A Digital Response to COVID-19

Precision Agriculture for Development

Responding to COVID-19

- Leveraging our scale (3.5 million farmers in eight countries) we can quickly reach a large number of people.
- A majority of PAD's activities do not require face-to-face contact; our digital services can be maintained (or expanded) at a time when in-person services are - by necessity - being scaled back or placed on hold.
- Our services are replicable and scalable in new geographies, and can be scaled up to new target populations in existing geographies.
- We are able to develop and deploy surveys and A/B tests to quickly and accurately gather and analyze information from users to improve our services in near real time.
- By working with governments and other large partners we are able to deploy our services quickly and at scale.

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EMPOWERING ACTION FOR IMPROVED & RESILIENT LIVELIHOODS

OUR MODEL OF DIGITAL DEVELOPMENT DELIVERS

Two-way
Customized
User-centered
Data-driven
Scalable & cost-effective
Evidence-led
Trusted
Free &
Actionable Information

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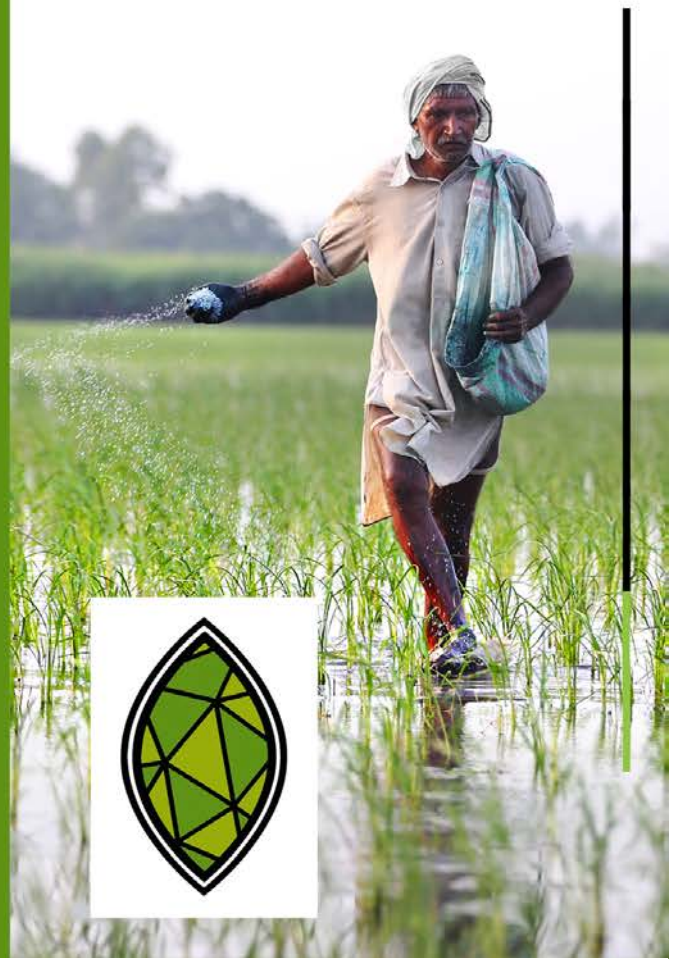
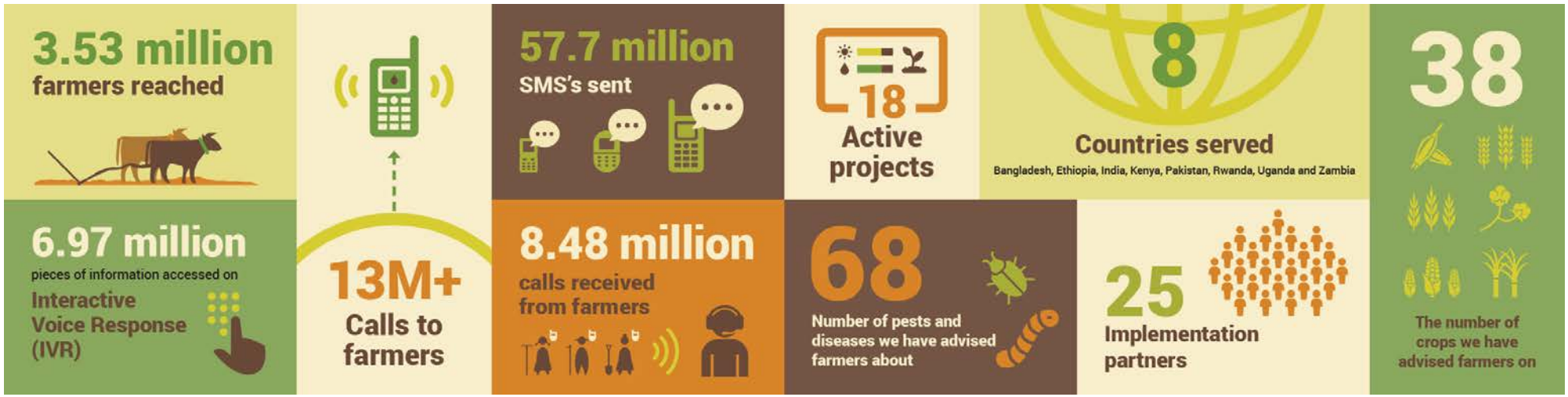
Serving 3.5 million farmers in 8 countries.
Our work is nimble, rigorous, & effective.
We can deploy quickly and reach scale at low cost.



> *By providing actionable information to the right people, in the right way and at the right time, Precision Agriculture for Development (PAD) empowers smallholder farmers to change their lives for the better. At a time when people around the world are confronting new and unprecedented challenges associated with the COVID-19 pandemic, we believe that our model of digital development can assist governments, non-profits, private businesses, and other organizations understand the shifting impacts of the COVID crisis, mitigate its negative effects on rural livelihoods and food security, promote behavior change, inform policy responses, and advance resilience in a rapidly changing circumstances. At the same time, we are working to adapt and broaden our existing services to meet the evolving needs of poor and vulnerable populations as they respond to COVID-19.*



Summary of PAD's 2019 Services

In 2019 we served 3.5 million farmers in Bangladesh, Ethiopia, India, Kenya, Pakistan, Rwanda, Uganda, and Zambia. Our model of digital development is implemented in collaboration with partner organizations to maximize scale, and we continuously experiment, iterate, and gather evidence on impact to improve our services and demonstrate value.

> *PAD can quickly expand its services as a rapid response to the COVID-19 pandemic to enable farmers to access the information they need; to improve livelihoods and well-being for smallholder farmers and other users; to assist governments, non-profits, and the private sector to respond to disruptions in services associated with the pandemic; and to assist governments to more effectively message and promote changes in behavior to limit the spread and impact of COVID-19.*

EXAMPLES OF HOW WE CAN OPERATIONALIZE THESE SERVICES INCLUDE:

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Broaden and deepen PAD's existing programs

1. Increase the number of people registered and served in existing PAD geographies. PAD can add new farmers to existing services quickly, particularly through the adoption of lighter touch enrolment and profiling processes (more information can be gathered from farmers later to enable greater customization of our services). Utilizing user phone numbers collated by government agencies or telecom operators, and temporarily moving to opt-out rather than opt-in services could assist in scaling services very rapidly.
2. Provide more information to farmers enrolled in existing programs. At a time when farmers are unlikely to have any access to traditional in-person extension, PAD can increase the amount of information and advice provided to farmers enrolled in existing services.
3. Add additional types of agriculture-related information to our current services. In the absence of traditional in-person extension, PAD can

provide new types of information to respond to other urgent concerns that may be neglected. For example, an inbound service could be used by farmers to report locust sightings or localized crop disease outbreaks, which could then be used to inform a public response.

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Add digital services to existing traditional extension systems to fill gaps caused by limits on movement or to provide new services if no traditional services are present.

1. Add a digital component to existing government, NGO or private extension services in new PAD geographies which currently lack a digital channel. This would enable information to be provided directly to farmers at a time when in-person services are limited. If public authorities can provide phone numbers and remove regulatory requirements that require users to opt-in, this would greatly reduce user acquisition costs and enable more rapid expansion of services.
2. Provide digital information to intermediaries (e.g. extension workers, village conveners, agro-dealers) who are currently key contacts or coordinators of in-person government, NGO or private extension programs.
3. Set up new digital information services to improve the functioning of markets. For example, by connecting farmers to agro-dealers or other input sellers, output buyers, and financial service providers, and by

aggregating, forecasting, and disseminating supply and demand information. Even in the absence of COVID-related disruptions, smallholder farmers are often at a disadvantage when participating in markets and supply chains due to market failures and information asymmetries. Current and expected economic shocks will exacerbate market risks and increase the likelihood of dysfunction and failure.

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Respond to possible COVID-related disruptions to the agriculture sector and food security.

1. Survey farmers to find out whether they are facing temporary disruptions in input markets, output markets, food markets, labor markets, financial markets etc., and test alternative means for tracking market disruption (e.g. satellite photos, mobile phone data, price data etc)
2. Build information services that address COVID-related market disruptions, such as connecting farmers to functioning input suppliers and output buyers; disseminating input and output prices to farmers and other users; ensuring the supply of food to urban populations; or providing farmers with information about crop storage and post-harvest management if market disruption is sustained. For example, a two-way system that collects from farmers real-time information on crop production and displays this information to relevant players (output buyers, agro dealers, or other market actors)

could help mitigate information asymmetries, market failures, and/or value chain inefficiencies.

3. Publicize new government policies or services to address the COVID-19 pandemic, such as approved locations for the purchase of inputs and the sale of crops, and the availability of input subsidies, government transfers, or other public relief measures.

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Respond to possible COVID-related disruptions to other sectors.

1. Provide education information to students, parents, teachers, and other users to address COVID-related school closures and other disruptions due to restrictions on movement.
2. Provide information related to financial services to users to address COVID-related restrictions on movement for customers and service agents (e.g. from banks, microfinance institutions (MFI), and insurance providers), branch closures, challenges assessing insurance claims, and other market disruptions.
3. Provide general (i.e. non-COVID) health information to users who may not be able to access regular health services due to COVID-related restrictions on movement, staff shortages, and space constraints in health facilities.

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Gather and provide COVID-specific health information

1. Survey farmers to find out what they know about COVID-19, social distancing behaviors, identify misinformation, measure the extent to which public health messages are getting through to farmers and are understood, and provide real-time dashboards to share information publicly.
2. Provide general health information about COVID-19 via voice or text (or both), including information from governments and other international authorities on preventive measures, the availability of testing, treatment, and other services, and official policy responses.
3. Conduct A/B testing of government messaging and other information sources (on social distancing, hand washing, etc) to improve user comprehension and more effectively promote behavior change through COVID-related communications.

4. Provide automated diagnostic information services using two-way SMS or interactive voice response (IVR) (i.e. “press 1 if you have a cough”), or link farmers to health resources that do this, such as the WHO’s WhatsApp interactive information service.

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> *PAD will continue to work in collaboration with governments, and a wide range of other partners, to identify pressing needs that can be addressed utilizing digital information. We are grateful to our partners for their ongoing support, and offer our services in the hope of making a substantive contribution to tackling the current global crisis.*

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