The FAIR Journal

Number 8 | 2024, Volume 3

Building community, capacity and knowledge of FAIR data processes for POs and grantees. Championing improvements in data-rich foundation investments — to help deliver greater returns in-country.

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fair@cabi.org

Launch
Nov 12
2024

FAIR
Process
Framework

Welcome to the FAIR Journal

A message from Chipo Cosford, Senior Project Manager, CABI

I am delighted to welcome you to this special edition of The FAIR Journal

This time we are focussing on the Value of FAIR and how the FAIR Process Framework and other tools can help the foundation's Programme Officers and grantees, along with other stakeholders, unlock that value.

We look at the ideas underpinning FAIR practices, the potential economic value and ROI of improved data practices, why thinking in terms of a data marketplace can demonstrate the value of FAIR in enabling innovation, and how concepts such as open data can be explored in the context of FAIR.

Alongside this, and our regular content, we are also revealing details of the launch of the FAIR Process Framework in November, our explainer webinars, and how you can get involved.

And remember, you can catch up on previous issues on the CABI website.

— Chipo

"Our ability to invest in data contributes to our comparative advantage"

Margarita Aswani

Deputy Director of AgDev,
The Bill & Melinda Gates Foundation

CABI team to launch the FAIR Process Framework [Beta]

Join us at the AgDev Learning Breakfast introducing the tool that will help unlock US$ billions of value in data

November 12, 2024
Seattle

We will reveal the FAIR Process Framework in Seattle next month in a learning breakfast run by CABI's team.

We will introduce the Framework, as a workable, useable tool with a foundation PO-friendly interface. This will include demonstrating how it was co-designed to enable POs and grantees to work together to integrate FAIR data principles and responsible data practices into investments.

The FAIR Process Framework is a website that is rich in detail, but presented in accessible, bite-sized learning experiences, articles, activities and tasks. It has been built specifically based on lessons learned through collaborating with program officers, partners, senior officials and academics across foundation target countries, and multiple grantees.

The CABI team are in Seattle November 11-15, 2024.

If you have any queries or would like to talk to a member of the team, by video or in person, please email fair@cabi.org to arrange a session.

We look forward to seeing you then.

Research indicates that the earlier you plan for FAIR and responsible data, the higher the value, and lower the cost to implement your project's data access management plan (DMAP).

The FAIR Process Framework is designed to support POs and national partners create and deliver their DMAP.

(Image Source Women and Economic Power, Bill & Melinda Gates Foundation)

Value of FAIR: Researching the economic benefits of FAIR

Read CABI's latest research 'The economics of FAIR data', published on Gates Open Research

$796B

investment generated from a $3.8B initial investment in data management practices

*Human Genome Project Source

What is the economic value of implementing FAIR practices? We are often asked for concrete examples of why any individual or organization should invest in the complex work of improving responsible and FAIR data practices.

The Human Genome Project is a prime, living example of FAIR aligned processes in play, where investment in ensuring the value of data was unlocked and preserved driving progress and future innovation. In that example, a $3.8 billion investment in making well-structured data available has already generated $796 billion in economic impact and created approximately 310,000 jobs, driving the genomic revolution.

Meanwhile, the McKinsey Global Institute estimates that open data, driven by FAIR principles, could generate $3 trillion to $5 trillion in annual economic gain across sectors like education, healthcare and transportation. And, as reported in The FAIR Journal 3, research from the United Nations and the Global Partnership of Sustainable Development Data (2023)* demonstrates value in investing in data, which runs to $32 for every $1 invested.

*Report: INVESTMENT CASE Multiplying progress through data ecosystems

The report isolates four areas where data and data ecosystems can generate returns on investment and offer benefits for individuals and communities:

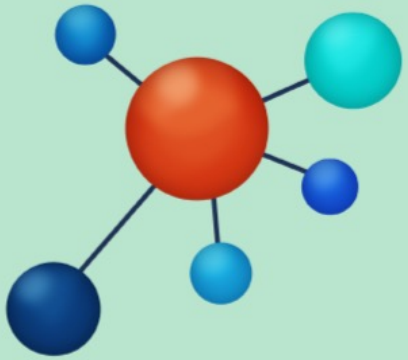
These include:

- Data and data ecosystems can create value and unearth cost efficiencies
- Data and data ecosystems can enhance the quality and equity of living standards by increasing the effectiveness of social programs
- Data and data ecosystems can bolster the transition to sustainable development
- Data and data ecosystems can support evidence-based decision making and provide the information needed to hold institutions accountable

Read more about the existing research evidence, which demonstrates the value of FAIR in CABI's new report, 'The economics of FAIR data' on Gates Open Research.

As evidence mounts for purely economic ROI, the FAIR Journal is also looking at the value of FAIR beyond just economics.

FAIR *Process Framework*


FAIR *data for sustainability in agriculture from* CABI

Value of FAIR: What are the benefits to investors and donors?

Exploring the benefits of bringing in FAIR principles with James Quilty, General Manager, Research, ACIAR

James Quilty oversees the strategic science focus of the ACIAR research portfolio and its impact assessment monitoring and evaluation work. He and his colleagues worked closely with the CABI team early on their journey towards establishing a clear process for mainstreaming and implementing FAIR practices by creating enabling environments. As a funder, he noted institutional benefits include increased trust and "more confidence in investments because they are built on sound data".

This has potential long-term benefits. James explained that having established processes based on FAIR data practices now means more will be possible in the future. For example, by making data FAIR, "impact assessment in 20 years will be able to do statistical analysis... [when currently they are] all qualitative surveys".

"If we stop [operationalizing FAIR] now... value for money is not going to be seen. If we push though, for FAIR data strategy and tools and an implementation plan, the return on investment will be extraordinary."

“If we push... for FAIR data strategy and tools and an implementation plan, the ROI will be extraordinary”

James Quilty
General Manager, Research, ACIAR

Knowledge share: FAIR for non-technical audiences

Read and share these fantastic resources for anyone keen to understand what the principles involve

Four succinct blogs, from Gideon (Kolawole) Abegunrin, a Data Policy Analyst at CABI, explore the FAIR principles in an easily digestible, non-technical style.

FINDABLE

If you cannot find data, even if you know it is there, then you cannot use it to improve your analyses, evaluation, project planning, research or evidence-based results.

ACCESSIBLE

Inaccessible data is a blocker. If you can find data but then cannot access it, this can be frustrating, and even scupper projects completely.

INTEROPERABLE

Datasets that cannot be connected or properly compared reduce evidence-based learning.

REUSABLE

Knowing pre-existing data exists but not being able to reuse it can be very frustrating.

Thought-provoking piece from CABI's Ameen Jauhar, unpacking the jargon and terminology around FAIR, using India as a case study

We live in an increasingly digitized world where the value and predominance of data mean it has been equated to 'oil'. This means ensuring data is more accessible and robust is crucial to maximizing the value data can bring.

Here we examine how a universally recognized set of data-related principles – the FAIR data principles – apply to regional or local contexts in India and what that means for those proposing more rigorous approaches to ensuring data can be found, combined, responsibly shared, reused and accessed.

Findable, accessible, interoperable, and reusable, or FAIR, data has become the putative gold standard when one discusses measures to improve access and quality of datasets.

Learn more

Value of FAIR to researchers

Derek Scuffell of Knowmatics shares insights into the benefits of FAIR - and some common misconceptions

"FAIR is a hygienic and socially helpful way to share data"

Derek Scuffell
Data Architect,
Knowmatics

We know that making data easily found, accessed, flexibly and sustainably combined, shared, and re-used can unlock its value. And yet, it isn't uncommon for those trying to implement FAIR to hit resistance. FAIR isn't open, and that needs to be reiterated.

A decade ago, there was a push for open data, as a means for democratizing how information can be used for global benefit, but there are limits for open as a concept. Anything can be open, but for it to be helpful and usable, FAIR is a prerequisite. FAIR data is a hygienic and socially helpful way to share data.

So, what's the answer? I think much of the answer lies in how we think about data, and finding ways to ensure its value is unlocked but also retained for the originator.

In an ideal world, data marketplaces would allow actors to donate data, verify it, make it markedly available to new services and products, and with some of that value passing back to the originator.

Seen like this, FAIR is a real enabler of innovation.

To me, this is a really interesting model, because a marketplace like that can only really work if the data is FAIR. If the data is not FAIR, it's potentially lost forever.

It prevents that innovation from happening in the first place. Innovators in agritech, rather than focusing on their primary expertise — whether that's in cutting-edge engineering, biology, or data science — often find themselves needing to build and maintain data infrastructures to manage non-interoperable data. This diverts valuable resources away from their core capabilities.

Creating a sustainable data marketplace can make innovation happen. But it can only happen if the data is FAIR. A recent survey found that data scientists spend 76% of their time preparing data, rather than on the core tasks that drive research and innovation. Only 13% enjoy data cleaning and verification, meaning the majority of their effort is focused on making data usable. If the data were FAIR from the outset, these resources could be directed toward advancing innovation.

Knowmatics is working with us on FAIR data recipe books. These are tools designed to support POs and grantees in assessing their projects' FAIR potential, including its FAIR maturity.

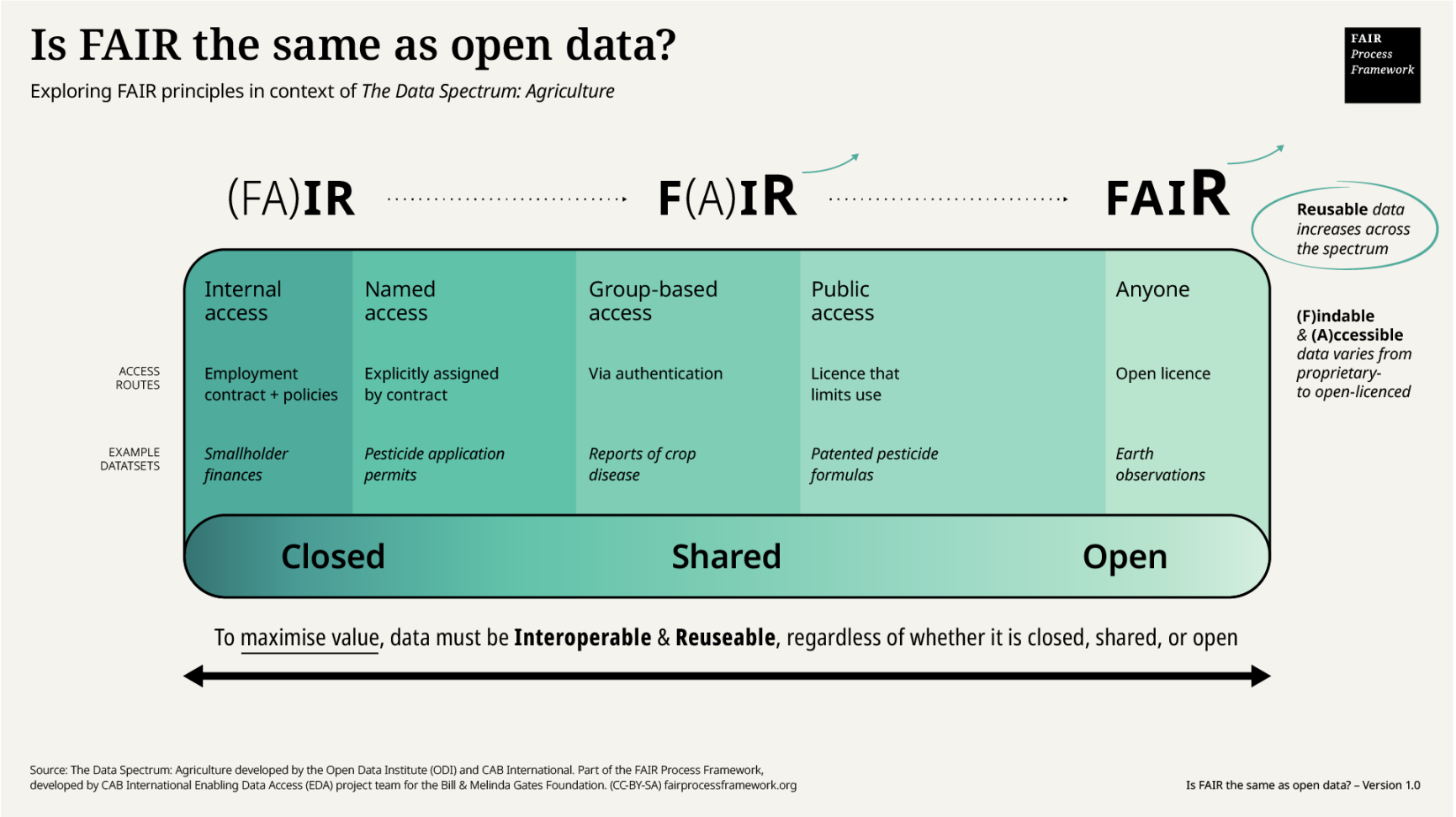
FAIR data across the open data spectrum

CABI has co-created a new spectrum to explore how open and FAIR data are not the same

The ODI's Data Spectrum is a widely-used tool that explains how data openness exists across a spectrum. It is used globally by analysts, developers, researchers, politicians, researchers and other decision makers.

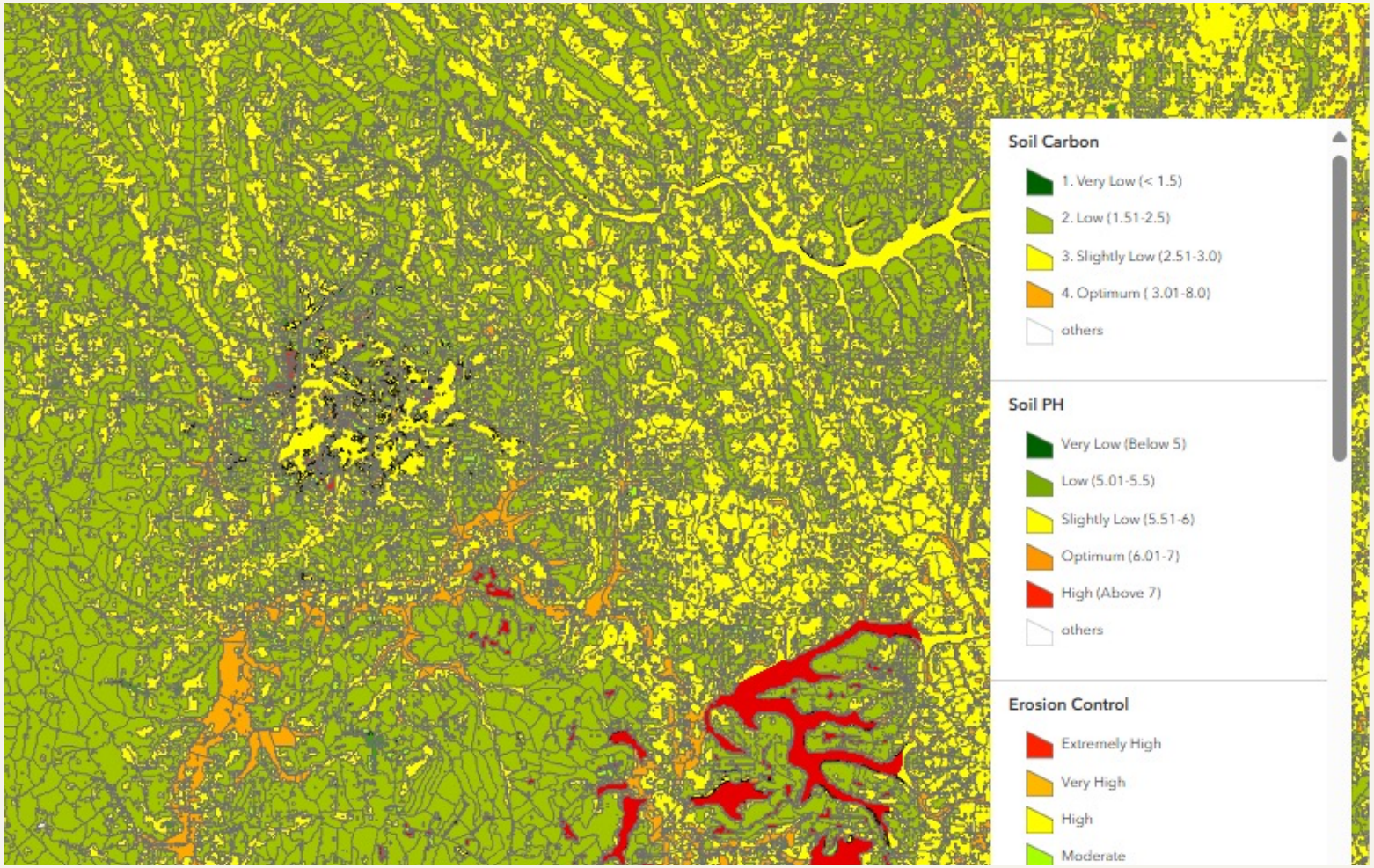
With our partners, we have created a new spectrum (right) to explore how FAIR principles can be understood in the context of open data, eg. showing how interoperability is integral to responsibly sharing and reusing data of any type.

To join the conversation and help CABI iterate this spectrum, contact: fair@cabi.org



Knowledge share: Rwasis Soil Information System (SIS) Map

Tool to optimize crops for regional success and high yield and productivity now launched



(Source:: Rwasis)

CABI's work in Rwanda contributed to the enabling environment, which in turn supported the delivery of a digital Soil Information System (SIS). The SIS is now available and accessible online and can be searched by soil information, erosion siting, crop type preference, and fertilizer and lime recommendation. These are designed to aid optimize crops for regional success and high yields.

The SIS provides quick access to soil data, mapped and visualized. It is expected to help decision-making in soil fertility and land use management across Rwanda. It has also been designed to help farmers directly, including with the ability to explore fertilizer recommendations and drive farm productivity, including for potato and rice crops. There is also ongoing data collection for other crops.

CABI is in the process of testing the degree to which the SIS is driven by FAIR principles.

August, 2024
Rwanda

FAIR insights from agriculture and beyond

News, views and research – found an article you'd like us to share? Send it to FAIR@cabi.org

Capitalizing on Generative AI (GenAI) to strengthen advisory services for farmers
CABI *[4-min read]*

Read this CABI blog about the Generative Artificial Intelligence for Agriculture Advisory (GAIA) project. A Bill & Melinda Gates Foundation funded pilot, it will unite partners to leverage GenAI in ways that strengthen the support available to agricultural extension advisors. This technological initiative will start with a focus on Kenya and India, where farmers face significant challenges related to pests and diseases.

How embedding a FAIR approach for metadata management will encourage a healthy data culture GOR *[11-min read]*

The Malawi Digital Plant Health Service (MaDiPHS) Data Catalog makes >100 datasets and information products accessible to project partners for pest data modelling. Presenting it in Malawi, CABI's Henry Mibei and Boma Beddie-Memberr said it reinforced how the FAIR Process Framework approach for metadata management will "encourage a healthy data culture within sector domains". Learn more in this CABI blog

New Release of FAIR-checker content tool FAIRChecker *[5+min read]*

FAIR-Checker, presented in Journal of Biomedical Semantics (2023), is a tool to support findability and reuse of data in digital resources by using Knowledge Graphs and Semantic Web standards. Upgraded this summer, it lets data providers and consumers see how FAIR web resources are and developers check metadata in web resources.

Putting people at the center of AgTech design Global Ag Tech Alliance *[30+ min watch]*

Watch this webinar Jen Williams, Design Principal from Global Ag Tech Alliance member MentorMate, talks on 'Accelerating Ag Tech Adoption Through Human-Centered Design' and how organizations can tweak their approach for a higher success rate. *[Aired: 06.25.2024]*

Why G20 should sponsor International Decade for Data T20 *[20+ min read]*

Read this briefing on the important role of data in social and economic development, and advocates for a G20 sponsored International Decade for Data (IDD), spanning from 2025-2035 under G20 sponsorship. It suggests such an event could 'bridge existing data governance initiatives and deliver global ambitions to use data for social impact, innovation, economic growth, research, and social development'.

Practicing FAIR data principles in science and healthcare ontotext *[4-min read]*

Dive into this top-level article from a technology company that creates FAIR-aligning tools to explore "the definition and importance of applying FAIR Data principles" and FAIR data practices and principles' rapid ascension to prominence across sectors including science, technology and healthcare.

The FAIR Journal

Authored by the Enabling Data Access team at CABI for the foundation

Thank you for reading our journal – is there anyone who you think would benefit from receiving a copy? Forward this deck directly or email FAIR@cabi.org and we can add them to the list.

Martin Parr,
Director, Data Policy & Practice, Digital Development

CABI

30 October, 2024

FAIR Process Framework —

empowering donors with the knowledge to help make positive, actionable, lasting impact in AgDev

Launch Nov 12 2024

FAIR *Process Framework*

BILL & MELINDA GATES foundation

gatesfoundation.org