ENABLING DATA ACCESS TO SUPPORT INNOVATION IN DECISION AGRICULTURE: SOIL HEALTH, AGRONOMY AND FERTILIZER

Locations	Ethiopia, India
Dates	01/02/2019 - Ongoing

Summary

Healthy soil is critical to the growth of nutritious food and to farmers' livelihoods. However, declining soil health is causing low productivity which leads to unstable food security and incomes. National systems can help farmers by sharing data and information on soil health which can then be used to make more informed decisions about agricultural practices, helping farmers produce healthier crops. This project aims to facilitate better data-driven decisions within the investments of Bill & Melinda Gates Foundation (BMGF) Decision Agriculture and the national systems in which the investments operate. Tools, guidelines and recommendations on how to manage soil and agronomy data, and data sharing best practice, will be developed to support national systems in India and Ethiopia.

The FAIR (Findable, Accessible, Interoperable and Reusable) principles are one example of best practice and form the basis of the work conducted. The project will also demonstrate why investing in improving data sharing practice represents a good return on investment.

The problem

Soil health is critical for nutritious food production, environmental well-being and sustainable livelihoods. Declining soil health is a major cause of stagnant agricultural productivity.

CABI and BMGF believe that digitally-enabled innovations in technologies, services and platforms, can rapidly increase our ability to provide farmers with support for maintaining soil health at scale. However, whilst data-driven decisions enable this, data sharing and management can be difficult where systems are not set-up to support this process.

BMGF Agricultural Development (AgDev) grantees such as regional implementing partners and local institutions must be able to collect high-quality data, feel comfortable sharing that data and reusing that of others.

Where data sets are not high-quality or able to be shared and reused, grantees run the risk of repetitive rounds of data collection which do not enable the innovations and decisions expected. This is not sustainable in the long term and represents a low return on investment for BMGF and its partners and reduced impact on farmer's livelihoods.

During a pilot performed by CABI, GODAN and the Open Data Institute on "Enabling data access to support innovation in decision agriculture" various issues and challenges were identified that affect the access and use of data. These include:

- Inadequate planning for data sharing
- An inability to discover data and other outputs
- Lack of incentives to share data
- Concerns over quality
- Institutional level pain points (such as existing systems for requesting data permissions)
- Varying levels of data literacy

The grant for this project is also, partially, an answer to the joint donor statement made by the Gates Foundation, FCDO, and USAID on the role that donor organizations play in good data management in agricultural programmes.

What we are doing

'Enabling data access to support innovation in decision agriculture related to soil health, agronomy and fertilizer' aims to facilitate better data-driven decisions in the BMGF Decision Agriculture investments and the national systems where these investments operate. The goal is to co-create tools and guidelines and produce recommendations within the data domain of soil and agronomy, in the target regions of Ethiopia and India. The project will also work alongside Programme Officers to ensure good practice at a Foundational level.

The project will follow a 'use case' approach (where specific domains, regions or projects are chosen to encourage stakeholders to adopt best practices towards data access, management, and sharing to better support all actors in the broader 'data ecosystem,' and, together with partners, they will be encouraged to act as champions and agents of change.

CABI will generate key insights into entry points, pain points, challenges and needs within the data domain and region and, as a result, we will propose incentive systems to improve practice.

Key project activities include:

- Developing in-country engagement strategies for Ethiopia and India
- Developing use case-specific data ecosystem maps
- A series of training to improve data literacy and data management
- Development of a FAIR data toolkit with a set of capacity-building resources for programme officers and grantees
- Engagement with other donors for alignment of recommendations
- Supporting the implementation of the Ethiopia Soil and Agronomy Data Policy Sharing (SADS)
- Research pieces on the value of data governance and incentive frameworks

Results so far	**In Ethiopia, we have:** - Conducted joint consultation/review and planning workshops in collaboration with GIZ to agree key principles for the SADS draft policy - Supported the soft launch of the SADS draft policy - Provided GIZ with a policy implementation framework to assist in planning activities required to comply with the SADS sharing policy when it is formally adopted into law / ministerial practice - Developed a suite of training and engagement material for the SADS draft policy in consultation with a 'Coalition of the Willing' We will also: - Follow-up and advocate for SADS Policy ratification by the Ministry of Agriculture - Deliver a 'training of trainer' network **In India, we have:** - Supported the Cereal Systems Initiative for South Asia (CSISA) to develop use cases and an engagement strategy for data sharing - Developed use case-specific data ecosystem maps We will also: - Deliver training sessions based on a core-constraints and needs assessment - Provide support to a 'Convergence Platform' of engaged stakeholders **With BMGF, we have:** - Solidified the understanding of the core constraints and support needed to embed FAIR data principles in selected AgDev investments **Data Sharing Toolkit** On March 25th 2020, the Data Sharing Toolkit was launched – a key activity of this project. The Data Sharing Toolkit provides programme officers and their grantees a set of capacity-building resources that will help them to develop better grants that will foster more access to agricultural data. The new toolkit is based on the FAIR principles and will help to increase the understanding of good data-sharing practices and the potential benefits, such as greater food security. It includes seven eLearning modules with supporting case studies, checklist, cheat sheets and practical guides.
Donors	Bill & Melinda Gates Foundation (BMGF)
Partners	The Open Data Institute (ODI)
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