

FarmStack

Digital agriculture extension platform



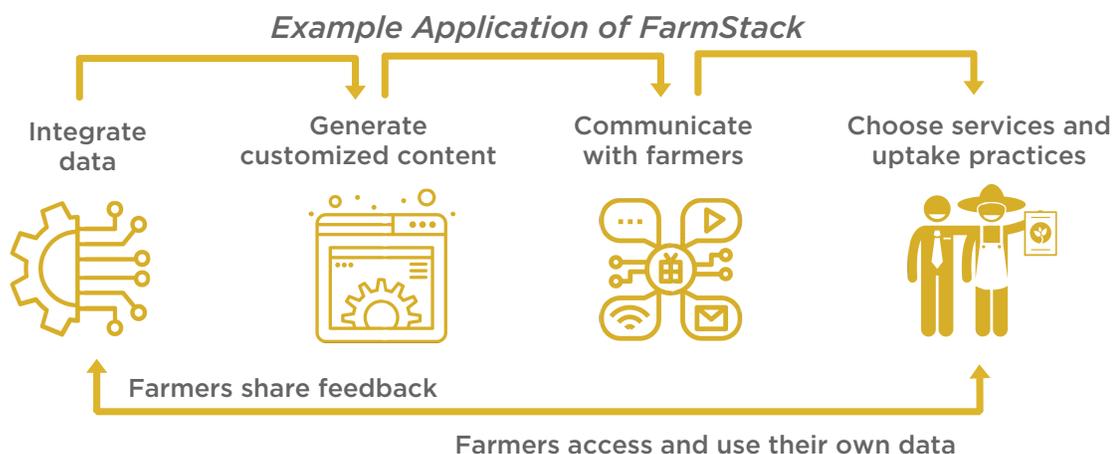
FarmStack powers the sharing of data across the food and agriculture system

THE NEED

2.5 billion smallholder farmers globally make daily decisions to protect their livelihoods and feed their communities. These farmers receive a staggering amount of information each day from government extension agents, private agribusinesses, and NGOs. With little coordination between these actors, farmers are given information and services that they didn't demand and can't use and are forced to make decisions about who they can trust. As climate change increasingly threatens production, and as supply chains are disrupted by crises like COVID-19, the divide between what is needed and what is offered continues to grow.

THE OPPORTUNITY

FarmStack offers farmers a choice of relevant information and services along with tools to control their own data, empowering them to increase their income. When combined, the data generated by farmer and organization interactions can enable a wide variety of applications to support farmers to be built on top of FarmStack. For instance, by combining farmer profile information with other datasets (e.g., soil, weather, market prices), we can customize videos to be more responsive to farmer needs, to be disseminated via online and offline channels. Farmers can access these customized services and adopt relevant, targeted practices, while closing the loop by sharing feedback. Similarly, FarmStack can improve access to inputs, markets, and credit.



THE DESIGN

FarmStack is designed using open data principles. This interoperable system uses data standards to enable data sharing across organizations. Organizations can build and implement their own applications on top of FarmStack.

- **What does it mean that applications can be built on top of FarmStack?**
FarmStack is the backend data architecture that allows data to interact. 'Applications' are online or offline solutions that are built on top of this. Mobile apps are one example of a digital solution that can leverage data shared via FarmStack.
- **How would farmers access and use their data?**
Farmers with smartphones can access their data directly. For farmers without smartphones, other actors, like extension agents, could help them view their data and determine how and who they want it to be shared with.
- **Does FarmStack require sharing of proprietary and sensitive data?**
FarmStack is designed as a decentralized system where organizations control and share data on their own terms, maintaining privacy & security.

FEATURED PROJECTS

Ethiopia

Bill and Melinda Gates Foundation and Department for International Development through a five-year grant called Developing Agricultural Advisory Services are helping test FarmStack use cases in the wheat and dairy value chains to increase the income for 3.5 million farmers, at least 40% of whom are women

India

Walmart Foundation is helping 10,000 cashew farmers organized under Farmer Producer Organizations in Andhra Pradesh to receive relevant and targeted agronomic advice built on dynamic farmer, soil, and weather data shared via digital channels like video and IVR

ILLUSTRATIVE CASE STUDY: HOW DO FARMERS BENEFIT?

Let's consider a farmer, Magartu Balcha. Magartu sells her vegetables to a wholesaler. The wholesaler maintains data of Magartu's sales records over time. With FarmStack, Magartu can access a copy of her transaction history, linked to the wholesaler's digital signature. Now she can share this with a bank to consider when she is applying for a loan.



Magartu Balcha, Oromia Region

Without FarmStack

Wholesalers control the data they collect from Magartu and decide what to do with it - without her permission

Banks make top-down decisions on which loan products to offer Magartu, without basing their offerings on her feedback or data

Magartu does not have access to her data or a fair opportunity to demonstrate her creditworthiness; her loan is denied



With FarmStack

Magartu controls her own transaction data and shares it with a bank of her choice

Magartu chooses which financial services are most relevant to her, from a suite of private and public financial institutions

Magartu's loan is approved, based on a fair assessment of her data