

Precision
Agriculture for
Development



# **FEATURED COUNTRY: INDIA**

This quarter, PAD crossed the 300,000 farmer mark on its two-way interactive voice response (IVR) service in the Odisha state of India – "Ama Krushi". In partnership with the Odisha Department of Agriculture and Farmers' Empowerment (AFE) and the Bill and Melinda Gates Foundation (BMGF), PAD has also expanded this advisory service beyond rice to include several new crops, including horticultural crops (eggplant, okra), cash crops (cotton) and pulses (red gram). PAD set up a content integration and management committee attended weekly by research scientists from local agricultural universities and agriculture department officials to validate and approve content sent by PAD agronomists to farmers, create synergies across government projects, and provide access to government databases to continue to customize and improve the quality of the information provided. PAD is also working with the AFE to explore livestock-related content in Odisha state, and to launch a live call center which will supplement the existing outbound voice calls and inbound IVR hotline to help improve the ease of use for farmers to pose queries to agronomists. In Odisha, PAD also implemented an adaptive experiment to identify the best time of the day to send automated profiling, as well as the utility of sending an SMS warning before the profiling call.



"I particularly value the information on nursery management received through Krishi Taranga. The disease management information helped prevent brown eye spot in my crop. With all the advice I adopted from Krishi Taranga this season, I am now not only transplanting the nursery seedlings into my own estate but am also going to sell about 100,000 seedlings."

- Dayanand LB, Bindiga, Chikmagalur, Karnataka

In West Bengal, PAD launched a new two-way IVR service – "Krishi Katha" – to farmers and government extension workers focused on rice and fisheries, which is a new content area for PAD. So far, PAD has collected farmer profiles for 1,800 farmers including data on agriculture, fisheries, and access to irrigation.

In Karnataka, PAD's two-way IVR service in collaboration with the Coffee Board of India reached 15,000 farmers upon completion of the initial pilot, with 84% of surveyed farmers reporting that they adopted at least one recommendation from the service, and 90% of farmers likely to recommend the service to their friends and family. In addition, 57% of surveyed farmers were willing to pay between \$2-\$4 as an annual fee for the service – a major breakthrough for PAD towards potentially launching a commercial service to achieve financial sustainability.

### **COUNTRY HIGHLIGHTS**





### **KENYA**

PAD's MoA-INFO platform implemented the mid and late season Long Rain cropping series for maize, beans and potato farmers, and reached over 360,000 users with information about one of these crops and/or about Fall Armyworm. We collected qualitative feedback from MoA-INFO users about several new service offerings we have recently launched: 1) a maize seed variety selection tool; 2) a fertilizer optimization tool; and 3) weather forecasts provided to a sample of users in Busia and Bungoma counties. Throughout the season we have improved our understanding of our users through continuous A/B tests on several topics, including message phrasing and timing, strategies for reengaging "sleeper" users, and small tweaks such as including a user's first name or a Swahili proverb. We are also excited about several projects in development and the opportunities presented by our partnership with One Acre Fund, who are increasingly using technology in their programs, including tablets for enrollment and repayment.

## **UGANDA**

As part of our Uganda Coffee Agronomy Training (UCAT) project, PAD completed the first round of IVR messages to farmers, data collection, and analysis of an impact evaluation conducted to measure possible spillover effects from farmers to other members of their communities. To address initial low pickup rates, PAD began sending repeated push calls to farmers over a period of several days, boosting call completion rates from 39% to 62%. Moving forward, repeated call attempts will be made when treating farmers within the RCT sample and farmers will have the ability to access previous messages at their convenience through a new call-back system. Our goal is to be running at full operation at the end of next quarter which includes sending reinforcement broadcast messages to sub-samples of farmers attending farmer field schools, sending stand-alone mobile extension training to a sub-sample of control farmers, and providing an automated Q&A mobile platform to the same sample of control farmers.

Our partnership with One Acre Fund continues to flourish in Rwanda. PAD is currently sending supplemental SMS messages to farmer promoters - volunteer village-based extension workers - in conjunction with OAF's radio campaign encouraging adoption of higher-yielding hybrid maize seeds. PAD has found "farmer testimonial" messages to be particularly impactful in motivating and encouraging farmer promoters in their task of promoting hybrid maize uptake.

Building off of this partnership, PAD is now exploring establishing direct relationships with the Rwanda Agricultural Board (RAB) and Ministry of Agriculture (MINAGRI). Of particular interest is the government's recent effort at profiling all farmers in the country through a digital database, which includes farm plot boundaries and input purchases through an e-subsidy scheme. Access to such data could enable PAD to make considerable progress in cost-effectively measuring the impact of various digital advisory interventions at scale - a major strategic goal in expanding our evidence base.

**RWANDA** 

A partnership has also begun between Root Capital and PAD to help Root Capital deliver mobile phone-based agricultural advisory services to smallholder farmers in Rwanda. Advisory services will include general advice on farming practices and dynamic weather and climate information in an effort to improve outcomes for smallholder coffee farmers. Work will begin in Q3 with two coffee cooperatives identified by Root Capital that will participate in this project. An MoU is expected to be signed in Q3 as well.



PAD Bangladesh completed an experiment with mPower and Bayer, a global agricultural input supply company, to study a commercial variation of mPower's GeoPotato service that included Bayer-branded products in its recommendations. messaging typically does not include any promotion of individual brands in our advice, and we consider farmers' trust of our unbiased advice to be of paramount importance. However, it is worth exploring whether incorporating brand promotions can help PAD and other partners develop commercial advisory services that can be sold to for-profit agribusinesses and offered free of charge to farmers- a potential pathway to long-term financial sustainability. The results of the experiment showed that branded messages can influence farmers' purchase decisions without adversely affecting their engagement with the service. Farmers receiving branded messages (in this case, recommendations for fungicides to reduce the risk of late blight for potato crops) were 18% more likely to report using a Bayer product, while trust and satisfaction with the service did not change. Farmers also recommended Bayer products to 8 other farmers, on average. Additionally, based on a previous PAD recommendation, the GeoPotato service added voice messages to their SMS service for all of their 41,000 registered farmers. On mPower's Agro360 service, PAD continued to support mPower in the design and execution of two A/B tests to improve the service. The first test studied the impact of supplementing SMS recommendations with voice messages, and the second test studied if voice messages were more effective in standard Bangla or a local dialect. The results are in the process of being analyzed. Moving forward, PAD has started planning for future experiments to test the effectiveness of conversational-style messages and trivia-based messages.

# **BANGLADESH**



### **ETHIOPIA**

PAD Ethiopia helped the Agricultural Transformation Agency (ATA) to launch push calls for farmers cultivating 5 priority crops (maize, teff, wheat, malt barley, and sesame) in the Amhara region. This service is disseminating a wide range of agricultural advice for the planting season that started in late April/early May. With this service, we have reached over 86,000 unique farmers with a total of 240,000 calls, bringing our total reach to over 800,000 farmers reached in Ethiopia in the last 12 months. PAD is working on expanding this push call service to other regions of the country (Oromiya, Tigray and SNNP) and conducting A/B testing to compare farmer engagement of push calls using different voice narrators (female, male, and agronomist).

In partnership with the Government of the Punjab, PAD launched an IVR advisory service to cotton and oilseed farmers in April. To date, we have provided voice and SMS advisory to more than 490,000 farmers, providing advice on the complete cotton crop lifecycle and information on how farmers can access government input subsidy programs. PAD has also signed an MoU with the Government of Balochistan to develop IVR and SMS advisory services for 100,000 farmers in 3 districts, with plans to scale the service to the remaining districts of Balochistan. This service will build on our successful work in Punjab, with PAD providing advisory services and learnings from our international experience to help design and deploy an IVR-based advisory system, housed at the Department of Agriculture in the Government of Balochistan. In addition, PAD is in discussions with the Prime Minister's Reform Team to launch a similar service nationwide to be eventually expanded to all provinces in the country.

**PAKISTAN** 



# PAD BY THE NUMBERS

	Q1 2019	Q2 2019	Change
Farmer Reach	1.38 M	2.58 M	+1.2 M
Avg. Cost/Farmer*	\$2.79	\$1.43	-\$1.36
Active Operations	12	12	0
PAD Team Size**	100	73	-27
Operating Costs*	\$3.8 M	\$3.7 M	-\$100K

In order to be able to give a more meaningful trend we have switched to reporting how many unique farmers we have served over the last 12 months rather than the calendar year. Using this method, every reach number includes all seasons of the year, making up/down movements in our reported number a more useful reflection of farmers served by eliminating large gains/losses that reflect seasonal crop cycles rather than true demand/uptake of PAD services.

### OTHER UPDATES

### **CEO ANNOUNCEMENT**

As shared with many of you already, we are happy to announce that Owen Barder will be joining us as PAD's Chief Executive Officer, effective early September. Owen is an extraordinarily accomplished individual, serving early in his career as the private secretary to Tony Blair, the Prime Minister of the UK. He has subsequently worked as the Chief Economist for Africa for DFID, and the Director of International Finance and Development Effectiveness at DFID, where he managed 200 staff and a 2 billion pound annual budget. In 2011, he founded the Center for Global Development in Europe, which under his leadership emerged as one of Europe's most influential think tanks, focusing on policy innovations with real-world impact. He has also co-chaired the Working Group that invented Development Impact Bonds, and led work on the Advanced Market Commitments for vaccines. Owen will be an exemplary leader for the organization, and is wholly committed to our mission and building on what we have created over the last few years. Welcome, Owen!

#### **FUNDER NEWS**

We thank Benckiser Stiftung Zukunft, Jasmin Social Investments and Dioraphte for their renewed commitments.

The BSZ foundation announced that it was rebranding itself into the Alfred Landecker Foundation, and changing its mission and purpose. The BSZ team closely communicated with us about this change and reaffirmed their commitment to support the UCAT project as planned.

#### **2018 AUDIT**

The 2018 Audit has been completed by Smith, Sullivan and Brown. Financial statements should be available very soon.

<sup>\*</sup> Counted in 12 month cycles

<sup>\*\*</sup> Includes part-time staff but excludes 110 seconded staff working for PAD in Q2 (Total staff in Q1 is 183). The drop to 73 staff in Q2 is due to the completion of in-person data collection for the ATAI project in India.