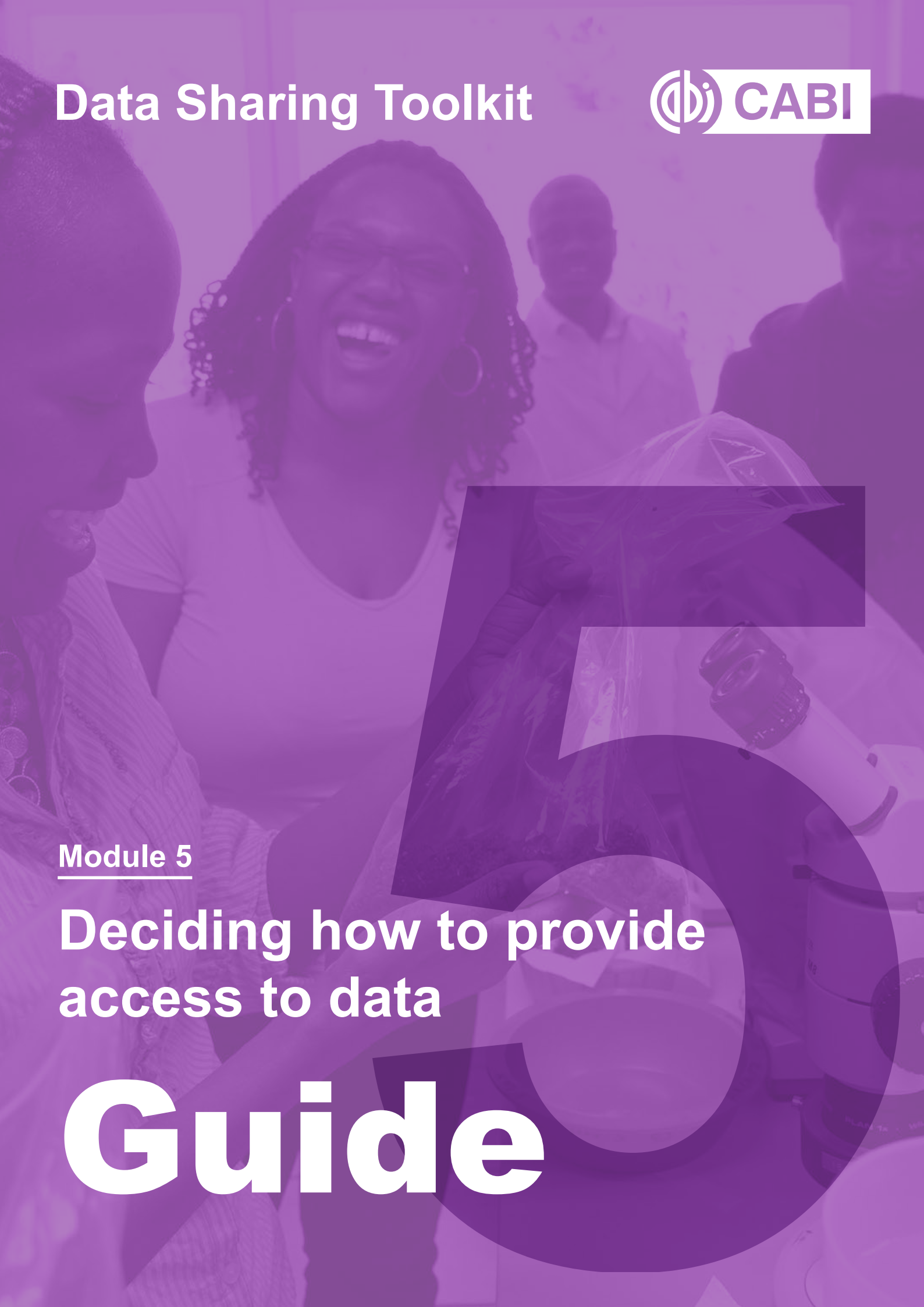
Data Sharing Toolkit



Module 5

Deciding how to provide access to data

Guide

Deciding how to provide access to data

About this guide

This guide will help to program officers and grantees to:

- Consider their purpose for sharing data
- Support a conversation on approaches to sharing and providing access to data
- Provide a helpful insight to the ways similar projects provide access to data
- Take a purpose-led approach to deciding the most appropriate way to provide access to data generated, used or shared within an investment so it is findable, accessible, interoperable and reusable (FAIR) for those that need it, while minimising harm.

When to use this guide

Start concept | Request proposal **|**
Refine proposal | Create agreement |
Request Approval | Obtain Signatures | **Active**

- At the beginning of an investment involving data
- Whenever data is being shared as part of an investment

Take a purpose led approach

There are various options for making data available – some tried and tested, some new. Grantees and organisations across the public and private sectors can find it hard to understand what those options are, and how to decide what's best for their project or business model.

The method by which you provide access to data will be informed by the specific context, such as the type of data (whether it contains any personal or sensitive information), the purpose of sharing and who you intend to share it with.

We outline four steps to help define the data, and inform the way you decide to share it. You can either follow the steps in order or start where makes most sense for you – this is not necessarily a linear process. For example you could start at Step 4 before moving to Step 2, then 1, then 3.

Step 1 – Be clear on your purpose of sharing

Being clear about the purpose can inform the method by which data is shared. Identifying the purpose of sharing should bring to light the groups, organisations or individuals that need to access it. Examples of a data's purpose might include:

- To support operational decision making, for example managing the presence of a pest or pathogen
- To provide a service, for example providing content to inform decisions
- To support policy making or planning, for example land use, predicting crop yields
- To support collaboration, for example work with a particular organisation or group of organisations
- To ensure fair treatment, for example ensuring individuals can exercise their rights to data about them
- To improve transparency and accountability, for example about operations or the evidence decisions are based on
- To stimulate innovation, for example by providing products informed by data

Step 2 – Define the data

Be clear on the specifics of the data you intend to share, by this we mean the parameters to be included. The guide included in Module 7 – How to create a data inventory – including a section on defining the data. When defining the data identify any personal or commercially sensitive information, or third party data. The guide on managing risk to minimise harmful impacts, included in the Data Sharing Toolkit, will help you to consider the most appropriate way to share data with these qualities.

When defining the data, it is also important to consider any potential harm that might impact more broadly, for example on individuals, sections of society or whole nations. For example could use of this data result in decisions that discriminate against any groups or individuals? Bias can be conscious or unconscious and can result in under-representation of specific communities, which could impact them by giving an unfair advantage to others, or unfairly restricting access (e.g exclusive arrangements), therefore it is important to consider how data collection or use might have ethical implications.

The Open Data Institute's Data Ethics Canvas can help you consider specific risks related to ethical use of data in your project. It can be helpful to work through the canvas as a project team to facilitate awareness and ensure all aspects are considered.

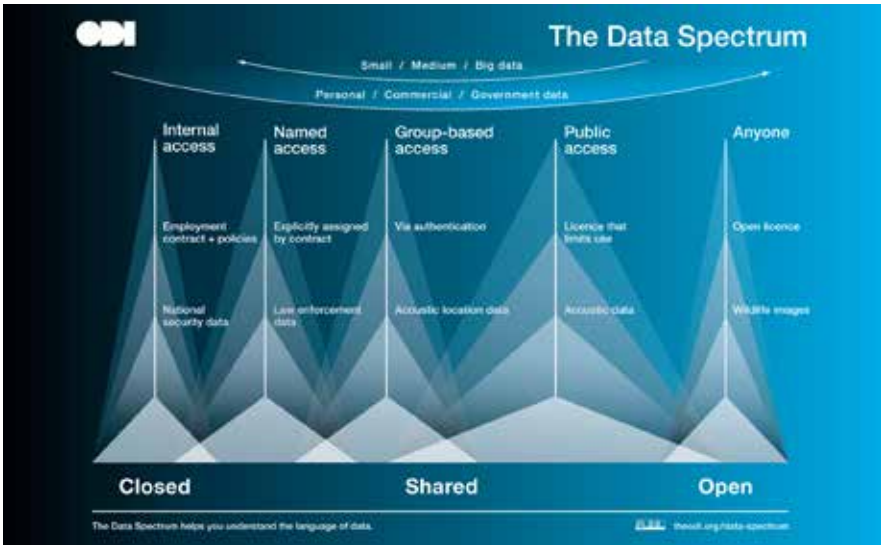


Figure 1: Agriculture data spectrum

Step 3 – Consider how widely should the data be shared

The Bill & Melinda Gates Foundation aims to create the widest possible benefits from investments. The foundation's open access policy requires organisations that receive funding to license their data, code and reports for wider reuse. It is important for everyone involved in a funded programme to understand how these policies will impact how data is accessed, used and shared.

Access is the important characteristic – it doesn't matter whether we're talking about big data, personal data, government data or private data. The most important and defining factor that influences the value that can be unlocked from data is who has access. The data spectrum can help consider how widely data should be shared (Figure 1). As data moves along the data spectrum – from closed, to shared, to open – then an increasing number of people will have access to it, and the potential to maximise return on investment rises.

Explaining the data spectrum:

As data moves along the data spectrum – from closed, to shared, to open – an increasing number of people will have access to it.

Closed data: Closed data covers data that is only available to a few individuals. Data should be closed if it is necessary to minimise harmful impacts. Examples of closed data include sensitive legal documents, employment contracts and personal health records. Conditions attached to reusing closed data are likely to be very restrictive in order to minimise harmful impacts.

Shared data: Shared data is the largest category and covers everything from medical research data to social network data. In this category, there are often restrictions on who can access and use data. Again, these restrictions may be necessary to minimise harmful impacts or may be in place to preserve commercial advantage. Reusing shared data will often require restrictions to be carried over with the data, and limit potential reuse and subsequent sharing.

Public data: Public data covers all data that is visible to everyone, but with limited or unclear rights. Just because something is visible online, that doesn't mean you can freely make use of it. To reuse public data, it is necessary to approach the rights holder to establish if it can be reused freely or if there are restrictions as per shared data.

Open data: Open data is data that anyone can access, use and share. Providing the reuse is allowed by relevant license and legislation, open data can be reused without restriction and shared forward with others.

More information is in the Agriculture Data Spectrum in this module.

Step 4 – Identify and engage the users

How data is made available to others will be influenced by its key audience.

It is important to ensure the data will suit the needs of its audience from the outset. This can be explored through mapping the data ecosystem.[1] The users will almost certainly be different for each type of data to be managed. For example, the users for raw data will be different to the users for data that is generated through some analysis based on that raw data.

Think broadly, identify whether your likely users include individuals, specific groups or the wider public. Consider whether your users span across the public, private or third sectors. Engaging the user community and developing personas to represent real people in your data ecosystem can help to identify audience needs, pain points, motivations and goals.[2]

Not all users will have access to the same technical infrastructure so consider what is available in-country and the reliability of technology and the internet The agriculture data country briefing template, in the Data Sharing Toolkit includes a series of questions to help explore this and other contextual details for a given country or region.

[1] (2019) Open Data Institute, 'Data ecosystems mapping methodology and training tools'. Accessed June 2020.

[2] (2018), Fiona Smith, Leigh Dodds, Pauline L'Henaff, Charlotte Day, Ruthie Musker, Martin Parr, 'Understanding personas in agricultural ecosystems'. Accessed June 2020. https://gatesopenresearch.org/documents/2-43

[3] (2019), Open Data Institute, 'Data Access Map'. Accessed June 2020. https://theodi.org/project/the-data-access-map/, (2020), Nesta, 'Data Sharing Toolkit' (page 11). Accessed September 2020. https://media.nesta.org.uk/documents/Data_sharing_toolkit.pdf

Approaches for providing access to data

There are a wide range of approaches for sharing data[3] including;

- **Publish online** under as open a licence as possible. Using an open licence will ensure that anyone can access, use and share the data in future. Even if the dataset itself is not openly licenced, this could include publishing open standards, open metadata and open documentation to help others find and understand the data.
- **Delegate data stewardship to a third party**. We are increasingly seeing third party organizations steward data on behalf of others. These types of organization come in different shapes and sizes and may be referred to by different names such as data institutions and data collaboratives.[4] These parties can play a number of roles including providing access to data on behalf of others, combining or linking data from different sources, and developing and maintaining common data infrastructure. Using a third party can help foster trust with other actors in the ecosystem.[5]
- **Share the data under contract.** A contract with detailed, binding rules helps everyone be clear on their obligations. A contract, such as a data sharing agreement, can be useful when organisations, of any kind, are sharing data with embedded intellectual property rights, or commercially confidential data.
- **Pool data using a platform.** Collecting data together in one place can help to provide access to multiple actors, typical places include data portals, data warehouses and data spaces. Access can be managed via user authentication if the data contains sensitive information.

[4] (2020), Open Data Institute, 'What do we mean by data institutions', Accessed June 2020. https://theodi.org/article/what-do-we-mean-by-data-institutions/, TheGovLab, 'Data Collaboratives', Accessed September 2020, https://datacollaboratives.org/

[5] (2020), Open Data Institute, 'Designing sustainable data institutions'. Accessed June 2020. https://theodi.org/article/designing-sustainable-data-institutions-paper/

- **Use technology to support access.** Different types of technology can help share data while protecting personal information and intellectual property. Examples include privacy enhancing technologies, Application Programming Interfaces (APIs) and the generation of synthetic data.
- **Data visualisation** Analysing data and presenting it in a visual form to aid understanding or to convey a message, such as using infographics and dashboards.

Providing access to data is often a mixture of approaches combined in different ways depending on the ultimate purpose of the data, the data sharing arrangement, and on things like the context, type of data being shared, or regulatory regime.

EXAMPLE: In order to address a particular challenge like the presence of a pest or pathogen in a region, a technology company and a university pool their data in a data warehouse. Applicants receive initial access to synthetic data made available via an API, after which applications are assessed by a data review board, which then provides access to the full dataset for selected participants via a data portal.

Regardless of the mechanism for providing access to data, centering on open approaches that relate to data – such as open data, open access, open standards, open metadata and open documentation – can help people to find, access, use and reuse the data. This could include the use of technologies and techniques that anonymise data to remove personal information and make them suitable for publishing openly. Approaches centered around openness can support innovation and foster trust in a community.

Use cases can illustrate challenges and options when sharing data

This section outlines typical use cases using personas to illustrate different considerations you may need to make when deciding how to provide access to data. In each case we highlight the most appropriate options to provide access to data in a way that ensures it is FAIR to as many people as possible, while minimising harmful impacts.

We selected the use cases based on patterns is a set of investments made from the Agricultural Development portfolio at the Bill & Melinda Gates Foundation. They include the most common activities and core constraints related to sharing data in investments.

Summary of use cases
Collecting new data
Stakeholder collaboration
Developing digital services
Providing tailored insights
Sharing while maintaining a competitive advantage
Sharing in a culture of mistrust

Personas can help decide how to provide access to data

Personas are imaginary characters who can help us to understand the needs, barriers, motivations and goals of real people. They develop as we learn more about the real people we are trying to help. We use personas in this guide to illustrate the typical roles within a grant-funded data ecosystem, as a way to consider user needs and the most appropriate data sharing arrangement.

The personas we use in this guide are;

- **Sara – Innovator**: Sara works in an organisation that offers a tailored information service, built on open data, that helps farmers make better decisions.
- **Alan – Lead organisation**: Alan works for an agriculture organisation that manages a consortium of actors to produce a platform combining data from multiple sources, which innovators and researchers can access to develop data-enabled services and products.
- **Joelle – Researcher**: Joelle works for a university research centre which collects raw data, processes it, and combines it with available sources of open data to produce insights, which may be published via an open access repository.
- **Chris – Project partner**: Chris works in an organisation that develops software tools to make it easier to analyse and visualise insights about farming practices based on data.
- **Ida – Third party publisher**: Ida works for a central government agency in charge of managing a number of key datasets, including the national repository of soil data, which is made available to researchers and innovators via an open data portal.

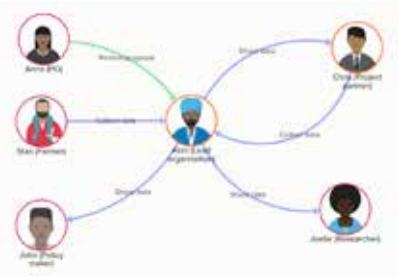
- **Anna – Program officer**: Anna works for a grant-making organisation responsible for managing multiple investments in data-intensive agriculture programmes. She oversees formal monitoring and evaluation (M&E) requirements for reporting are being met, and activities are being implemented to a high quality.
- **John – Policy maker**: John works for a central government agency and is collecting insights and data to build better policies for data about agriculture and soil.
- **Stan – Farmer:** Stan is a farmer that will benefit from the services and products developed by Sara and Joelle.

Find out more about personas in a guide in Module 3 – Understanding Personas in Agricultural Data Ecosystems.[6]

[6] (2018), Fiona Smith, Leigh Dodds, Pauline L'Henaff, Charlotte Day, Ruthie Musker, Martin Parr, 'Understanding personas in agricultural ecosystems', https://gatesopenresearch.org/documents/2-43

You may recognise aspects of your situation in one persona or use case, and another aspect of your situation in a different persona or use case. The personas and use cases are intended to help you think more deeply about your own work and inform next steps, rather than provide a concrete 'right answer'. Each situation is unique, and the method of sharing will vary with specific types of data, the domain and the stakeholders involved. If you are unsure you should seek specialist help.

Use Case 1 – Collecting new data



As a program officer, **Anna** is assessing a grant proposal from **Alan's** organisation. Alan's organisation aims to improve prediction of crop yield in a region and plans to collect new data to help. They do not plan to collect any personal information. Alan's organisation are the steward of this data and would like it to be available for use in future projects. Alan plans to collect the data and share it with his project partner, **Chris**, and later on may decide to share it with policy makers and researchers, like **John** and **Joelle**.

What is the purpose of sharing?

- Improve prediction of crop yield

What are the options available to Alan to provide access to this data?

- **Publish online** – As Alan's organisation is collecting the data themselves they are the owner and therefore able to grant others permission to access it. The scenario states there is no personal information within the data, and doesn't indicate any other confidentialities or sensitivities, therefore publishing online under as open a licence as possible is an option. Publishing in this way maximises the opportunity for others to use the data to help improve predictions of crop yield, or for other purposes.
- **Share the data under contract** – Sharing the data under contract, i.e. via a data sharing agreement, is possible in this scenario. However, as Alan plans to share the data with a number of parties, sharing the data under contract could cost time and money, as a separate agreement may be needed with each party. Using contracts is most useful when organisations are sharing data with embedded

intellectual property rights, or commercially confidential data – which isn't the case here.

- **Delegate data stewardship to a third party** – As Alan plans to share the data with a number of parties, he may want to consider asking a third party to hold data on his organization's behalf, and share it with others who want to use it to help predict crop yield. Using a third party data steward can help to foster trust with actors in the ecosystem, such as by providing tools and training, or through binding their behaviour through formal contracts.[7] UK Biobank is an example of a data institution that works in this way.

[7] (2020) Open Data Institute,'Designing trustworthy data institutions'. Accessed November 2020. https://theodi.org/article/designing-trustworthy-data-institutions-report/

Where should this data sit on the data spectrum?

Closed → Shared → **Open**

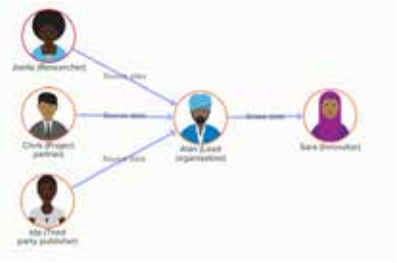
This data should be at the open end of the spectrum. Using an open licence and publishing the data online will ensure that anyone can access, use and share the data in future. This could include using open standards, open metadata and open documentation to help others find and understand the data, even if the dataset itself is not openly licenced. The following resources provide more information on how to do this:

Which resources in the Data Sharing Tookit are relevant to this approach?

- Guide: How to choose an open data license
- Guide: Identifying data rights & permissions within investments

External resources to help include the Open Data Institute's 'Guide: publishing data online'.

Use Case 2 – Stakeholder collaboration



Alan plans to work across national borders to understand the sources and impacts of agricultural pests and pathogens in a particular region. To fully understand the impacts he plans to source data on populations, settlements, infrastructure, and national and subnational boundaries from publishers like **Ida** in Government, private sector partners like **Chris,** and researchers like **Joelle**. Some of the data sources are supplied with an open licence, permitting use by anyone for any purpose, and some include clauses that restrict sharing to certain circumstances. Alan wants to provide access to the data to innovators, like **Sara**, to generate insights to inform interventions.

What is the purpose of sharing?

- Understand sources and impacts of agricultural pests and pathogens

What options are available to provide access to this data?

- **Publish online** – We know that some of the data Alan is sourcing include restrictions on sharing. This means that publishing online would likely only be an option for an aggregated or redacted version of the data in order to remove data not permitted to be shared in this way.
- **Pool data using a platform** – Provided permissions in the data license allow, collecting data together in one place could help to provide access to innovators. Access could be managed via user authentication and agreement to terms that align with data licence conditions. Land Portal is an example of an organisation aggregating and stewarding data in a similar way, in their case the data is about land governance and use worldwide.

- **Delegate data stewardship to a third party** – As Alan is bringing data together across borders from a variety of actors with a variety of access and use permissions, using a third party to manage access could be one way of reassuring data providers that access will be managed independent of politics and allegiances.
- **Use technology to support access** – Using technology, such as Application Programming Interfaces (APIs), could help support the sharing of data while protecting any sensitive, commercial or information that cannot be shared.

A combination of the above approaches could be suitable in this scenario, for example pooling data on a platform and either using a third party or technology to manage access.

Where should this data sit on the data spectrum?

Closed → **Shared** → Open

Given the mixture of permissions data is provided with in this scenario, it is likely that the combined dataset will fall into the shared space. Reuse is highly likely to be impacted by the most restrictive licence under which data is obtained from a third party. For example if you combine two datasets with one available under a non-commercial restriction then the reuse of the resultant combined data is limited to non-commercial use. Care should be taken to ensure source datasets are as open as possible to enable reuse and sharing, and as closed as necessary to minimise harmful impacts.

Which resources in the Data Sharing Toolkit are relevant to this approach?

- Module 3 – Reusing data from third-party sources
- Guide: Designing data sharing agreements

External resources to help include:

- Pooling data or delegate data stewardship to a third party
  - Designing sustainable data institutions
  - Designing trustworthy data institutions
  - Data collaboratives
- Using technology to support access
  - Open standards and open APIs
  - Anonymisation and synthetic data: towards trustworthy data

Use Case 3 – Developing digital services

Anna is assessing funding to **Alan's** organisation, who is hoping to establish an innovation platform for soil data aiming to improve farm-level decision making. This will involve hosting a data repository composed of raw data and secondary analysis produced by researchers like **Joelle.** At the same time, **Chris** has an idea for a software-based data analysis tool that would make it easier for farmers, such as **Stan,** and policymakers, such as **Ida,** to make decisions. He wants to publish the software under an open licence for others to access and use.

What is the purpose of sharing?

- Improve farm-level decision making.

What options are available to provide access to this data?

- **Publish online** – Provided the raw data and secondary analysis shared to the platform are licenced in a way that allows, publishing online will support access and use of data to improve decision making at farm-level. If the data is available online, under as open a licence as possible, it could be used within tools, such as the one Chris is proposing.
- **Pool data using a platform** – Prior to developing a new repository for data, Alan should check whether there are any existing platforms in use across the data ecosystem that could either host the data or be enhanced to host the data.
- **Data visualisation** – Analysing data and presenting it in a visual form, such as infographics and dashboards, could help users like Stan and Ida to understand messages and make decisions.

Where should this data sit on the data spectrum?

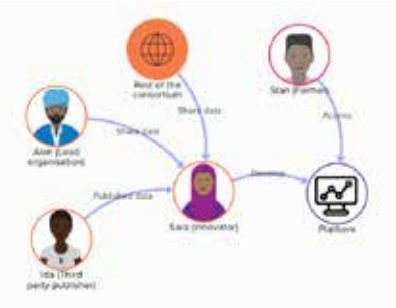
Closed → Shared → **Open**

This data should be at the open end of the spectrum. Using an open licence and publishing the data online via a platform will ensure that anyone can access, use and share the data in future. It also increases the likelihood that use of the data in tools, analyses or products is possible, therefore increasing the number of ways farmers could choose to receive information on which to make their decisions.

Which resources in the Data Sharing Toolkit are relevant to this approach?

- Module 7 – Ensuring sustainable access to data

Use Case 4 – Providing tailored insights



Alan plans to bring together a consortium of actors from the wheat and dairy sector to provide tailored content to farmers so they can make evidence-based decisions. **Sara** is partnered with Alan and wants to combine data from organisations in the consortium with data published by the Government Agency **Ida** works for. They intend to develop an SMS-based farm information service. Individual farmers such as **Stan** will sign in to the platform and create a profile, which will contain their personal information. GPS can allow Stan to be geolocated by their mobile number, which will help the platform to target information to their location, but could cause ethical concerns related to privacy.

What is the purpose of sharing?

- Improve evidence-based decision making at farm-level.

What options are available to provide access to this data?

- **Pool data using a platform** – Collecting data together in one place can help to provide access to the actors inputting to the service. Access could be managed via user authentication to ensure the privacy and rights of those the data is about are protected. The Clinical Study Data Request is an example of an existing platform that facilitates responsible sharing of personal data held by multiple different organisations.
- **Use technology to support access** – Privacy enhancing technologies can help share data and provide the information service while protecting the personal information farmers will be providing. The technical capabilities of service users (mobile phones) will need to be compatible.

- **Delegate data stewardship to a third party** – given the consortium of actors is made up of organisations from different sectors, they may not be familiar with each other. Using a third party to steward data on behalf of the consortium could help foster trust and confidence across actors in the ecosystem.[8]

[8] (2020) Open Data Institute,'Designing trustworthy data institutions'. Accessed November 2020. https://theodi.org/article/designing-trustworthy-data-institutions-report/

Where should this data sit on the data spectrum?

Closed → **Shared** → Open

It is likely that access, use and sharing of personal data is integral to the SMS service, therefore the data will need to be carefully managed to minimise harmful impacts to the people the data is about. A combination of the above approaches could be appropriate in this scenario, for example pooling data on a platform and either using a third party or technology to manage access.

Which resources in the Data Sharing Toolkit are relevant to this approach?

- Module 5 – Sharing data through data licensing
- Guide: How to choose an open data license
- Guide: Considering data rights and permissions in investments

External guides that may be helpful include:

- Pooling data or delegate data stewardship to a third party
  - Designing sustainable data institutions
  - Designing trustworthy data institutions
  - Data collaboratives
- Using technology to support access
  - Open standards and open APIs
  - Anonymisation and synthetic data: towards trustworthy data

Use Case 5 – Sharing data while maintaining a competitive advantage

A private sector company spends time and money on Crop Cutting Experiments (CCE) to collect data to help predict crop yield in a region. Data gathered from CCE is useful to multiple stakeholders in the agricultural value chain. Due to the resources they have invested, the company is keen to keep their competitive advantage and this has a bearing on how they share the data from the CCE, if at all.

What is the purpose of sharing?

- Prediction of crop yields, while keeping their place in the market

What options are available to provide access to this data?

- **Share the data under contract –** A contract with detailed, binding rules helps everyone be clear on their obligations and could protect commercial interests. Data sharing agreements can be useful when organisations of any kind are sharing data with embedded intellectual property rights, or commercially confidential data. Often data sharing agreements are between two or more parties, are usually time limited and may impose additional restrictions or requirements on users.
- **Delegate data stewardship to a third party** – Given the commercial sensitivity of the data, using a third party to govern and manage access could help ensure the approach fits with the business model and is sustainable long term.

Where should this data sit on the data spectrum?

Closed → **Shared** → Open

Due to the resources they have invested, the company is keen to keep their competitive advantage and so open data isn't an option here. Given the usefulness of the data to multiple stakeholders, delegating data stewardship to a third party could help ensure the approach fits with the business model and is sustainable long term.

Which resources in the Data Sharing Toolkit are relevant to this approach?

- Module 5 – Sharing data through data licensing
- Guide: Designing data sharing agreements

External guides that may be helpful include:

- Delegating data stewardship to a third party
  - Designing sustainable data institutions
  - Designing trustworthy data institutions
- Data collaboratives

Use Case 6 – Sharing in a culture of mistrust

Alan wants to help understand levels of soil acidity across sub-saharan Africa, as it is a major constraint to current and future crop production, to improve the targeting of management actions and decisions. He plans to facilitate the sharing of soil and agronomy data between a number of partners like **Chris**, and non -partners like **Sara**, to do this. Partners are based in a number of different countries. The data will be held and accessed through a central platform and partners and non-partners will have varying levels of access. Some of the partners have concerns that others will misuse data they provide, or use it to exploit the commercial environment, and so they are nervous about sharing their data. Some of the countries the partners work in have more restrictive policy requirements for sharing data.

What is the purpose of sharing?

- Make better decisions related to managing soil acidity to improve crop production.

What options are available to provide access to this data?

- **Centre on openness.** – Openness is one way to tackle fear of misuse. If the data itself cannot be open then the partners providing data can be open about the data they hold (even if it is closed or sharing is restricted to specific groups), and providing information about why it was collected and any known limitations (e.g. quality) can help guide users on the suitability of data for their purpose. If all partners commit to openness, this can improve trust through transparency.
- **Pool data using a platform** – The intention, in this instance, is to hold and access data through a central platform. Access could be managed via user authentication or via a third

party to ensure requirements around access are adhered to.

- **Delegate data stewardship to a third party** – Managing levels of access through a third party can help to alleviate mistrust among partners. In this instance, the third party could manage the platform, as well as govern access.

Where should this data sit on the data spectrum?

Closed → **Shared** → **Open**

A combination of open and shared data seems appropriate to the scenario. Aggregated higher level data could be provided under an open licence to non partners, while partners have managed access to more detailed data after agreeing to specific conditions for use.

Which resources in the Data Sharing Toolkit are relevant to this approach?

- Module 5 – Sharing data through data licensing

External guides that may be helpful include:

- Openness
  - Creating FAIR and open data ecosystems for agricultural programmes
  - Openness principles for organisations handling personal data
- Pooling data or delegate data stewardship to a third party
  - Designing sustainable data institutions
  - Designing trustworthy data institutions
  - Data collaboratives
- Using technology to support access
  - Open standards and open APIs

Further resources

Data Sharing Toolkit:

- Module 3 – Reusing data from third-party sources
- Module 5 – Sharing data through data licensing
- Module 7 – Sustainable access to data

- Guides
  - Sharing agricultural data: managing risk to minimise harmful impacts
  - Ensuring sustainable access to data
  - How to choose an open data licence
  - Considering data rights and permissions in investments
  - Agriculture data country profile

Online resources:

- Openness
  - Creating FAIR and open data ecosystems for agricultural programmes
  - Openness principles for organisations handling personal data
- Publish online
  - Publishing data online
  - Nesta's Data Sharing Toolkit
- Delegate data stewardship to a third party
  - Designing sustainable data institutions
  - Designing trustworthy data institutions
  - Data collaboratives
- Share the data under contract
- Pool data using a platform
  - Using the data access map to tell stories

- Use technology to support access
  - Open standards and open APIs
  - Anonymisation and synthetic data: towards trustworthy data
  - Managing the risk of re identification

Data Sharing Toolkit

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