2.3 **Innovator Support**
As in past years, Powering Agriculture provided support to both Innovator cohorts to increase the chances of the successful deployment of their clean energy solutions, both during and after the period of their award.

2.3.1 **Implementation Support**
Powering Agriculture continued to use the Powering Agriculture Support Task Order (PASTO), which is implemented by USAID contractor, Tetra Tech, to provide a variety of support, including:

- Implementation assistance such as feedback on milestones, guidance on monitoring and evaluation (M&E)
- Assistance with compliance with USAID policies and procedures including award modification
- Templates/manuals/guides for Innovators’ use
- Promotion of Innovator progress on the website, on social media (Facebook and Twitter), and to the media
- Site visits to 3 innovators working in 5 countries to verify progress and interview beneficiaries

2.3.2 **Business Acceleration Support**
The structured program called the Powering Agriculture Xcelerator (PAX) provides customized and individually-tailored acceleration support to the Innovators. This support is provided by VentureWell, in association with Investors’ Circle, under the PASTO contract. The program provides:

- **Portfolio managers**: Assigned portfolio managers implement customized work plans developed based on ongoing innovator specific needs assessment. Regular check-ins with innovators are conducted in order to provide advice, feedback, and suggested action items. Technical Assistance is provided with the end goal of developing and validating a business model and bringing the innovation to market sustainably.

  - Ongoing innovator-specific needs assessment: Assessments are based on regular check-in discussions with portfolio managers, an internal scorecard tracking system, periodic survey of innovators, observations from in-person workshops, and collaboration with USAID and fellow PASTO supporters.
  - Peer mentoring through cohort groupings: This is comprised of individual connections among innovators, as well as webinars addressing topics relevant to sub-groups.
  - Investor-readiness assessment and coaching: Funding needs and strategy are determined, along with identification of and introductions to potential funders.

The goal of the support is to develop and sustain the innovations in the marketplace to realize lasting impact. Innovators pursue different business models in different regions and progress at different speeds through the innovation life cycle; individual support is a critical component of the program’s success.

Through PAX, innovators received the following over the reporting period:

- Training on industry best practices from experts through two PAX-organized webinars on building, hiring, and retaining the right team.
• 154 instances of assistance on business issues
• 65 referrals/linkages/partnerships/connections
• Investor guide for innovators to use as a reference document for the variety of financing mechanisms available

Figures 2.8 and 2.9 shows types of support requested and received by innovator. Over the course of the reporting year, 21 innovators engaged in some way with the Powering Agriculture Xcelerator via individual engagements and support.

In collaboration with PASTO and the Founding Partners, PAX facilitated an in-person workshop at the beginning of Quarter 2 of the fiscal year. This resulted in increased demand for support, inspired by the workshop topics and the opportunity to continue conversations that were started in-person. The in-person workshop allowed for additional momentum to be created and explains the spike in the instances of support during that time period.

**FIGURE 2.8 INNOVATOR TECHNICAL ASSISTANCE**

Instances of technical support provided to the innovators in FY2018

<table>
<thead>
<tr>
<th>Service</th>
<th>No. of Instances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Management</td>
<td>33</td>
</tr>
<tr>
<td>Fundraising Strategy</td>
<td>27</td>
</tr>
<tr>
<td>Review of Company Documents</td>
<td>20</td>
</tr>
<tr>
<td>Business Model</td>
<td>17</td>
</tr>
<tr>
<td>Product Development</td>
<td>16</td>
</tr>
<tr>
<td>Customer Discovery and Product-Market Fit</td>
<td>11</td>
</tr>
<tr>
<td>Human Resources/Team Management</td>
<td>9</td>
</tr>
<tr>
<td>Corporate, Organizational, and Legal</td>
<td>7</td>
</tr>
<tr>
<td>Partnerships</td>
<td>7</td>
</tr>
<tr>
<td>Marketing and Communications</td>
<td>5</td>
</tr>
<tr>
<td>Landscape Analysis</td>
<td>2</td>
</tr>
</tbody>
</table>

**FIGURE 2.9 INNOVATOR REFERRALS AND INTRODUCTIONS**

<table>
<thead>
<tr>
<th>Type</th>
<th>No. of Referrals and Introductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding Opportunities</td>
<td>34</td>
</tr>
<tr>
<td>Educational</td>
<td>11</td>
</tr>
<tr>
<td>Local Stakeholder</td>
<td>8</td>
</tr>
<tr>
<td>Fellow Innovator</td>
<td>7</td>
</tr>
<tr>
<td>Thought Leadership</td>
<td>5</td>
</tr>
</tbody>
</table>
How Claro Energy’s On-demand Mobile Solar Trolley changed the life of a woman farmer.

Urmila Devi is a 53-year-old woman farmer who lives with 11 family members including her husband, 5 children, and 5 grandchildren in Bihar, India. She mainly grows wheat, maize, mustard, and potatoes on her small land holding of less than an acre. Like most farmers in her region she had long relied on diesel-powered irrigation. Typically, Urmila grows crops on land leased from a third party on a profit-sharing basis. The high cost of diesel and pump rentals have cut in to her profit margins. Due to a lack of awareness and limited education, neither she nor her family members were aware of modern, sustainable and economical substitutes. Even though Urmila and her family worked hard in their fields, they were not producing enough food to feed themselves and often had to leave the land under-irrigated due to the high cost of diesel or were dependent on rain.

“With ever rising cost of diesel, the pump owners have increased the rentals. There is even an additional charge for pipes to irrigate far-off land areas. Farm produce was never enough to feed our 12 family members. Many times we were not able to arrange for 2 meals a day, let alone affording to buy any basic amenities. We could never grow rice on our fields as it requires a lot of water, which we obviously cannot afford. Without any good harvest, how are we supposed to feed our families and overcome poverty? My youngest daughter still goes to school, and in order to provide basic school supplies I have borrowed money from friends and neighbours.”
**A Solution:** Solar pumps have been revolutionising the Indian agriculture scenario, but the high upfront costs, even with government subsidies, made it impossible for a marginal-scale farmer like Urmila Devi, and many others at the bottom of the pyramid, to buy a fixed asset. Claro Energy conceptualised their PATVAN- “Irrigation as a Service through movable solar trolley” in 2015. After a successful pilot, Claro partnered with various NGOs who did outreach to farming communities, educated them, and encouraged them to adopt the Pay-As-U-Go system for irrigation. Claro Energy also partnered with women self-help groups to educate women farmers about adopting new technologies for irrigation and farming. As a result, many men and women farmers have shown interest in this new sustainable and affordable technology. With this clean energy solution, the farmers can now irrigate their fields on a pay-per-use basis at significantly lower costs. Claro Energy’s movable solar water-pumping system constitutes an e-rickshaw which has solar panels mounted onto its rear portion. The solar panels are opened up at the farm location and connected to the pump there. This enables water to start flowing. The system is equipped with a RFID enabled pre-paid card mechanism for collection of money, based on each usage. Smallholder farmers have benefitted from the mobility feature of the solar water pumping system, as irrigation is now available at their farmlands. It has become affordable and provides on-demand irrigation service without any capital investment for the farmers. Instead of owning the diesel pumps, the farmers only pay for the irrigation service based on their consumption using a PAY-GO card mobile money, cash deposits, or directly through micro finance institutions. For every 1,000 liters of water generated through these mobile solar pumps, INR 3 (0.044 USD) is charged to the farmer.

**A Happy Result:** After adopting Claro’s service model of pay as u go, farmers saw a reduction of up to 70% in their irrigation cost. Initially they used to pay from INR 120-180 (1.75-2.63 USD) to rent a diesel pump for an hour, excluding transportation and other charges. After switching to the mobile trolleys, the farmers now spend less than half of this, down to INR 50-80 (0.7-1.17 USD). After being informed by a fellow farmer, a beneficiary of Pay-As-U-Go service, Urmila Devi approached the Claro
team. Within 9 months of adopting the service, she was able to save more than INR 4,000 — a huge amount considering geographical and other life style factors. She no longer has to go to door-to-door asking and negotiating for the best price to renting a diesel unit, and she has managed to reduce the waiting period, as irrigation is now available at her farmland on-demand. With adequate irrigation, crop yield has jumped a significant amount with additional cost savings.

In her own words, Urmila said:

“With money and time saved, me and my husband can now dedicate our time to more productive usages. We can now utilise it to grow an additional crop. As our irrigation needs are being taken care of, we no more have to travel to fetch diesel, which incurred additional transportation cost. We don’t have to bargain and request anyone asking for lower renting prices. After years our family have celebrated Chhath Puja (a local festival) in full grandeur and I got new pair of clothes for my entire family. We’ve got a new set of stationary items for my daughter for her educational needs. We also got a small section of our house cleaned and renovated. My husband and family have always supported me in this endeavour. They are my pillar of strength. We both now devote our time in gathering more information about the new policies and benefits that government has rolled out for us. Claro team has also advised us about new marketplaces where we can sell our produce and get better prices, which we weren’t aware of earlier. I feel very happy in being the change maker and it gives me immense joy now seeing my family smile.

I now feel empowered to educate my fellow female farmers and help in bringing a significant impact in their lives as well.”
Innovator referrals
This year, PAX made a total of 65 referrals for 18 of the innovators. This year was high impact in terms of referrals to relevant expertise thanks to the in-person workshop held in Nairobi, Kenya, in January 2018. Being located centrally in an impact investing and technology hub opened up many opportunities for introductions and networking. In addition, portfolio managers were able to capitalize on the momentum gained at the in-person workshop held in January 2018. Several introductions and referrals to resources or potential partners or funders were made. The table below shows a summary of the types of referrals made.

PAX Workshop
The Powering Agriculture Xcelerator (PAX) workshop was held in Nairobi, Kenya from January 15-18, 2018. Participants from 21 Powering Agriculture Innovators participated in sessions that addressed barriers to bringing their innovations to market, such as fundraising, market discovery and landscape analysis, business models, and more. The workshop was facilitated by VentureWell with support from staff from PASTO and Investors’ Circle, and the Power Africa Transactions & Reforms Program. Speakers included more than 15 guests from the East Africa ecosystem, along with representatives from Powering Agriculture Founding Partners.

The in-person workshop was an opportunity for small working groups to convene based on affinity groupings such as technology area, region, business model (i.e., requiring customer financing), or university origination.

The workshop was capped off with the Powering Agriculture Innovator Showcase on the morning of January 18th. During the showcase the 21 Innovators demonstrated their technologies to invited guests and the general public from the East African innovation community. Guests received three million ‘venture shillings’ upon arrival to invest in their favorite innovations. The three innovators with the most venture
shillings received the chance to pitch to the whole audience on stage. The event also included a panel discussion on the Importance of the Ag-Energy Nexus featuring four experts with diverse perspectives. Highlight videos from the Innovator Showcase are available on the Powering Agriculture YouTube channel.

**Key Outcomes**

- Nearly all respondents (95%) indicated the workshop met or exceeded their expectations, and
- Two-thirds (63%) stated that their projects would improve “a lot” or “a great deal” as a result of participation.
- Almost all respondents (96%) indicated that the workshop was “very” or “extremely effective” in helping them connect with fellow innovators and stakeholders in the field.
- A majority of respondents (75%) indicated that they were better able to understand the appropriate funding vehicles and types for their projects.
- Almost (70%) of respondents found the workshop to be very or extremely effective in helping them to develop new ideas on how to reach and understand their customers.

**Webinars**

During the fiscal year, PAX hosted a webinar series centered on team-building, hiring, and retention. The series was entitled: “You’ve got the product, what about the team that will bring it to scale?” The Innovators have noted that hiring takes a significant investment of time and resources. Beyond product and market, team is one of the top considerations for a potential investor or funder. The summary of each webinar is below.

- **How to build the team:** Part A of this webinar series discussed ways to overcome the common challenges associated with hiring in emerging markets, including specific examples of how fellow innovators have found success in building diverse teams of skilled women and men.
- **How to keep the team:** Part B discussed how to maximize your return on investment by minimizing turnover and keeping your employees happy and high-performing. After making the investment in acquiring and hiring talent, how do you maintain, cultivate, and retain it? This webinar covered culture and diversity, including retention of women in the workforce.

**Innovator Investor Guide**

PAX portfolio managers developed an overview for innovators to use as a reference document for the variety of financing mechanisms available. This guide was published for use by Innovators as well as the general public.
Samuel is a 26 year old farmer who turned his life around with the help of a test model of KickStart’s solar irrigation pump.

After high school, Samuel left his hometown to strike out on his own. Like so many young people his age, he had a hard time making ends meet and jumped from one job to the next, including selling cosmetics, working construction, stocking a store, and running a game business. For some of these jobs, Samuel was required to sleep at his place of work and found himself spending a lot of time with other young people who became restless when business was slow.

After getting into some trouble in the big city, he returned home and took up farming, like his parents. His father saw a test model of KickStart’s solar pump at a demonstration and thought it could help keep his son busy. When he told his son that he saw a pump that ran without using petroleum, Samuel couldn’t believe it and decided to check it out.

By using the KickStart solar pump test model to irrigate, Samuel became so successful that he took over his parents’ land to produce crops that were both more nutritious and more profitable. Today, he grows kale, spinach, tomatoes, and sweet peppers, and has his own livestock and, in his spare time helps out his parents.

Typically, Samuel farms in the morning and the afternoons, and sells his produce in the cooler part of the day. For the rest of the day, he explores opportunities to make even more money and expand his business.

When asked what farming meant to him, Samuel said,

“Farming is loving yourself.”
With farming, Samuel says that he is now able to plan his future and be his own boss. And that future is bright – he hopes to rent more land and open up a small shop.
3.1 Investment Alliance

Powering Agriculture has partnered with AlphaMundi and Factor[e] to form the Powering Agriculture Investment Alliance (Investment Alliance). The Investment Alliance will catalyze a minimum of $25 million in private sector finance for ventures with the potential to achieve transformational development impact in the clean energy/agriculture nexus.

AlphaMundi and Factor[e] have a track record of making profitable investments in socially and environmentally sustainable enterprises that generate substantial net benefits to society. Both organizations embrace Powering Agriculture’s goal of improving lives in the developing world by helping to scale clean energy solutions that increase agriculture productivity and/or value. Powering Agriculture funds are helping to subsidize on-the-ground activities that will enable Factor[e] and AlphaMundi to discover, vet, and engage with earlier-stage ventures – helping build capacity to absorb more private sector capital.

**AlphaMundi** provides quasi-equity or debt financing as well as targeted technical assistance to energy/ag companies operating in Africa or Latin America. Their support to the Investment Alliance includes:

- **Financing**: The group will prioritize investments in companies with a 3+ year track record of operations, $500k (USD) or more in annual revenues and demonstrated social or environmental impact.