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AgriPath - Sustainable Agriculture Through Digital Pathways

Implemented by the *Fund for the Promotion of Innovation in Agriculture* (*i4Ag*)
As part of the special initiative *Transformation of Agricultural and Food Systems*

The Challenge

Lack of efficient and gender-responsive digital agricultural advisory services for smallholder farmers

Two-thirds of the food consumed globally is produced by 500 million smallholders. Yet these small farms struggle with low productivity and insufficient incomes; they are more vulnerable to climate change and other environmental challenges. They also typically lack access to information about practices that could help to improve their agricultural production, secure their livelihoods, and protect their resource base. Public rural advisory services are dwindling around the world, leaving millions of smallholder farmers without adequate support.

Digital advisory services provide an innovative way to address these challenges, yet the concept has only reached a small fraction of smallholders in the Global South. Technical and social innovations are rarely combined, and technology providers lack sufficient understanding of how to translate the provision of digital information into concrete behaviour change when it comes to sustainable agriculture. Digital agricultural extension services are also often ineffective and hence not scaled, as they are insufficiently adapted to the needs of smallholder farmers, especially women. Therefore, it is essential to know who has access to a mobile phone and how farming decisions are made in the household. Shared decision-making can empower women and reduce gender inequality.

The Innovation

Inclusive, effective digital advisory services that reach men, women, and youth.

Digital advisory services can offer farmers access to crucial agricultural knowledge and support them in increasing their resilience. Reaching more women and youth can lead to substantial gains in farm outputs through equal access to resources.
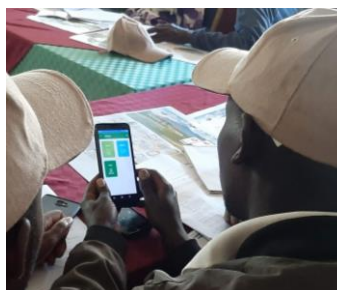
By providing farmers and extension services with tailored digital solutions focused on sustainable agricultural practices, female and male smallholders alike are supported in increasing their agricultural productivity, income, and climate resilience.

The project *AgriPath* is designed around one digital application – the *farmbetter* app – which is co-designed with, and tailored to, its users in the target countries. The algorithm of the *farmbetter* app matches farmers' needs with sustainable land management solutions.

The Main Objective

Smallholder farmers and agricultural extension workers make use of user-centred, gender-sensitive, digital advisory services.

Name of the Project	AgriPath: Sustainable agriculture through effective and efficient digital pathways
Name of the Global Fund	Fund for the Promotion of Innovation in Agriculture (i4Ag)
Commissioned by	Federal Ministry for Economic Cooperation and Development (BMZ)
Project Region	Burkina Faso, India and Nepal
Implementing Partners	Centre for Development and Environment (CDE) at the University of Bern, University of Lausanne, Grameen Foundation USA, Grameen Foundation India Private Limited, International Centre of Insect Physiology and Ecology (icipe), University of Kathmandu, farmbetter Ltd
Duration	08/2021 — 02/2026

L.: farmer learning to use the farmbetter app; R.: Project Regions

Methodological Approach and Innovation Partnership

AgriPath will examine intra-household decision-making processes, including processes that go beyond established social norms, to embrace more widespread access to information and knowledge. This may include looking at non-traditional gender roles or including youth and not only heads of household. It will provide evidence on sustainable pathways for the use of digital advisory services at scale and enhance uptake of sustainable practices.

AgriPath will provide causal evidence to help mainstream the application of tailor-made digital advisory services with the aim of supporting the scaling up of sustainable agriculture in Africa and Asia. Using a mixed-method approach, the project will run behavioural experiments and randomized controlled trial studies to disentangle the impact of digital solutions offered according to three different models, namely:

- self-service (farmers using it on their own)
- agent-based (extension workers using it with the farmers)
- hybrid (farmers using it on their own, with some support from extension workers)

Focus groups and lab-in-the-field experiments will provide country-specific knowledge on gender and youth involvement in sustainable agriculture relevant for contextualizing digital advisory services and facilitating their uptake. The mix of research methods will contribute in identifying the most efficient way of reaching farmers and contribute to behavioural change toward sustainable agriculture in different contexts. It will also look at how best to use digital technologies to increase the adoption of sustainable agricultural practices.

Important Activities

- Human-centred design for participatory development of the *farmbetter* app interface
- Analysis of data from the farmbetter app
- Development of policy recommendations and cross-regional analysis of research results to inform scaling
- Development and implementation of a scaling framework for target and neighbouring countries
- Capacity building and stakeholder engagement activities conducted through the Digital Agricultural Services Engagement Hubs

Sustainability and Scaling Strategy

Public and private extension services, research institutions and relevant ministries will be directly involved in the development and implementation of the digital solutions and extension models. Smallholder farmers and extension service providers will be trained in digital skills. The *farmbetter* app uses the existing agricultural practices and solutions taken from the knowledge management system of the global WOCAT (World Overview of Conservation Approaches and Technologies) database. A practical toolkit and policy recommendations will enable the implementation of the findings beyond the scope of the project. The *farmbetter* app will be available free of charge in the Google Playstore even after the project concludes; its business model will continue to develop on the basis of the research results. Interfaces with other service providers, such as input providers or digital platforms, are envisaged.

The *farmbetter* App:

used by *30,000 smallholder farmers (50% women)*

150 public and private agricultural extension workers employ its advisory services

150 new agricultural solutions based on smallholder needs have been added

3 digital agriculture solutions engagement hubs for scaling digital agricultural solutions established

10 policy recommendations on digital agricultural advisory services developed

The project contributes to the achievement of these Sustainable Development Goals (SDGs):