

# Digital Green

DIGITAL GREEN TRUST  
ANNUAL REPORT 2019-2020



## Our Mission

Empower smallholder farmers to lift themselves out of poverty by harnessing the collective power of technology and grassroots-level partnerships.

## Our Approach

Digital Green partners with governments, private agencies and, most importantly, rural communities themselves to co-create appropriate and participatory digital solutions to improve agricultural, health, and nutrition outcomes. We believe in listening to people and data, and understanding local context and culture to build community-centered technology solutions for the challenges and opportunities they see as most vital. We work to ensure that every digital solution is developed and implemented in a manner that's nutrition-sensitive, climate-resilient, and inclusive. Throughout this process, we continually test, learn, iterate, and evaluate to ensure that farmers and their families end up with the best possible products and outcomes to improve their livelihoods and increase their incomes.

## Our Flagship Approach

### Community Videos

Since 2008, our network of partners and communities have produced more than 6,000 locally relevant videos in 54 languages about productive farming, health, and conservation practices. As our partners have scaled the video approach to reach more farmers, we've expanded the library of knowledge that farmers have access to. Topics now range from natural resource management to livelihood resilience strategies to nutrition practices. The 43 million views of our videos on YouTube demonstrate the demand for this information.

We've also collaborated with research partners to prioritize the content featured in videos, so that farmers can focus on the practices that have the biggest impact on their yields, health, and incomes.



#### TOOLS FOR FRONTLINE WORKERS

Similar to what we've seen in the agricultural sector, frontline health workers find that the videos make their jobs easier. We have trained frontline health workers to develop and facilitate dialogue around videos promoting good maternal and child health, nutrition, and family planning practices. These videos are created with an understanding of local taboos, myths, and traditional practices that are contrary to scientifically proven best practices, so that they effectively promote social behavior change.

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At the initial screening of the family planning video, the community members at my center would feel shy and avoid answering my questions, but after 2–3 video screenings, they started asking questions and requesting condoms and contraceptive tablets.

— HEALTH WORKER IN JHARKHAND

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## Our Work

### Enhancing Farmer Value with Impactful Practices

While farmers may watch many videos about different practices pertaining to a particular crop or livestock, our data shows that they typically adopt no more than a few. We've learned that some practices have a higher ROI for farmers than others, and those practices can vary based on local context and farming conditions—so, there's more we can do to help farmers prioritize investing in the practices that yield the biggest returns in productivity and income.

We worked with researchers to identify these subsets of impactful practices for specific crops—and selected only practices that could feasibly be implemented by the majority of farmers (e.g. were not cost prohibitive). Our government and private sector partners played a critical role in modifying their messaging and ensuring that frontline workers emphasized these 3–5 practices. Farmers who were exposed to and adopted all of the impactful practices saw yield gains ranging from 24% to 319% and income gains from 82% to 145%, depending on the crop, (when compared with farmers that did not adopt any of those practices). These results have encouraged our partners to continue this approach for key commodities.

### Farmer-centred Digital Innovations

Smallholder farmers are confronted by increasingly variable conditions—which means that practices that are effective one season may not be applicable the next. Building on the core of our community video work, we're testing new ways to reinforce key agriculture and health practices and integrate additional data and technologies to provide more customized, localized, and timely services for farmers and their families.

In Bihar, India, we learned that potato farmers were extremely worried about potato blight, which can result in losses of up to 80%. Without real-time advisories about when and where weather conditions heightened the risk of potato blight, farmers were excessively applying fungicides—which was costly and reduced the effectiveness of the fungicides. Together with our partners, we turned weather data into targeted risk forecasts and advisories for farmers so that they could employ blight management techniques only when (and where) necessary. We see tremendous potential to expand the use of dynamic weather data to provide farmers with early pest and disease warnings and management advisories—and are testing similar services in other locations and with different crops.

Farmers are always at the center of these innovations—we rely on them to tell us what their biggest threats and challenges are, and design for them. Over the coming months and years, we'll be scaling the innovations that work best for them.



## Transforming Systems

Over the years, we have worked alongside our government and NGO partners to build their digital extension programs. Having seen the benefits of equipping extension agents with educational videos and other digital tools first-hand, many of our partners have invested their own resources in scaling and sustaining this approach on their own.

In India, the Andhra Pradesh Department of Agriculture and Cooperation has committed its own resources to purchase pico projectors and train frontline workers to reach 300,000 additional farmers. And, after seeing the impact—and cost effectiveness—of digital innovations, such as the IVR reminders and mobile-based training courseware, they have asked us to work with them to scale these innovations to a wider population.

In Ethiopia, the community video approach has been incorporated into the country's National Agricultural Extension Strategy. Our partnership with the Ministry of Agriculture (MoA) has reached over 420,000 farmers—the MoA has independently launched and is self-funding digital extension activities in an additional 44 woredas, which aim to reach another 2.2M farmers. We continue to be inspired by the commitment and ownership our partners have shown to integrate digital technologies into their extension systems.



## Our Solutions

### Enhancing resilience and income gains through innovations

Together with our partners, we create digital solutions to assist vast sections of rural communities as they lift themselves out of poverty.

#### Community Videos

Since 2008, we have produced and screened videos – always in collaboration with our grassroots partners and rural farmers themselves - allowing farmers to share knowledge with one another.

#### FarmStack

A digital agricultural advisory service platform that connects people and data to empower farmers, delivering location and time-specific advice to farmers to boost agricultural productivity and nutrition security.

#### Innovation Lab

In regions where smartphone ownership is higher among farmers, we're testing out farm management tools, as well as different ways to engage them directly—like moderated WhatsApp groups—so that farmers have access to diagnostic tools, expert advice, and other information when they need it most.

#### Training Courseware

Our approach builds the capacity of frontline workers so they can build the capacity of others in their community. This is how we use digital tools to train the trainer.

#### CoCo

Data collection and analysis is critical to our approach. CoCo and our analytics dashboards allow users to collect and visualize insights anytime, anywhere, on any device.

## Our Ongoing Projects (2019-20)

### Virtual Training Institute

Community Knowledge Workers (CKWs) engaged by the Government of India are the ones to share agricultural best practices among smallholder farmers. To boost their reach and effectiveness, Digital Green trains CKWs on its successful video-enabled extension approach, which involves localized video creation, facilitated screenings and data tracking. To cost-effectively scale that training and further institutionalize it within the government's extension structure, we are developing the Virtual Training Institute (VTI), an online-and-offline-based learning and accreditation platform. The Oracle grant has aided the curriculum development and training of 1500 CKWs who have trained 150,000 farmers on practices to increase agricultural productivity. Additionally, 14,000 model farmers have been onboarded to receive short videos over WhatsApp.

A grant from Google also helped us scale up the video hub for agricultural training. Digital Green trained 7000 community knowledge workers through this tech-enabled learning and accreditation platform to reach almost 850,000 farmers with relevant agricultural best practices.

### Digital Green's Partnership with National Rural Livelihoods Mission

The Government of India's National Rural Livelihood Mission (NRLM), part of the Ministry of Rural Development, is one of the world's most extensive social safety net programs and a critical agricultural extension provider for 70 million rural households. With support from the Bill & Melinda Gates Foundation (BMGF), Digital Green has partnered with NRLM, its state government counterparts, and NGO partners since 2012 to promote the uptake of best practices related to agriculture and livelihoods, health and nutrition by poor, rural farming communities.

Sustainability and scalability have been central to the project's outcome of scaling the use of Digital Green's video-enabled extension approach to 10,000 villages to reach 500,000 smallholder farmers by working in partnership with NRLM and its state partners, particularly in Andhra Pradesh (AP) and Bihar, to improve productivity, incomes and food security. This project built on our work developing the capacity of NGO partners to implement the video-enabled approach. In Jharkhand, Karnataka, Madhya Pradesh, and Odisha, 7 NGO partners have continued to implement this approach to reach smallholder farmers with support from NRLM.

## Project Samvad: Digital Community Engagement Platforms for Improving Family Planning, Maternal Child Health and Nutrition Outcomes

Project Samvad is a USAID-funded project addressing Family Planning, Maternal Child Health and Nutrition goals. Digital Green collaborates with existing health system structures — including India's State Rural Livelihood Missions and state-level agencies of the National Health Mission, as well as other local organizations trusted and active in the target districts – to build their capacity to employ video- and different ICT-enabled approaches to increase adoption of optimal maternal, infant and child health and nutrition and family planning practices. Through a hybrid video-enabled approach, the project has directly reached 544,000 women in five states (Bihar, Jharkhand, Odisha, Chhattisgarh and Uttarakhand). We have incorporated a range of ICT solutions and mass media and mid-media platforms to complement and supplement video messages, including radio and village campaigns; focused mobile-based messaging on critical thematic topics; calls with targeted, life-stage specific messages in the 1000-day-period; and use of technology to improve interpersonal counselling by frontline workers. These platforms have reached 1.9 million individuals. Using data collection and analysis tools has helped our partners better reach the target audiences. We maximize impact by linking demand generation with public supply-side interventions.

## Farmstack Pilot: A Digital Knowledge Sharing Platform to Raise Farmer Incomes in Andhra Pradesh, India

In this project, Digital Green took the next leap in using digital technology to empower smallholder farmers. This was done by developing and testing a digital platform that integrates fragmented agriculture efforts and building an app for extension workers to leverage platform content. Farmstack is a digital platform integrating evidence-based learning and content management for better outcomes. In Andhra Pradesh, Farmstack was piloted to support economically vulnerable smallholder farmers to increase their productivity and incomes. In this pilot, farmers' data was securely shared online and offline with organizations and systems to provide services to farmers. Farmstack will provide a foundation of data on which multiple applications can be built to connect players in the agricultural ecosystem and enable collective impact for smallholder farmers.





Kunjam Manganna Dora is a 67-year-old farmer belonging to a remote tribal village of Vedurlakoda of Addateegala Mandal in East Godavari district of Andhra Pradesh, India which comes under the Integrated Tribal Development Agency (ITDA). His village is far from the district headquarters and has limited access to transport, communication and even extension services. He owns 1.5 acres of cashew orchard with 105 plants that are roughly 35 years old.

“This cashew plantation is my family's primary livelihood. Other than this we manage to gather some forest produce and in the peak of summer, I go to look for work under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) of the Government of India,” shared Kunjam whose approximate annual household income amounts to a meagre USD 600.

He was one of the 12 cashew farmers in this village that our partner had identified to work with under a project funded by Walmart Foundation, which aims to connect farmers with actionable information delivered through an automated system, called FarmStack, which develops these advisories from multiple sets of data, like information related to the crop, geography and soil and weather data all combined.

“Very rarely have we seen any government officers in our small habitation. When they come, that is to distribute pensions and grains under the Public Distribution System. I am not aware of extension officers and so far, no one has visited our fields for any crop-related suggestions,” shared Kunjam.

5 months ago, Digital Green organised a meeting with a group of 12 farmers and explained how we wanted to work with the FPO to share new knowledge related to cashew cultivation and undertake some activities such as soil sample collection, video dissemination, IVR calls and Farmers Field Schools (FFS).

“I was happy to hear about these initiatives and eager to participate and learn something new,” shared Kunjam.

“We all participated in soil sample collection, which was a tedious but interesting process. We then enrolled for the video disseminations and so far, we have watched 12 different practices related to cashew crop. We also enrolled for IVR calls but we faced some constraints as we don't have good mobile network but our extension agent recorded those calls and played the audio clips during our group meetings,” he shared.

Looking at the orchard's current condition, Kunjam and his family are expecting a better yield this year than the last year, that too with a lower expenditure. His family was thrilled about the opportunity to learn about managing the cashew orchard through the medium of videos.



A high-angle, wide shot of a bustling outdoor vegetable market in India. The market is set on a dusty ground, with various fresh vegetables like green beans, eggplants, and leafy greens laid out on cloths and baskets. Numerous people, including men, women, and children, are seen interacting, buying, and selling. The scene is lively and colorful, with people dressed in traditional Indian attire. In the background, there are trees and a few parked bicycles.

# Digital Green

[www.digitalgreentrust.org](http://www.digitalgreentrust.org)

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