6.1 Illustrative scenarios

Illustrating how six technology themes can be navigated to help implement FAIR, across two different cases with varied needs

Why should I do this?

To understand how the various technical concepts may impact each other and affect an investment's FAIR implementation. The examples used in the two illustrative scenarios can be compared to your own projects before you start to navigate through the themes.

By providing a walkthrough of how the themes interact across the data value chain, and their implications on FAIR, you will begin to understand how decisions on each aspect will impact your project's FAIR implementation.

In this activity you will:

There are two illustrative scenarios for use in Step 6: 'Project SIS' and 'Waterways'.

Each one provides general background context and a problem to be solved, followed by reasoning of how FAIR data use could support the solution. These examples are tracked from an assessment of the given situation, through to identifying what data is needed, as well as metadata, licenses, and technological considerations. Additionally, the actors and their roles are identified, and plans are formulated based on the available resources.

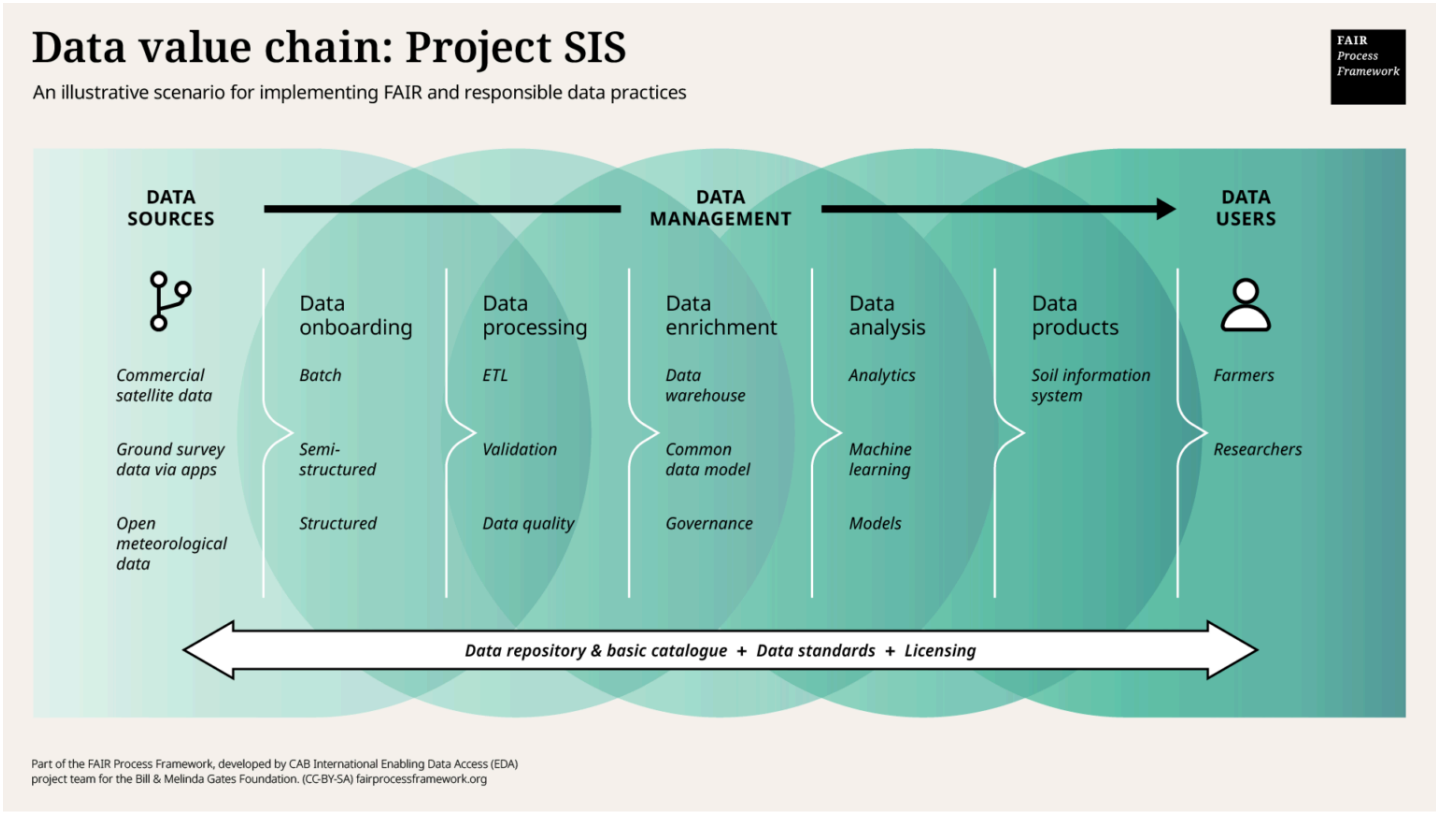
These illustrative scenarios are a great place to start. Use them to enhance your awareness of what good solution patterns look like, and apply this understanding to your own projects.

1) If you are a Program Officer (PO), you may want to share this page directly with your grantee, so they can act on it.

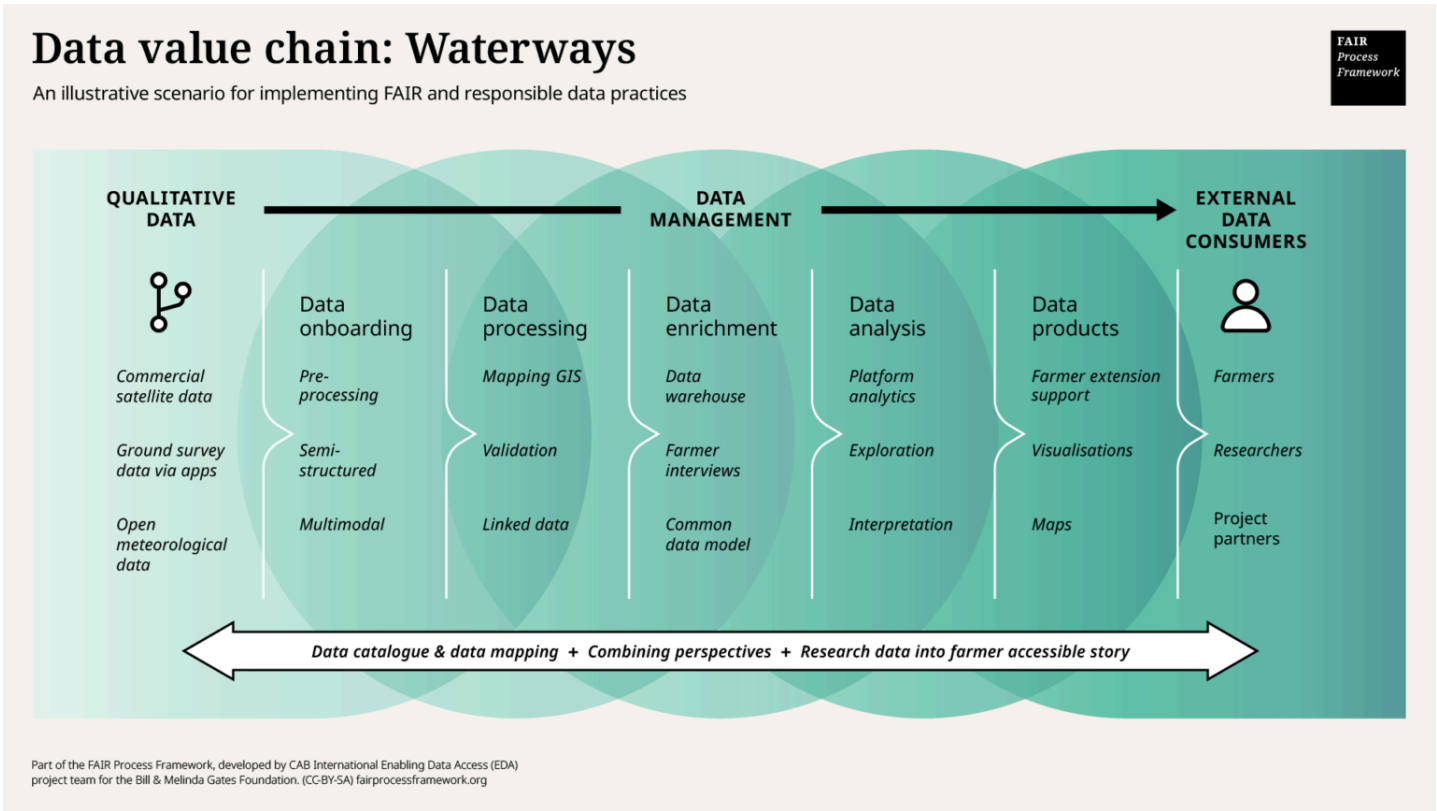
2) If you are a grantee, ensure you have technical team members involved in this process. While the content is accessible to both technical and non-technical members, technical expertise will be required to make decisions for the investment in this step.

Firstly, please examine these data value chains. Consider what you are using the data for, and then see which of the two illustrative scenarios are most suited to your investment project:

The 'Project SIS' data value chain:



The ‘Waterways’ data value chain:



Illustrative scenarios

Overview

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Which illustrative scenario best aligns with your investment project?

If your focus is on data collection and processing/management:

> **Project SIS: Soil information system initiative**

If your focus is on data analysis and use:

> **Waterways: Agriculture productivity initiative**

If your project has elements across the data value chain and you are unsure of the focus area, download both pdfs and glance through them before deciding which one would be best aligned to your project.

Project SIS

Project SIS: Soil information system initiative

In the small, mountainous country of Dataland, farmers have been struggling with declining crop yields due to soil erosion and inadequate fertilizer use. To address this issue, the government has initiated a project to create a centralized soil information system (SIS) that will help optimize fertilizer use and improve crop yields in the highland regions.

The project involves various stakeholders, including government survey staff collecting soil samples and data; local farmers providing access to their land and benefiting from the research; project partners coordinating surveys and working with farmers; researchers analyzing the data; and project officers overseeing the entire process.

These individuals work together to gather soil data, weather information and satellite imagery to build a comprehensive understanding of the soil conditions in Dataland's highlands.

Assessing Fertilizer Effectiveness using FAIR Soil Testing Data (Project SIS)

Waterways

Waterways: Agriculture productivity initiative

The Waterways project helps farmers to optimize crop output in a hot, dry region with seasonal rains, focusing on improving water use, crop patterns, and access to reliable agricultural advice in challenging conditions.

The project uses satellite data and field measurements to study crop health and water availability in the Waterways Research Observatory. GIS tools, including ESRI and Google Maps, help to visualize data like surface temperature, vegetation, and Normalized Difference Vegetation Index (NDVI). A canal system improved crop conditions in the northern area, with surface temperatures up to 6°C lower than the southern region. Farmer interviews confirmed better water access and crop health in the north. The findings were shared with farmers, increasing awareness, and compiled into an ESRI Story Map for accessibility.

Utilizing Technology and Data for Optimal Crop Selection (Waterways)

By 2050, the average farm will produce more than four million data points a day.

World Bank, ‘A roadmap for building the digital future of food and agriculture’

Learn more

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. The FAIR Process Framework is a tool to assist partners in developing data access and management plans (DMAPs) that incorporate FAIR and responsible data practices.