10-16-2016

ONergy Innovation Profiles

Nate Bradford

Erika Francks

Carson Whisler

Miller Center
for Social Entrepreneurship

ONergy Innovation Profiles

Nate Bradford, Erika Francks, Carson Whisler
October 16, 2016

Santa Clara University

www.scu.edu/MillerCenter

Muslim men gather under a solar streetlight outside their place of prayer in the Sunderbans, West Bengal

Table of Contents

Introduction

ONergy's solar solutions enable the company to impact a variety of end beneficiaries. The company's willingness to innovate and offer a wide range of products places it at the forefront of the distributed solar energy market in India. This widens ONergy's impact, as it is able to meet a multitude of community needs. The following case studies showcase the positive outcomes ONergy's products provide, which often reach far beyond their functional use. These positive effects, from savings to increased study hours, have a profound impact on the communities ONergy serves.

Solar Irrigation

ONergizing Agricultural Livelihoods

A farmer in Narandi, West Bengal utilizes a solar irrigation pump to fill a manmade pond

Overview:

ONergy is improving 20 farmers' livelihoods in the village of Narandi in West Bengal, India by implementing a solar irrigation project in partnership with Pradan (Professional Assistance for Development Action). Farmers previously used diesel pumps to draw irrigation water from a nearby river. Using a diesel pump was resource-intensive, as it cost between 90-150 Rs. (1.35-2.25 USD) per hour to run, along with being time-consuming and laborious. Now, the solar irrigation pump allows farmers to save between 60-90 Rs. (0.90-1.35 USD) per hour on irrigation because there is no operational cost for the solar pump. The farmers are utilizing these savings to diversify their crops, pay for their children's education, and purchase groceries. The pump also increases farmers' resilience to climate change by decreasing their reliance on rainfall.

Background:

In Narandi, villagers are heavily dependent on agriculture for their income and food. Because of its rural location, electricity is accessible from the power grid, but is subject to frequent power cuts. This makes electricity from the grid too unreliable and expensive to be considered in agricultural activities. For this reason, farmers in the region often rely on diesel pumps to irrigate their fields.

While diesel fueled irrigation has been the status quo it is not advantageous for the farmers in the village. Using diesel pumps is a costly task in terms of money, labor, and time. Using the diesel pumps required the farmers to carry heavy pipes over to the river from which they source water for irrigation. This task was especially laborious for farmers whose plots are not located in close proximity to the river. In Narandi, before the introduction of a solar pump, using a large diesel pump cost up to 150 Rs./hr (2.25 USD), while the cost of a smaller diesel pump was 90 Rs./hr (1.35 USD).

Farmers closer to the river could use a small diesel pump, but those further away had to use a larger, more expensive pump. The farmers' communal attitude led them to divide these costs equally amongst themselves. The downside of this was that the use of such a large pump drove up prices that farmers were already struggling to pay. Perhaps worst of all, these pumps were unreliable in spite of their large price tag.

Diesel pumps are prone to frequent maintenance issues. Villagers were forced to wait over three days for repair if a severe issue arose with a diesel pump. Such maintenance problems occurred regularly. These long waits had serious implications for the farmers, who were unable to water their crops while they awaited repairs. This became more of an issue over the past several years, as the rainfall these crops depend upon has declined. Relying solely on the diesel pump sets could be catastrophic if this trend were to continue.

This region of West Bengal is a rain-fed area where farmers are dependent on rainwater to irrigate their crops. Therefore, these farmers are especially susceptible to negative fluctuations in precipitation. Pradan executive, Debashish Biswas, explains that this has been the case recently, as "the rainfall was good in the year 2013. The production was good and quantity was also good, but last year was dry. There was rainfall for the first five days and after that it was completely dry. So here people were unable to cultivate paddy." Having access to consistent irrigation can mitigate the risk an unpredictable climate presents to farmers.

Project:
Partnering with ONergy to install solar irrigation in Narandi was an easy decision for the NGO Pradan (Professional Assistance for Development Action). ONergy had successfully implemented similar projects with Pradan in Bihar, proving to the NGO that beneficiaries of ONergy's solar solutions could expect exemplary service. For this

project, ONergy has installed the solar irrigation pump and is now responsible for monitoring the condition of the pump along with providing any maintenance support necessary.

Solar-powered irrigation pumps are a one-time investment that reduce farmers' dependence on diesel pumps and rainfall. Instead of buying diesel regularly or hoping for rain, farmers can use energy produced by the solar panels located on their land to run their pump. Cutting recurring costs for diesel allows farmers to irrigate their plots more frequently. Pumps can be either submersible or surface, drawing from groundwater sources or a nearby body of water. The farmers in Narandi use a surface pump to draw water from the river near their farms. Solar power provides a reliable and consistent irrigation solution for farmers in India because they have access to abundant sunlight throughout the year.

Farmers' Experience:
Farmers are noticing the difference the solar pump is making for them after only eight months of use. The five farmers with fields close enough to irrigate using only the solar pump are saving the 90 Rs. (1.35 USD) per hour they used to pay for diesel, as the use of this solar pump is free for them. Others, who used to need a larger diesel pump to reach their fields have also taken advantage of this opportunity to reduce costs through an ingenious innovation of their own. They have built four ponds throughout the farmland which they fill by pumping water from the river with the solar irrigation pump.

These ponds enable them to irrigate their plots with smaller, less costly diesel pumps. This saves them 60 Rs. (0.90 USD) per hour of irrigation. The farmers also use the ponds as fisheries for their own consumption. These benefits allow the farmers to invest in activities that will be productive in the long term, and what they don't spend on farming goes towards groceries for their families and the education of their children.

Many of these farmers only earn income for their families through agriculture. Having consistent access to a reliable irrigation pump can make their crop production more predictable resulting in a more stable income. This will become especially important if the reduced rainfall they've experienced recently becomes a long-term trend. Saving the money they were previously spending on diesel-powered irrigation allows them to increase their farming activities by growing additional crops and expanding their farms.

Diversifying the crops they harvest leaves them less vulnerable when conditions change in either the climate or the market. Additionally, with a reliable source of irrigation the farmers are less dependent on rainfall, and can rotate crops to harvest throughout the year, instead of only farming when rain is available. The solar irrigation technology makes this diversification possible, increasing farmer income and land stewardship.

Impact:

- Reduced costs from 80-90 Rs./hr (1.20-1.35 USD/hr) to free use of irrigation pump
- Savings are spent on productive activities
- Some farmers no longer need to travel 8km to purchase diesel
- Farmers no longer wait 3+ days for frequent repairs
- Manmade ponds are used as fisheries for farmers' consumption

Solar Microgrids

ONergizing Communities

A man in western Odissa maintains his community's solar panels that power its microgrids

Overview:

40 households in Sergarh, Odisha, India are powered at night by a solar microgrid installed by ONergy. Previously, these households spent up to 200 Rs. (3 USD) per month on kerosene for their evening lighting needs because they lost their connection to the electric grid. Now, after an upfront payment of 5,000 Rs. (75 USD) to have the microgrid installed, they pay as little as 30 Rs. (0.45 USD) monthly to have access to the energy. The microgrid provides the villagers with high quality lighting for four hours each night, enabling them to protect themselves from the area's dangerous snakes and engage in productive night time activities like studying and cooking. The villagers feel a sense of hope and dignity now that they have access to electricity once again.

Background:

Sergarh is made up of just over 40 people. About 20 of them are landowners who earn money farming, while the other half rely on daily wages working as laborers or doing

seasonal work. Household income in the village varies from around 3,000-6,000 Rs. (45-90 USD) per month. Income is highly variable because the community is largely reliant on agriculture. The bulk of villagers earn the majority of their income at two or three times during the year and save it for harder times.

In the past, Sergarh was dependent on the grid for its power needs. Like many other rural areas in Odisha, the grid in Sergarh is unreliable due to load shedding. Frequent power cuts required villagers to use kerosene as a source of light for nighttime activities like cooking, eating, and studying. Recognizing this need for kerosene, the government rationed each household one liter person. When disaster struck in the form of a broken transformer, the village lost power for seven months. The villagers became reliant solely on kerosene for energy.

The free kerosene that the government rationed to Sergarh was no longer enough to satisfy the needs of most households. So, villagers resorted to the black market where kerosene costed 40 Rs. (0.60 USD) per liter. Households in the area purchased four or five liters a month at this price.

Villagers used this fuel begrudgingly. The light kerosene provides is even more costly than the 40 Rs. (0.60 USD) per liter customers pay. Kerosene lamps' weak lighting strains children's eyes while they study, which can cause them long-term damage. The lamps also emit a black smoke that pollutes households' air. With no affordable solution in sight, the village searched for alternatives.

Project:
In partnership with The Mahashakti Foundation and The Energy Resources Institute (TERI), ONergy installed a microgrid in the village of Sergarh, connecting 40 households to solar energy via panels located on one house's roof. Sergarh stood out to The Mahashakti Foundation, who selected the placement, because houses in the village are situated in close proximity to each other and locals' expressed interest in having a solar microgrid installed by ONergy.

The project began with a meeting in the village. At the meeting, the citizens decided that there was a sufficient number of them willing to pay the 5,000 Rs. (75 USD) up front for a connection to the solar microgrid. From there they needed to find the best location for the microgrid to reach as many homes as possible. Eventually they

concluded that the home of Rina Sahu would enable them to reach the most homes, as it is the most centrally located in the village. She agreed to this responsibility without hesitation. This placed her in the role of village entrepreneur, which entails running the system and cleaning the panels.

The 300-watt system now sits on Rina Sahu's roof. Maintenance is simple, as the system only requires a bi-monthly wipe-down of the panels and distilled water to be poured into the storage batteries every six months. Rina and other entrepreneurs estimate that these crucial activities take them as little as 20-30 minutes a month. The financial return on this small time investment is huge. If the systems are properly attended to their lifespan will be 25 years. Energy is collected from the panels and stored in four 75 ampere-hour batteries in the entrepreneur's house. When the villagers want power, starting up the system is as simple as the entrepreneur flipping an on-off switch connected to the storage batteries.

Community Empowerment:
The community in Sergarh is reaping the benefits of the solar grid in various aspects of their lives. 40 houses are hooked to the microgrid and they have the capacity for ten more as the village grows. The village uses its solar power from 6pm to 10pm. People are experiencing a newfound sense of security because they are able to see snakes and insects as they enter their homes at night. This is a stark contrast to when they were without light and six people were bitten by scorpions. Now able to defend themselves, villagers have reported numerous stories of killing cobras since the switch to solar lighting.

The villagers are also freed from the dangers of kerosene now that they are able to utilize the cleaner, stronger light provided by solar energy. Students are able to prolong study hours without straining their eyes and mothers are able to prepare and serve food without the hassle and irritation of kerosene smoke. Three teachers in the village have begun to offer extra study sessions at night now that high quality lighting is available at that time. The local shop also makes use of the better light to stay open at night and provide food and other necessities.

Utilizing solar power adds economic value to the villagers in Sergarh. The recurring cost of using the microgrid comes out to 30 Rs. (0.45 USD) per household per month for a two bulb system that includes mobile charging. Villagers have the option of using

additional bulbs at the cost of 15 Rs. (0.23 USD) a month per bulb. This money is collected by Rina Sahu and placed in a savings account to be used in case of a maintenance issue with the storage batteries. This payment--which has the added value of insuring against risk--is significantly less than the 160-200 Rs. (2.40-3.00 USD) monthly cost for kerosene. Households' savings are put towards groceries, education, and other necessities. But perhaps the most rewarding thing these lights have brought to these villagers is a sense of dignity.

The head of the village, Tapan Bhoi, had much to say about how the microgrid is impacting Sergarh's local reputation. "I am getting more respect after receiving less earlier," Bhoi said. "We were in poor condition, there was no electricity line, and we are poor people. After all these electricity lines, people's hope increased." This impact is especially pronounced for Sahu, who notes that the responsibility brings her both joy and respect from the community. A sense of hope now replaces the despair that came with seven months of darkness. As Tapan Bhoi tried to put this feeling into perspective, he reflected, "I am feeling good. Earlier we were in darkness. After having this light, my body has rejuvenated. We've also received mental peace. Living in light is very comfortable compared to darkness."

Impact:

- 120+ Rs. (1.80 USD) savings a month per household
- 40 households have access to high quality lighting during evening hours
- Longer and better quality study hours for children
- Empowerment of a local female entrepreneur
- Increased safety at night in households
- Sustainable power access for up to 25 years

Solar Rooftops for Schools

ONergizing Education

Solar panels sit atop Khardah Sibnath High school

Overview:

Located just north of Kolkata, Khardah Sibnath High School is an institution that serves 800 students from an impoverished surrounding area. In the past, the school lacked the budget to develop its infrastructure, devoting the majority of its funds to the bare necessities needed to run the institution. This has changed in the last eight months since the school had 5 kW of solar panels installed by ONergy on its roof as part of a program sponsored by West Bengal's government. Since then, the school has halved its electricity bill, from 24,000 Rs. (358 USD) per month to only 10,000-12,000 Rs. (149-179 USD), enabling it to devote those extra funds to sports programs, computers, and additional protein in students' lunches.

Background:

Khardah Sibnath High School lacks in resources, but not in culture. Located next to the historic Durga Mandir Temple, the school has been serving the surrounding neighborhood since the year 1928. Talking to the faculty and staff, the pride they take in the school's rich heritage and their dedication to a holistic approach to education despite socioeconomic difficulties is immediately evident.

Its 800 students and staff hew to a tight budget. The school's finances are consumed by necessities, such as electricity, leaving the school with limited financial flexibility. Electricity to run the school costs about 24,000 Rs. (358 USD) per month. This high recurring cost presents a challenge for the school as it continues to look for ways to

develop its infrastructure and build beneficial programs that will allow its students to flourish.

Project:
After being selected through a government-led bidding process, ONergy installed a 5 kW system on the school's roof in November 2015 with hopes to provide a budget-friendly solution for the school's energy needs. Khardah Sibnath High School was the second school to receive a solar rooftop installation as part of a program by the West Bengal Renewable Energy Development Agency to install solar panels at 100 schools in West Bengal.

In addition to powering light and fans, the panels are connected to the electricity grid. Any excess power the solar panels generate is sent back to the grid in return for a government subsidy. ONergy worked closely with the school to decide proper placement for the panels, explain the benefits of solar, and provide instructions on how to service the system over its lifetime. If maintenance issues occur, ONergy is committed to addressing the issue within 48 hours.

User's Experience:
Since installing solar panels 8 months ago, Khardah Sibnath High School is saving 50% on its electricity bills. The school is able to spend this money on fans, sports programs, computer systems and lunch programs. The principal of the school, Ashish Kumar Roy, is such a fan of the system that he proclaims, "We have already started the rooftop solar energy and we want more! We have 5 kW now generating. We want 25 or 30 kW."

Roy says he has become an advocate of solar installations for other schools, and notices his students have as well. The solar panels are spurring curiosity amongst students at the school, with many asking how exactly the solar panels work, and some building a small model of the system for a class project. Chemistry teacher, Tapan Kumar Manna, states, "Students will develop this on a small scale in their houses. They are familiar with it, we have it here on a large scale. They can install this on a mini scale in their houses. They will do it."

Impact:
- Cut electricity bill from 24,000 Rs. (358 USD) to 12,000 Rs. (179 USD) per month

- Savings go toward developing school and protein in student's lunches
- Students and faculty spreading word about solar energy
- School receives subsidy in return for supplying renewable energy to the grid

Solar Rooftops for Institutions

ONergizing Institutions

Two men fill up at a solar powered petrol pump

Solarizing Petrol Pumps

Overview:

Rooftop installations on petrol pump stations are an emerging application of solar energy in India. Indian Oil station owner Ramdas Mondal made the switch from a diesel generator to solar panels two months ago, and it has benefitted him greatly, decreasing his monthly electricity bill from over 3,000 Rs. (45 USD) to under 400 Rs. (6 USD). The solar panels are a reliable source of energy for the petrol pump station, unlike electricity from the grid which had frequent power cuts.

Background:

Ramdas Mondal has owned an Indian Oil petrol pump station in Durgapur, West Bengal since 1986. Before solar power, running the pump and powering his office cost 3,000-4,000 Rs. (45-60 USD) in electricity bills per month. This made it difficult for the station to maintain its current pumps. In the past, the Mondal family used a diesel

generator to keep their petrol pump station operational due to frequent power cuts and load shedding issues that are a byproduct of receiving energy from the electricity grid. When Indian Oil began promoting the solarization of petrol pumps, the Mondals jumped at the opportunity to switch from a costly, noisy, and environmentally-unfriendly diesel generator to sustainable and cost efficient solar panels. Indian Oil connected the Mondal's with ONergy, who were happy to help install a solar rooftop system on the family's station.

Project:
ONergy installed a 3kW system on the roof of the station's office, which powers two petrol pumps, one diesel pump, and the office. The system has a battery, allowing the station to use energy generated by the solar panels at night. Since installing the solar rooftop system two months back, the monthly electricity bill for the petrol pump has dropped from 3,000-4,000 Rs. (45-60 USD) per month to 300-400 Rs. (4.50-6 USD).

The solar rooftop system does not require frequent maintenance like their diesel generator used to, and on the rare occasion it does, ONergy is quick to provide support. "They are very supportive," Ramdas' son Nurag Mondal said. "When we called the customer care they instantly helped us by repairing it when there was a minor problem."

With a robust and high powered solar rooftop system, the Mondal's only need to use electricity from the grid for small lighting purposes. They plan to use the money they are saving from switching to solar energy to build a better toilet at their station and maintain their petrol, diesel, and air pumps.

Impact:
- Reduced maintenance costs
- Non-polluting energy source
- Paying 10% of previous electricity bill
- Do not a need diesel generator for power cuts

Solarizing Hospitals

Overview:
Many institutions are looking to install solar panels on their roofs to provide power when the electricity grid is unreliable. Hospitals in particular benefit from these installations, as power cuts during surgeries and deliveries can be detrimental to the health of a patient. Dakhin Barasat Nursing Home installed a 75-watt solar rooftop system one year ago that powers eight lights throughout the hospital. The hospital saves 800 Rs. (12 USD) per month that was previously spent on diesel for the backup generator. Reliable lighting in the hospital impacts the lives of its patients and staff on a daily basis.

Background:
In the village of Dakhin Barasat, located just 40km from Kolkata, Dr. Tapas Kumar Saha is the Residential Medical Officer of Dakhin Barasat Nursing Home, a hospital that serves up to 20 patients at a time. Dr. Saha has been a surgeon at the hospital for 30 years, and has dealt with load shedding on the electricity grid throughout his time there. Load shedding creates a real problem in the medical field when light is needed for time-sensitive surgeries.

When the demand for electricity is higher than the generation in a given region, service to certain areas shuts off. Dr. Saha explains the problem, “there are only 8 hours within 24, 8 hours where we can consume the power.” Previously, during power cuts and load shedding the staff at the hospital would have to turn on the back up generator. Using a diesel generator was both time consuming and expensive. Dr. Saha became interested in the prospect of solar lighting because he desired a more cost effective and timely solution during grid failures.

Project:
Dr. Saha heard about the opportunity to install a solar rooftop system from the ONergy regional manager in the area. He purchased a 75-watt system to power eight light bulbs throughout the hospital for 18,000 Rs. (270 USD), with an estimated payback period of roughly 23 months. Each month the hospital saves the 800 Rs. (12 USD) that it previously spent on diesel for the backup generator.

Savings on diesel are now put towards development of the hospital. In contrast to the generator that took time to start up during power cuts, solar lighting is much more convenient and effective for the hospital because the lights turn on immediately. During surgeries, immediate lighting makes a huge difference for Dr. Saha. Dakhin Barasat Nursing Home is the first and only hospital in the region with solar, and has sparked interest amongst others in the area. In the future, Dr. Saha hopes to install solar street lights to light up the area surrounding the hospital.

Impact:

- 20+ patients impacted daily
- Immediate backup lighting during surgeries
- More effective and convenient than a diesel generator
- Savings of 800 Rs. (12 USD) per month
- Renewable and non-polluting energy source

Microfinance Partnerships

ONergizing Base of the Pyramid Communities

An ONergy employee demonstrates how to use the ovBeacon to a joint liability group in Odissa

Overview:

ONergy and Adhikar Microfinance are impacting 496 households in the Malkangiri district of western Odisha by offering financing to purchase solar lanterns. This partnership allows ONergy to reach impoverished people with a household income of 10,000 Rs. (149 USD) per month. Villagers were previously spending 80-120 Rs. (1.20-1.80 USD) per month on kerosene and poor quality Chinese flashlights to get light during power cuts. They are now using their new ovBeacon multipurpose solar lanterns to light various activities in the evenings ranging from garment sewing to mobile charging. As ONergy continues to reach more of the 3,000 households Adhikar serves, its impact in Malkangiri will continue to grow.

Background:

The Malkangiri district of western Odisha is a challenging place for businesses and NGOs to work due to its rural location and complex social identity. Because its citizens have an average household income of only 10,000 Rs. (149 USD) per month, they are

unable to get loans from banks and lack disposable income. Malkangiri is hard to reach, as it is 87 km from the nearest train station. It is also difficult for outsiders to communicate with the citizens in Malkangiri due to the district's strong cultural local identity. Its communities each have their own tribal cultures and traditions, and many villages speak unique languages or local variations of Oriya. These barriers prevent many businesses from working in the district due to the difficulties they have both reaching the area and interacting with those inhabiting it.

Malkangiri is connected to the electrical grid in spite of its remote location. However, residents complain that power cuts are extremely frequent due to load shedding. This led them to seek out various alternative sources for lighting during the evening, such as cheap Chinese flashlights or kerosene. Each household spent 80-120 Rs. (1.20-1.80 USD) per month on secondary energy sources.

The quality of this lighting was poor, causing children difficulties when studying and damaging their eyes. The kerosene polluted the air when used within the household and the low quality Chinese lights broke frequently. Community members were frustrated with these options, but were left with little choice, until recently when ONergy introduced its ovBeacon multipurpose lantern to villagers in this area. The lantern can be handheld or hung on the wall, depending on the need of the user. The ovBeacon is also extremely durable, which is important to the people of the area because they've faced problems with cheap, breakable products in the past.

Project:
ONergy's ability to reach such districts sets it apart from other solar companies. ONergy simplifies the process as much as possible by utilizing local partners. As ONergy's COO and cofounder, Vinay Jaju puts it, "we do not want to reinvent the wheel. " ONergy leverages various partners' existing relationships to reach out to potential customers and establish credibility. This allows the company to reach those who need its products most without exorbitant scaling costs.

Adhikar Microfinance and ONergy have been partners for several years in Odisha and recently extended this relationship to the MFI's Malkangiri branch. ONergy did not previously have a presence in this district, but Adhikar Microfinance has been successfully operating in it for over eight years. Adhikar works frequently with joint

liability groups (JLGs), which serve the purpose of empowering women, aggregating demand, and mitigating risk.

Joint liability groups help people too poor to have access to financial markets get financing. They do this by grouping women to take out loans together, mitigating the risk of default for both the women and the bank. These groups of women are then held responsible as a group for their monthly payments. JLGs meet weekly or monthly with a representative of the MFI in order to ensure payment. Women in JLGs receive much lower interest rates from MFIs than they might from a typical moneylender.

The joint liability groups Adhikar works with are composed of various women within a village. Members must come from households with less than 1 lakh (100,000) Rs. (1500 USD) of assets and under 5,000 Rs. (75 USD) per month of income when the group is formed, though they may exceed these as their groups age. Loans from this particular branch can total between 15,000 and 30,000 Rs. (225-450 USD) per woman in the group at a rate of 26% reducing interest. Loans are offered with payback periods ranging from 12-24 months. On an 18 month, 30,000-rupee loan, the equated monthly installment (EMI) for women is 2,031 Rs. (30 USD). Adhikar's Malkangiri branch reaches over 3,000 women in the area through these JLGs. This large number of households presented a platform for ONergy to test demand for a small solar product in the area before potentially introducing larger products.

Many of these customers would not be able to purchase ONergy's products without such financing options. The up-front investment is daunting and families in the area live month to month. By providing financing, ONergy helps its customers purchase a superior energy solution with monthly payments that are similar or lower than what they previously paid for kerosene or other lamps.

Outcome:
After several demonstrations to area JLGs, both ONergy and Adhikar were in agreement that there was sufficient demand for the MFI to begin selling ONergy's multipurpose lantern, the ovBeacon, directly to loan recipients. While the ovBeacon is a relatively inexpensive product that costs only 2,780 Rs (42 USD), it represents a significant investment to villagers in the district. Still, households in the community seemed eager to take advantage of the opportunity.

ONergy and Adhikar sold 496 ovBeacons in the three months that they have been marketing it in Malkangiri. ONergy is saved the added expense of hiring salesmen, though it still adheres to its goal of addressing maintenance issues within two days of notification from a customer. This is an easy promise to keep for the most part, as one of the added benefits of the ovBeacon is that it is nearly indestructible. Because the women are working with a known partner, there are no complications regarding a point of contact, as the women can simply get in contact with Adhikar who will then notify ONergy if there is any issue. The women in the area love this system, pointing to the ease of receiving a loan due to their previously existing relationship with Adhikar.

Customers are already noting that the ovBeacon has made an impact in their households during the evenings. Women pointed to various benefits, such as improved vision when cooking and the ability to spot dangerous reptiles and insects when they entered their home. Several saw economic benefits, using the higher quality light at night to sew fishing nets or garments. One woman states, “After installing a solar light my children can study and we can do tailoring work at night and we are also cooking. Now if there is a power cut, it won't create any inconvenience for me. After 8:00 P.M. there is not power, so at that time we use the solar light.” Nearly all of them cited increased opportunities for their children to study as an important benefit, with hopes that this may lead to increased job prospects and offer their family financial security in the future. Many are so excited by the quality of ovBeacon that they are already eager to purchase a bigger system from ONergy as soon as it becomes available.

Impact:

- Impacted 496 households in three months
- Accessed base of the pyramid markets (10,000 Rs. monthly income)
- Increased availability and quality of work hours
- Increased study hours for children
- Increased safety in and around the household

Works Cited

Photo Credits:

Page 2: Carson Whisler/Santa Clara University

Page 5: Carson Whisler/Santa Clara University

Page 9: Carson Whisler/Santa Clara University

Page 13: Erika Francks/Santa Clara University

Page 19: Carson Whisler/Santa Clara University