Digital Green ANNUAL REPORT 2018-19





Empowering our heroes with their own data

At Digital Green, we seek to change the narrative of smallholder farmers for the better. Over our first 10 years, thousands of farmers have shared their own stories about how to grow more food and live healthier through short videos that inspire their fellow community members. Our partners make this possible by working with us to leverage technology to amplify the good work they already do at the grassroots level. We have been humbled to see how quickly this network of farmers and partners has scaled and the impact that it has had on farming communities and the frontline workers that support them.

The story for farmers continues to change rapidly. Agriculture is becoming even riskier with erratic weather, degrading soils, and depleting groundwater. Farmers contend with fluctuating input costs and market prices, as competition increases in the global marketplace. At the same time, farmers are also encountering new opportunities—even the poorest farmers are gaining access to smartphones and internet connectivity in remote corners of the world. Our vision is to put farmers back in the center, by empowering them to own their own data so that they can decide who it's shared with and how it's used—we believe that by doing this, farmers will be in a position to show us how it creates real value for them.

We are developing a suite of new services to increase farmers' incomes and enable their aspirations, but also recognize that no single organization can serve the diversity of the world's farmers. We are exploring ways to harness technology to better connect the dots across a wider constellation of stakeholders—from agricultural research centers to online grocery startups—to flip our food and agricultural system from the bottom up. We will continue on our journey as we always have: by starting with each farmer and innovating together.

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 joins forces with governments, private agencies and, most importantly, rural communities themselves to cocreate digital solutions that are of the community and for the community to improve agricultural, health, and nutrition outcomes. We believe in listening to people and data, and understanding local context and culture to build technology that truly serves communities and addresses the challenges and opportunities they see as most vital 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 improve their livelihoods and increase their incomes.



IN FY18–19, PARTICIPATING FARMERS ACHIEVED AN AVERAGE YIELD INCREASE OF 22%



OUR SOLUTIONS

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.



At the initial screening of the family planning video, the community nembers at my center would feel shy and avoid answering my

TrainingCourseware

Our approach hinges on the capacity of frontline workers to effectively engage farmers in their communities. Our open access, multimedia courseware facilitates knowledge and skill development for video production, video dissemination and effective facilitation and key agricultural practices. This courseware is now mobile—frontline workers can access modules anytime, anywhere, online and offline, and are assessed on their mastery of the information. Its use is helping our partners to replicate and scale our community video approach on their own.



Loop

Loop is a transport logistics service for aggregating and bringing farmers' produce to market more efficiently. Time and cost savings from Loop allow farmers to spend more time in their fields and with their families. Since 2015, Loop has reached more than 26,000 farmers in India, transacted more than US\$16 million in fresh produce sales, and resulted in 15% greater income due to more efficient transportation and better access to markets. We are focused on making Loop financially sustainable while boosting its value for farmers, especially as they increasingly are connected with smartphones and the Internet.

Innovation Lab

Through our innovation lab, we've been testing the application of different technologies-such as interactive voice response (IVR) systems and drone-based hyperspectral aerial imagery-to both reinforce what farmers are learning through videos, and to deliver more localized, timely, and useful advisories to them. Our aim is to scale the innovations that show the greatest promise for improving smallholder farmers' livelihoods.

OUR IMPACT 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.



Not all practices generate the same returns we're focusing on fewer, better practices.

In India, 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.

UNLOCKING THE POTENTIAL OF PIGEON PEA IN JHARKHAND

With rice production failing (due to erratic monsoons) we worked with the Jharkhand State Livelihood Promotion Society (JSLPS) to explore more climate resilient crops. Pigeon pea (arhar dal) was already cultivated in the area, but farmers were far from capturing its potential. Through consultation with stakeholders and farmers, we identified and prioritized three impactful practices to intensify pigeon pea production, and piloted these with 700 farmers. Farmers who followed the recommended impactful practices saw yields that were over 300% higher than those of farmers adopting traditional practices. Following this success and the ability of pigeon pea to thrive in extreme weather conditions (particularly drought), the JSLPS team introduced the impactful practices to 20,000 farmers over the subsequent two years and the JSLPS began to actively promote pigeon pea cultivation. More farmers are now growing pigeon pea, and are reporting that increased yields enable them to meet household needs with surplus to sell. With this expanded production, JSLPS invested in four processing units (for pigeon pea and other pulses)—which are operated by community-run institutions—

and is purchasing pigeon pea from the farmers.

While preparing our field for adopting the pigeon pea practices, fellow farmers mocked us, saying it won't work. I was also a bit apprehensive but adopted the suggested practices. Last year, I could hardly get 30 kgs of pigeon pea from my 0.3 acre of land, but this year I harvested 68 kgs of pigeon pea from just 0.07 acre (where I tried the practices). This is enough for my entire year's requirement of pulses.... I will now be adopting these practices across a larger part of my land so that I can sell the surplus produce and make an extra earning.

Farmer-Centered 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.

We innovate with and for farmers to make sure our solutions work where they live and farm.

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.

PILOTING NEW SERVICES IN ANDHRA PRADESH

ANDHRA PRADESH, INDIA. We tested the use of an automated phone line that farmers could call to access additional information about productive farming practices that they had already seen in videos and have found that these reinforcing messages increased their adoption of those practices (by 21-74%, depending on the practice). Farmers were also able to listen to pre-recorded weather forecasts, which are especially critical for farmers in dryland areas. While some farmers reported receiving SMS-based weather forecasts from government and private service providers in the past, they typically didn't know what the forecasts meant for their crops or what action they should take in their fields. We analyzed private weather data to provide weekly village-level weather forecasts and specific advisories for groundnut farmers, with the assistance of technical experts. Farmers were also able to listen to pre-recorded, and we're exploring offering a similar service in other geographies.

I heard calls on seed treatment, nursery preparation, clippings and alleys, and main land I liked the audio message a lot because of the family discussion (story-based content). I implemented the seed treatment practice after listening to the call. By doing so, my seeds will be protected





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.

We continue to be inspired by the commitment and ownership our partners have shown to integrate digital technologies into their extension systems.

Working through partnerships, we seek to transform and strengthen existing systems that affect farmers' livelihoods.



SINCE 2008, WE HAVE

TRAINED 20,000 FRONTLINE WORKERS

DigitalGreen

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