



Quarterly Progress Report - Q3 2023





Quarterly Highlight

Improving Voluntary Carbon Markets

In order to meet [Paris Agreement climate goals](#), there is scientific consensus that the removal of existing carbon emissions in the atmosphere, in addition to a concentrated effort on emissions reductions, will need to be part of the climate solution. [Nature-based solutions](#) to climate change, for example soil organic carbon sequestration on working lands, are some of the most high-potential and shovel-ready carbon removal approaches. Studies estimate that global cropland and pasture land have the potential to remove 2-5 Gt CO₂ per year ([Paustian et al. 2019](#)), out of the estimated 10 Gt CO₂ of removals that are needed annually by 2050, by leveraging strategies like conservation agriculture (CA), agroforestry, and adding biochar to soil.

The need for climate mitigation financing is immense. For example, only 0.35% of current climate finance, or USD 2 billion, goes towards mitigation efforts in agriculture despite the large share of emissions the sector contributes ([Climate Policy Initiative, 2023](#)). Voluntary carbon markets, estimated to be worth more than USD 2 billion in 2021 and more than USD 50 billion by 2030 ([McKinsey, 2021](#)), are a promising mechanism to funnel financing for nature-based climate mitigation solutions.

However, there are critical bottlenecks preventing voluntary carbon markets from catalyzing these nature-based solutions. One of the major concerns is carbon credit integrity, as exemplified by a host of [recent media articles](#) investigating how projects failed to deliver credible climate outcomes. In particular, these projects suffered from a lack of oversight on how projects work with local and indigenous communities to accomplish project activities. For example, [Verra](#), a non-profit organization that operates the world's leading carbon crediting program, recently suspended a flagship soil carbon project on rangelands in Kenya, the Northern Kenya Grassland Carbon Project ([Verra, 2023](#)), amidst allegations about how the project worked with local pastoralists to change grazing behaviors ([Mongabay, 2023](#)).

With the generous support of the [Swiss Re Foundation](#), PxD is embarking on an initiative to address these integrity issues in voluntary carbon markets. PxD will develop a carbon credit standard for agriculture-based carbon projects in the Global South which provides requirements for project design and transparency, especially with respect to how the project works with local and indigenous communities for project activities. PxD will collaborate in this work with key stakeholders in the market including project developers, registries, scientists, policymakers, as well as farmer-facing organizations at the vanguard of carbon finance for smallholder farmers like the [CASH Coalition](#), which PxD recently joined as a partner. Providing transparency into the project design process is a key interest of buyers in voluntary carbon markets, who consider transparency to be as critical as monitoring, reporting, and verification (MRV) in determining project quality ([BCG, 2023](#)). PxD's ultimate goal is for the new standard to become required for all future carbon credit projects using working lands. By doing so, we hope to not only create a higher integrity market, with higher prices for nature-based projects, but also a more inclusive one that engages local and indigenous communities as equal stakeholders.

Programmatic Updates

Ethiopia

In Q3, PxD continued to work with the Agricultural Transformation Institute (ATI) to strengthen their 8028 Farmers' Hotline inbound advisory service, which has reached more than 570,000 farmers in the last 12 months with advice on 21 crops and 5 livestock value chains. Through the Digital Agricultural Advisory Services (DAAS) project funded by the Bill and Melinda Gates Foundation (BMGF) and the United Kingdom Foreign, Commonwealth and Development Office (FCDO), we also continued to work with ATI to scale outbound push calls, which have now reached roughly 150,000 dairy farmers in the last 12 months with information on artificial insemination, calf and cow management, and customized animal feed rationing. We have also continued to use multiple methods to profile and enroll farmers into this service, with a focus on prioritizing female farmers. We worked with local agricultural extension officers - called development agents (DAs) - who collect and enroll farmers' phone numbers and conduct in-person profiling, and we leveraged the ATI's 8028 user database to conduct phone surveys to profile users and enroll them into the push call service. So far, we have collected 200,000 profiles of dairy farmers across 46 woredas (districts), all of which will be enrolled in the push call service in subsequent quarters. We also continued to make progress toward launching our global PADDY platform in Ethiopia, which has been affected by delays in importing the required infrastructure, but we expect that we will launch this platform in the coming quarter, which will allow us to achieve improved capacity and functionality for scaling push calls at farmers' preferred times of the day.

In Q3, PxD received a grant from The Netherlands Development Association (SNV) to extend the first phase of our partnership with SNV on the Building Rural Income through inclusive Dairy Business Growth in Ethiopia (BRIDGE) project. Through this project, in Q3 we continued to provide customized push calls and video messages to roughly 3,000 dairy farmers and 100 service providers (artificial insemination technicians, animal feed suppliers, veterinarians, etc.). In Q3, we also submitted a proposal to SNV for potential collaboration in the next phase of the project, BRIDGE+, which is expected to operate from 2024 to 2028 and expand its reach to an estimated 100,000 dairy farmers.



India

Coffee Krishi Taranga

PxD continues to operate its Coffee Krishi Taranga (CKT) service across four states in India (Karnataka, Kerala, Tamil Nadu, and Andhra Pradesh) in partnership with the Coffee Board of India, reaching more than 110,000 farmers in the last 12 months. With support from the Walmart Foundation, PxD continues to expand its reach in Karnataka and Andhra Pradesh and experiment with new forms of service delivery.

In Q3, PxD continued to use in-person enrollment to add more coffee farmers into this service in Andhra Pradesh, and a mix of in-person and mobile enrollment in the other three states by working with a combination of Coffee Board extension officers and agronomists, Krishi Vigyan Kendras (KVKs - a network of agricultural extension offices), coffee Farmer Producer Organisations (FPOs), curing houses, and the Integrated Tribal Development Agency.



In Q3, PxD scaled up its new WhatsApp chatbot version of the CKT service to roughly 55,000 users in Karnataka, which allows more sophisticated multimedia content than our original voice-based service. Based on farmer surveys, farmers have shown significant demand for video-based advice that is easy to understand, so we plan to use this WhatsApp service and the Coffee Board’s One Stop Mobile App to deliver videos on leaf rust management and other high-priority topics. In Q3, in partnership with the Climate Forecast Applications Network (CFAN), we also continued to pilot our WhatsApp-based rainfall forecast information service with a small sample of roughly 400 farmers during the rainy monsoon. After this pilot we conducted a post-pilot survey to gauge farmer comprehension and effectiveness of the service, including how the forecasts helped farmers make decisions, how accurate farmers found the forecasts to be, farmers’ existing sources of weather data, farmers’ preferred delivery channels for weather forecasts, and how these forecasts could be modified to better suit farmer needs. Among surveyed farmers, 76% cited the

WhatsApp forecasts as their primary source of weather information, and 75% reported making decisions based on the weather information received, such as postponing fertilizer application, hiring labor, etc. Based on the results of this pilot, we intend to scale this weather forecast service with an emphasis on voice calls in order to make the service as inclusive as possible. In parallel, in Q3 we also continued a lab-in-the-field experiment to investigate whether accurate, relevant-for-context, probabilistic medium-range weather forecasts can aid farmer decision-making, and to understand their willingness to pay for a service of this kind.

During field visits, one farmer in Sitaramaraju district in Andhra Pradesh reported:

“I am using the Coffee Krishi Taranga service presented by the Coffee Board of India. The staff visited us and registered our phone number on the CKT service. I encourage every farmer to register on this service. Via CKT, I receive weekly and monthly advisories on important operations such as de-suckering and pruning for better plant growth. I also receive immediate responses to the questions that I record on CKT. If we follow all the advisories and practices as recommended by the CKT service, yields shall increase. I appeal [to] all tribal farmers to follow this.”

Scaling Leaf Color Charts

With funding from Apparel Impact Institute's (Aii) Climate Solutions Portfolio, PxD is exploring partnerships with various cotton-growing state governments in India to scale up the distribution of [leaf color charts \(LCCs\)](#), a promising climate mitigation technology that can help cotton farmers reduce their usage of nitrogen-based fertilizers, which can both reduce emissions of nitrous oxide, a potent greenhouse gas, and reduce farmer input costs.

During field visits in the initial pilot, one farmer in Amreli district of Gujarat reported:

"I received a leaf color chart from my agro dealer... he trained me on how to use the leaf color chart. I used a leaf color chart last year on my crops. Earlier I used to apply up to 10 kgs of urea per bigha [roughly 0.6 of an acre], but after using the leaf color chart I applied 5 kg per bigha, thus saving 5 kg urea per bigha. This helped me save 2,000 INR [roughly 24 USD] on urea and another 2,000 INR on labor cost, making it a total of 4,000 INR [roughly 48 USD]. I did not face any reduction in yield after reducing urea usage."

Improving Adoption of Stress-Tolerant Seeds

PxD has been awarded a grant from the Innovation in Government Initiative (IGI) and King Climate Action Initiative (K-CAI) to work with the West Bengal Accelerated Development of Minor Irrigation Project (WBADMIP) on "Scaling the Distribution of Flood-Tolerant Seeds (FTS) for Rice Farmers." The grant will allow PxD to reach up to 75,000 smallholder rice farmers with proven FTS distribution interventions, with the potential to expand the initiative to increase the climate resilience of additional farmers in flood-prone areas of West Bengal and beyond.

We also received funding from the Digital Agricultural Innovations & Services Initiative (DAISI) to further explore a market-shaping initiative in Gujarat and West Bengal to improve farmers' access and adoption of drought-tolerant seed varieties, in partnership with the government, seed retailers, private suppliers, and others. This initiative is in response to a recent PxD survey which finds that while more than half of farmers in Gujarat have experienced damage to their crops due to drought, only 4% of farmers are aware of these drought-tolerant seed varieties.



Kenya

MoA-INFO

In July, we came to the end of the Long Rains 2023 season in Kenya, in which we sent customized advisory messages for 5 value chains (Sorghum, Irish Potato, Banana, Tomato, and Green Grams) to roughly 15,000 farmers in 3 counties (Taita Taveta, Kericho and Kwale). These messages were customized based on each user's crop, county, geo-location, and preferred time of delivery. This work is part of the World Bank-funded One Million Farmers platform, in collaboration with two other World Bank funded projects, the Kenya Climate Smart Agriculture Project (KCSAP), and the National Agricultural and Rural Inclusive Growth Project (NARIGP).

Asset Collateralized Loans (ACLs)

In Q3, with support from the King Climate Action Initiative (K-CAI) and Private Enterprise Development in Low-Income Countries (PEDL), we continued our project providing Asset Collateralized Loans (ACLs) to dairy farmers to finance the purchase of water tanks. These water tanks help dairy farmers increase their climate resilience, reduce vulnerability to rainfall fluctuations, reduce time spent fetching water, and increase milk yields. In collaboration with the Development Innovation Lab (DIL) at the University of Chicago and two dairy cooperatives in Kenya's Rift Valley region (Lessos Farmers Cooperative Society and Sirikwa Dairies and General Limited), PxD is conducting a randomized controlled trial (RCT) on the impact of ACLs for water tanks on key outcomes including milk sales, milk production, cow health, household well-being, and gender outcomes (time spent by girls and women fetching water, girls school enrolment, etc).

In Q3, we completed our second pilot with two different types of ACL contracts. In this pilot, PxD designed a new contract type prompted by discussions with farmers from the two cooperatives. These discussions revealed that many farmers would prefer a payment schedule that involves paying relatively more when their milk income is high and relatively less when milk income is low. This resulted in a flexible contract ("income-sharing contract") with a loan repayment schedule based on each farmer's milk income. During the second pilot, we rolled out this contract alongside the standard ACL to a random sample of farmers (split 50:50 between the standard and the income-sharing contracts). This pilot resulted in a 17% take-up rate, higher than the 15% take-up



from our first pilot with only a standard ACL contract, and with greater take-up of the income sharing contract compared to the standard ACL. We expect to have evaluation results on the impact of these water tank loans on farmer outcomes in 2024.

Global Partnerships

The PxD team participated in the Multi-stakeholder Meeting on Climate Resilient Coffee and Spices Landscape, facilitated by IDH in Bangalore. The gathering, held in August, explored topics like climate resilience and adaptation, the European Union Deforestation Regulation (EUDR), and building inclusive, transparent value chains. PxD showcased Coffee Krishi Taranga (CKT), its digital advisory service for smallholder coffee farmers, developed in collaboration with the Coffee Board of India, with ongoing and generous support from the Walmart Foundation.

PxD also participated in the 5th World Coffee Conference, organized by the Coffee Board of India in Bangalore in September. The conference had a theme of “Sustainability through Circular Economy and Regenerative Agriculture” and brought together diverse stakeholders from the coffee industry, including roasters, specialty coffee growers, and small-scale farmers. Niriksha Shetty, PxD’s Chief of Programs, delivered a speech titled “Enhancing Digital Education to Empower Coffee Professionals at Origin,” emphasizing the importance of utilizing basic technologies like IVR and WhatsApp to efficiently disseminate information to farmers.

Freyhiwot Nadew, PxD’s Ethiopia Country Director, participated in the third cohort of the Centre for African Leaders in Agriculture’s #CALA Advanced Leadership Programme, which launched in August. As a member of the cohort, she was joined by other executive leaders and rising stars in Africa’s agricultural sector from across eight countries, with a focus on increasing leadership and collaboration capabilities to advance national agriculture priorities.

PxD’s Chief Economist and Director of Research Tomoko Harigaya attended the Aspen Global Change Institute’s workshop on Net-Zero Emissions Food Systems. The workshop in August offered an opportunity to learn from and exchange ideas with a wide range of food systems experts about emerging opportunities and challenges in the effort to reduce emissions from food systems.





Organizational Updates

We are pleased to welcome the following new hire to our team:

David Sears, Chief Financial Officer

We are pleased to announce that the following colleague has been promoted:

Revati Vaidya, has been promoted to Program Manager, India

We are also delighted to announce that Amrita Ahuja has taken on the role of Board Chair from PxD's co-founder, Shawn Cole, who remains on the board as Treasurer.

Amrita has a track record of guiding evidence-based organizations from start-up to scale. She co-founded Evidence Action and has played a critical role in its evolution and growth over the last ten years. She leads the Douglas B. Marshall Family Foundation, is a Senior Adviser at CRI Foundation, and advises several other funders in international development.

PxD Blog Posts and Publications in Q3

- PxD CEO Owen Barder recorded an interview on the Apparel Impact Institute's "[Disruptors for Good](#)" podcast
- PxD Senior Program Associate Rohit Goel published a [blog post](#) on Krishi Katha, our advisory service in West Bengal, India



User reach Q3:

PxD's active programs reached **2,727,641** users in the last 12 months, with an average cost per farmer per year of **~\$1.96** ¹ (excluding graduated users) ²

Platforms built or improved by PxD reached a total of **10,089,615** users in the last 12 months, with an average cost per farmer per year of **~\$1.33** since PxD's inception (including graduated users)



Unaudited actual expenses for last 12 months: **\$5,061,865**

Funding updates

We are very grateful for the following commitments received in Q3:

- A \$500,000 grant from the [Apparel Impact Institute's \(Aii\)](#) Climate Solutions Portfolio (CSP) to advance scaling models for large-scale adoption of [Leaf Color Charts \(LCCs\)](#) across India to reduce nitrous oxide emissions from cotton cultivation
- A \$9,000 grant from the Digital Agricultural Innovations & Services Initiative (DAISI) to support our scoping work on stress-tolerant seeds in India
- A \$35,000 grant from SNV to support our work with dairy farmers in Ethiopia
- A \$146,000 grant from the Abdul Latif Jameel Poverty Action Lab (J-PAL) Innovation in Government Initiative (IGI) and King Climate Action Initiative (K-CAI) to support our work on flood-tolerant seeds in India
- A \$350,000 grant from the Swiss Re Foundation to support our work on payments for ecosystem services (PES) to accelerate climate mitigation

1. Cost per farmer per year has increased slightly this quarter due to the reduction in direct users (and corresponding increase in graduated users) resulting from the transition of our service in Odisha, India.

2. We define graduated user reach as “the number of unique farmers receiving services developed, enhanced, or improved by PxD and managed by partners without our direct involvement in the last 12 months.” We do not directly interact with graduated users but they continue to benefit from our work.



precisiondev.org

