has committed to capacity building events for the Open Access Working Group and the Data Management Task Force and is undertaking this via a number of channels including webinars and annual meetings, including a yearly Big Data Convention.

22.   The Board further considers that this may be an important topic to encourage the General Assembly of the Centers to include in their annual meetings.

Recommendation 3. **The System Organization should engage with donors to harmonize on requirements OA and OD and agree on common principles.**

23.   <u>The Board agrees with the recommendation,</u> recognizing however that the role of the System Organization would be in facilitating engagement between the Funders and various entities in the System, in support of efforts led by the Big Data Platform to harmonize OA-OD-FAIR requirements and approaches.

Recommendation 4. **The System Management Office should oversee restructuring of the OA-OD Support Pack to enhance its usefulness as the main source of guidance to different kinds of users within CGIAR, and to make it more suitable as a communication and dissemination channel and tool.**

24. The Board partially agrees with the recommendation, agreeing with the need for the OA-OD Support Pack to be restructured to enhance its usefulness, but recognizing that this work is more appropriately overseen by the Big Data Platform. The Board notes plans by the Platform's "Organize" Module to embed enhanced elements of the Support Pack into a "Toolkit" on GARDIAN in late 2018.

25. The Board recommends that this restructuring of the Support Pack, led by the Big Data Platform, make use of input from the System Organization and user testing with the relevant CoPs to ensure ease of use and appropriate fit for purpose.

Recommendation 5. **For resourcing OA implementation, action is needed at Center and System levels, and should include the following:**
- Centers should make budget planning for OA as part of normal project formulation for all research and consider earmarking institutional financial resources for peer-reviewed publication which generate costs long after project termination.
- SMB should consider approaches to OA financing, considering that Centers have limited resources beyond project lifetime for guaranteeing OA.
- Central funding, necessary for supporting Policy implementation and facilitating the communities of practice and capacity development, should to be planned in an inclusive manner and transparently reported.

26. The Board agrees with this recommendation, particularly that OA and OD implementation be adequately resourced, for which action is needed primarily at the level at which publications and data are being generated but recognizing that there may also be a role to be played at System level.

27. The Board is aware that the Big Data Platform's guidance associated with the disbursement of "Organize" module seed funding for supporting and enhancing OA-OD-FAIR efforts across Centers made clear the expectation that continued capital and human support for making publications and data open and FAIR come from projects and CRPs not only explicitly budgeting for this, but also ensuring the funds were in fact used for the purpose envisioned.

28. The Board supports action to align messaging for Center leadership on resourcing for OA-OD-FAIR as well as for Funders to encourage them to incentivize project-based budgeting for OA-OD-FAIR, engaging with the Big Data Platform as relevant.

Recommendation 6. **The System Organization should assume an active role in championing OA across CGIAR through the following ways:**

- Taking on a coordinating role for promotion and enhancement of implementation the OA-OD Policy across CGIAR;
- Inclusion of OA issues regularly in SMB meetings;
- Developing reward mechanisms for exemplary OA-OD management;
- Supporting System-wide sharing of OA-OD best practices and promotion;
- Improving online visibility and information sharing of CGIAR efforts on OA.

29.   The Board partially agrees with the recommendation, and supports OA-OD being championed across CGIAR by the Big Data Platform and its Lead Centers, which are well placed to take on the active role in this.

30.   Recognizing that the System Organization has an important role in supporting OA-OD across CGIAR, and as suggested in the recommendation, the System Management Board plans to address this topic at appropriate Board meetings to strategize on ways in which it can both champion and incentivize open access, while also considering optimal compliance mechanisms across CGIAR.