2.0 Assessing the enabling environment

To understand the ecosystem affecting your investment, identify personas, map value exchanges, and analyze influencing factors, enabling clearer relationships and impactful FAIR data practices

Why should I do this?

To understand the broader social, political, and geographical ecosystem that will impact your investment. This process will help you better understand and explain where and how the use of data creates value. It can help to identify the key organizations collecting, stewarding and using data, the relationships between them, what is being exchanged, and the different roles they play.

Visually representing ecosystems in maps can be helpful approach to engage partners when contexts are complex, not well understood, or not yet fully developed.

In this step you will:

2.1 Identify personas and their value exchanges: Identifying the different individuals encountered throughout the AgDev ecosystem, each with their own learning needs, barriers, motivations and goals, and understanding what is exchanged amongst them.

2.2 Identify enabling and inhibiting factors: Identifying external influences that help or challenge the implementation of FAIR data practices.

2.3 Map your data ecosystem: Developing a visual representation of the data landscape, illustrating how data flows, how different entities interact with data, and the relationships among various data-related elements.

As you complete these activities, document your outputs in the provided workbook. We recommend using the same document as you go through each step, so you have a single document that captures all your workings. Each workbook is segmented by activity, allowing you to complete either the entire workbook, or only the specific sections relevant to your current project stage. Download workbook (and supporting factsheet).

If you would like to understand what inspired the approaches and methods used to develop each step, view background research. This is not required to complete any activities.

When should I do this?

During proposal development:

As a grantee (or national partner), you will do a light-touch run-through of these activities to develop activities and sub-activities that can be included in your investment proposal, demonstrating your intention to understand the enabling environment better.

Sample text:
We will kick off the assessment of the current data landscape around soils and agronomy in X country, consolidating and building relationships with key stakeholders, moving to construct an understanding of cultural, institutional and technical barriers to data access, management and sharing. Stakeholders will include researchers, data scientists, policy actors in government and national statistical officers, in agricultural ministries and beyond, civil society and donor agencies. This process will involve face-to-face workshops, focus groups and interviews, or virtual engagements.

There will be a minimum of two in-country trips (or virtual convening), commencing during Phase 1.

Through these consultations, we seek to:

Identify the key organizations and individuals to engage with, and map, personas.

Coordinate desk reviews of existing country documentation related to acid soil management and relevant national data perspectives.

Understand key individual and institutional perspectives, and build relationships within and beyond the core partner group.

Map the current flow of data within the national system relevant to our investment, focusing specifically on enabling and inhibiting factors, and work with stakeholders to understand a future vision for how the data flow within any anticipated national soil management data system will improve decision-making.

Identify key policy documents and perspectives of relevance to our investment.

Document inhibiting factors and enabling factors to data sharing, and review and reassess the investment's data levers.

Outputs will include:

A data landscape report and country briefing guide.

A soil and agronomy data ecosystem map.

The findings of the landscaping study will be documented in a report, and presented to key stakeholders.

When the investment is live:

The activities in this step may help to reflect on work that has been done and to get a better understanding of the data ecosystem at any stage of the investment.

Below is an introduction to key concepts that you will come across in this step. As you are doing an activity, you may need to refer back to some of these key concepts.

Data assets

Data, or collection of data, that hold significant value and contribute to the community's strategic objectives. Data is a valuable resource that can be leveraged to drive insights, make informed decisions, and improve processes and, ultimately, people's lives.

Key data asset inventory

A structured and comprehensive catalog or repository that systematically documents and organizes the data assets of interest for a certain project, and serves as a foundational resource, enabling effective data management, governance and utilization.

Data infrastructure

This is made up of data assets, standards, technologies, policies, and the organizations that steward and contribute to them.

Data ecosystem

The interconnected network of people, processes, technologies and data flows that work together to enable the collection, storage, analysis and dissemination of data within an organization or across multiple organizations.

Data ecosystem map

A visual representation of the people, processes, relationships and data flows around a particular project or service. When conducting a data ecosystem mapping exercise, it helps to highlight where important value exchanges happen (such as transfers of funds, supply of data from one party to another, use of open data, etc). It can also help identify pain points for different actors, and the kind of strategies or support they may need.

Enabling environment

The external factors and conditions that influence the success and effectiveness of data practices and interventions. This includes:

Policies and regulatory frameworks: The rules, regulations and policies set by governments or other bodies that impact data management, sharing and use.

Technical infrastructure: The existing technological systems and platforms that support or hinder data access, sharing and integration.

Cultural norms: The values, attitudes and practices within a community or organization that affect how data is perceived and used.

Economic and societal influences: The financial and social factors that can affect data practices, such as funding availability or societal priorities.

Understanding the enabling environment helps to identify how these factors interact with data practices, and supports the development of strategies to address any challenges or leverage opportunities for effective data management.

Investment type

Overview

©Gates Archive/Mansi Midha

Every investment project is unique

The application of the six steps will vary accordingly. To provide examples that align with your project, common characteristics of AgDev investments were researched and three 'investment types' were developed.

AgriConnect: a digital solutions investment

©Gates Archive/Alissa Everett

Recently, a large African-led organization, AgriConnect, has decided to make its data processes FAIR. Its work focuses on scaling agricultural innovations to improve smallholder livelihoods, and ultimately increase food security across the continent.

AgriConnect is determined to apply FAIR principles to avoid inefficiencies and the economic costs of efforts duplication, legal risks, and missed opportunities that might hamper its mission's accomplishment. To aid decision-making and collaboration, stakeholders need to be able to easily locate data. This platform must be accessible for stakeholders with different levels of digital literacy, meaning that usability considerations must be ensured.

Moreover, as the platform combines diverse data sources and formats, data must follow the interoperability principle, which facilitates collaboration and data sharing.

Finally, data must be reusable, so that they continue to add to the richness of new work, rather than stagnating after collection or publication.

To adhere to the FAIR Principles, AgriConnect plans to create a system that is open access, thereby increasing its utility to end users, and making the collected data available (when possible) for other researchers to find, access and reuse. The organization will include a technical perspective through data formatting, hosting infrastructure, and sharing agreements and permissions.

This commitment, from a large, respected organization, should act as an institutional and cultural guidepost for other organizations to adhere to the FAIR Principles within their own work, thereby increasing FAIR visibility and utility for future work within Dataland.

AgroThrive: a policy and advocacy investment

©Gates Archive/Thomas Omondi

The well-established policy and strategy organization AgroThrive works to improve enabling conditions for people across the AgDev ecosystem (including smallholder farmers), with the goal of improving smallholder livelihoods, and ultimately increasing food security.

AgroThrive is launching a project in the lower-middle income nation of Datapur to bolster the local government's capacity to scale inclusive agriculture and attract private sector investment. It aims to create a more enabling policy environment for Datapur's agricultural sector by providing evidence-based policy recommendations.

Its work specifically includes access to credit and affordable financing options for agricultural inputs, infrastructure development (transportation and storage facilities), educational opportunities for smallholders, fostering technological advancements, climate resilience, and land tenure security.

AgroThrive believes that all of these conditions should also be viewed through an intersectional lens, with special attention given to including traditionally marginalized communities.

Additionally, AgroThrive will work with Datapur officials to increase the state's implementation capacity by helping to improve government planning, accountability, delivery of services and sector coordination.

The AgroThrive team has determined that the FAIR Principles are an integral component of the project's long-term success. The principles are transversal to all the project's phases, from data gathering to findings dissemination. This will allow AgroThrive to leverage existing data and analyses, speeding up the policy development process and optimizing resource use.

Once a final report is prepared and shared with the government of Datapur, AgroThrive will (to the best of its capabilities) adhere to the FAIR Principles by making the data used, and the resulting policy recommendations, findable and accessible to those working in the broader AgDev sector, so they can be built on or reused for similar initiatives, with interoperability as an enabling condition for transparency, collaboration, and data sharing.
This will allow the recommendations to become a part of the evolving ecosystem around the country's policy environment, rather than stagnating after they have been shared with the government.

As the provision of policy recommendations is largely based on the analysis of existing data sources, applying FAIR to the project will necessitate data sharing agreements to be put in place with relevant data owners. As much of this data may be sensitive (or proprietary, in the case of private sector data), these agreements will need to include privacy provisions and data safeguarding measures, and explain how the data sources will be used and why they are necessary to the project's outputs.

Trust-building with stakeholders is also a vital component of the project, both to facilitate data sharing and to create buy-in for the targeted recommendations (thereby employing a 'bottom-up' approach to the recommendations).

This will be done through open-source publication, and the appropriate use of metadata, in addition to sharing the recommendations in widely accessible journals and platforms. As a large, well-respected organization, this adherence and promotion of FAIR will act as a guidepost for other organizations to consider FAIR in their own work.

NGBT: a field research investment

©Gates Archive/Esther Mbabazi

NourishGen BioTech (NGBT) is a multinational research organization committed to combating global hunger, addressing gender disparities, and mitigating the impact of climate shocks on vulnerable populations. Its lab-to-field approach has already improved nutritional outcomes for millions of people by optimizing crops for widespread planting.

NGBT is launching a project in the low-income nation of Datastan, where increases in crop productivity and yields will provide tangible benefits to a population overwhelmingly made up of smallholder farmers, and to the country as a whole, for which agriculture is a main driver of economic growth. NGBT is cognizant of the fact that women play a crucial role in this domain.

In Datastan, NGBT is developing a more nutritious varietal of barley that is more resistant to climate change and produces greater yields. The project not only seeks to optimize crop varieties capable of thriving in challenging environmental conditions, but also indirectly addresses the exacerbation of child nutrition gaps due to climate-related disruptions. Simultaneously, it empowers women, who are often disproportionately excluded from field-research projects, by enhancing their access to resources and opportunities in agriculture.

If successful, this would allow farmers to use less farmland without decreasing the quality of their outputs. This work will involve both small and large data points, including (but not limited to) historical and current weather data, data on current crop yields and production, land use for agricultural purposes, and government data on the population involved in the production of the target crop.

Planning for the application of the FAIR data principles is vital from the project's inception. As this project is focused on the creation and eventual sharing of newly generated data, NGBT will need to plan for how the data will be published. This may include data, methodologies, research materials, results, budgets, or other useful information within the project's outputs for greater findability,

accessibility, interoperability and reusability of results. The main objective is to ensure the research process is transparent, so that others can review, critique and build on their work.

Additionally, NGBT must consideration how to communicate results with relevant stakeholders (through in-country meetings or workshops), and, after the results are published, collect stories about how this positively impacted the community.

It must also ensure that the outputs of the project contribute to the overall scientific community, and allow results to be built on in future research. The outputs will need to be appropriately labeled with metadata and stored in an accessible platform, which will facilitate their findability and accessibility for researchers working in similar spaces.

The NGBT team will also, through mapping of the data ecosystem and data assets, decide on the most appropriate storage system for research outputs, with an eye toward greater interoperability.

As a well-respected and influential organization, the consideration of FAIR principles will influence other researchers and organizations on the utility of FAIR, as the scientific community as a whole (including NGBT) benefits from findable, accessible, interoperable and reusable research outputs, which can help to advance discovery and reduce repetition of research.

Open and FAIR data assets…facilitate interdisciplinary research, assist data aggregation, computation, and the derivation of new insights, and allow the global public to benefit from CGIAR Research.

Understanding the enablers and disablers of mainstreaming FAIR – the Case of CGIAR

Acknowledgements

FAQs

Glossary

Accessibility

Privacy & cookies

T&Cs

FAIR Process Framework has been developed by the Enabling Data Access (EDA) project team at CABI and is funded by the Bill & Melinda Gates Foundation to support the foundation's Open Access Policy.