



Developing ripples of sustainability through community water projects

Spring 2018 Newsletter

News on Trailblazer Foundation's activities during the past quarter

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(Cover Photo of Bio-Sand Water Filter)

A Word from the Executive Director

Hello Trailblazer Supporters,

With World Water Day (on March 22) this week, I have found myself focusing on the importance of clean, healthy water for everyone.



Clean water is crucial for all life and is the prime reason Trailblazer Foundation focuses – first and foremost - on providing clean water. During the past 14 years, with your help, we have provided access to clean, healthy water to tens of thousands of rural villagers in Cambodia. We have accomplished this by distributing wells and biosand water filters. These activities are at the core of our Health program, the first step of Trailblazer’s interconnected strategy to help our rural partners progress from survival to sustainability.

In this newsletter, I will describe the interconnectedness of our comprehensive rural community development strategy and how it works. As Trailblazer has witnessed time and again, when people have access to clean water, other development naturally occurs. When villagers can get clean water from their water filter, they are healthier and have more energy. Adults are better able to work, and children can attend school. Additionally, when villagers have a well, they can establish bigger homestead gardens, which provide them with better nutrition. Better health and more productive gardens means rural villagers can obtain better “food security.” This is the second program in our four program strategy.

Through our Food Security program, Trailblazer provides agricultural trainings to our villager partners. By focusing on better soil management, growing organically, and horticulture, we teach them how to grow more crops, and different crops. With this new found knowledge, rural families often grow more food than they need. This surplus food can be sold, thus enabling the villagers to earn an income. This is how our Food Security program leads, in part, to our Economic Development program.

Trailblazer also addresses the issue of generational poverty through our Education program, where we work to build a new school each year. As is explained elsewhere in this newsletter, in 2018, we hope to construct new school buildings in two rural villages. Coupled with our Health, Food Security and Economic Development programs, we believe our Education program means the next generation of rural Cambodians will have a better life than their parents – a desire common amongst all parents.

And it all starts with water, which is why as we approach World Water Day, I want to again thank you for your support. Our passion for improving health conditions and reducing poverty for our rural village partners cannot happen without your support. On behalf of the staff and Board, I am grateful for the gifts we receive from our donors, which we will use in 2018 to transform the lives of even more people in rural Cambodia.

Kind Regards,

A handwritten signature in blue ink that reads "Chris Coats".

Chris Coats

Co-Founder and Executive Director

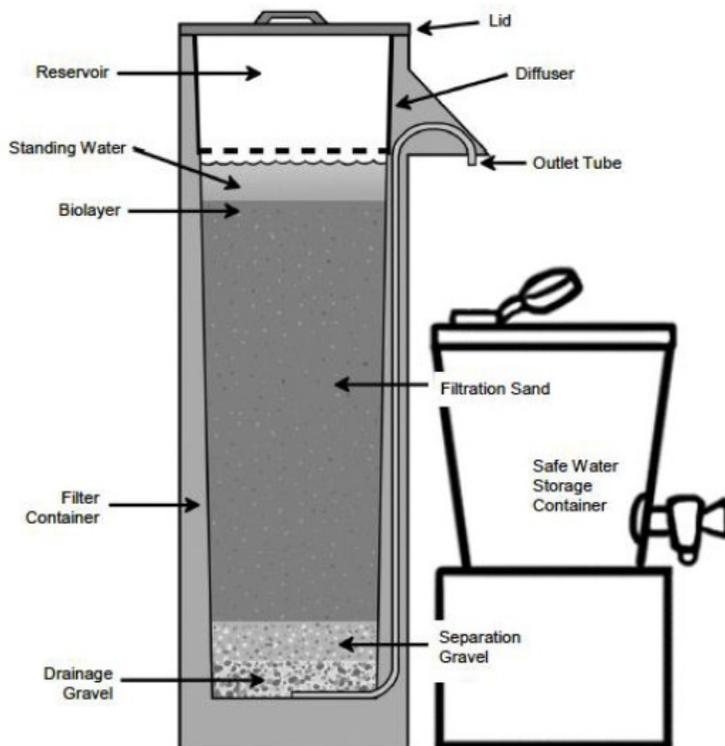
Health Program

Just How Does the Bio-sand Water Filter Work?

The construction, operation, and maintenance of the bio-sand water filter are simple. Water is simply poured into the reservoir and, due to gravity, the water flows down through the filtration media of sand and gravel, and comes up and out the spout. The construction takes seven days, from making and curing the concrete filter, to being ready to deliver to a rural family. The bio-sand filters Trailblazer constructs have no moving parts, which make them durable and easy for families to use. There are three major steps in the process: making the concrete filter, preparing the filtration media, and delivering and installing the filter in a rural village.

The first step is to make the actual filter, which is done by pouring concrete into a mold. After one day to allow for the concrete to set up, the filter can be removed from the mold. Then the filter is filled with water to cure the concrete, to keep the filter from cracking and leaking. The next step is preparing the filtration media. What may seem simple and mundane - sifting and cleaning the sand and gravels to be used - is actually the most important part of the process. It is critical to ensuring the water is filtered properly. This is where the science becomes magic. The sand and two sizes of gravel (1/2 inch and 1/4 inch) are sifted to the proper standard and washed to remove excess clay and any organic matter, such as leaves, that could create bacteria.

This year, Trailblazer plans to deliver 450 more water filters. If 2017 was any indication, the chances are very good we will exceed that goal. With an average family size of five people in rural Cambodia, this means Trailblazer will provide more than 2,300 villagers with water that won't make them sick. And that is something to both support, and celebrate.



So, how does this magic work? A "biolayer" forms on the top of the sand and is what removes bad bacteria from the water. Tests have shown that our filters remove 90-99% of all biological pathogens from the water. The sand inactivates and removes pathogens through biological, chemical and physical processes within the sand and gravel column. This is done by means of bacteria predation, adsorption, natural death, and mechanical trapping, as described in the illustration. The diffuser plate protects the biolayer from disruption when pouring water into the reservoir.

Please visit our website for more information about our Health Program:

<https://www.thetrailblazerfoundation.org/our-health-1.html>

Food Security Program

The Nature of Our Work

Lack of reliable access to a sufficient quantity of affordable, nutritious food is an ongoing concern for many people living in the rural villages of Cambodia. To highlight how prevalent a lack of food security is around the globe, the second goal of the United Nations' Sustainable Development Goals is: "End hunger, achieve food security and improved nutrition and promote sustainable agriculture." Given how high a priority the United Nations places on this community development strategy, Trailblazer's second program is titled just that - Food Security.

We chose to have a food security program in Siem Reap province, where we focus our work, because both the Cambodian government and the World Food Program have identified this province as one of two in the country with the greatest level of food-insecurity. The percentage of children under five years old in Siem Reap who exhibit stunted growth rates is greater than the Cambodian national average.

As Chris Coats mentioned in her opening Executive Director letter, our Food Security program feeds off of our health program, where we provide rural villagers with not only healthy water (through our filters), but abundant water (from our wells). To complement the advantage our wells provide in addressing food security, Trailblazer also provides agricultural trainings to our villager partners.

Specifically, Trailblazer is working with local farmers to increase both their crop yields, and the diversity of crops they grow. For 2018, we have combined our various agricultural trainings in horticulture, soil management, composting, earthworms, and organic pesticides and fertilizers into one comprehensive Homestead Garden training, which focuses on the basics of growing crops for personal/family consumption. The primary goal of these trainings is to foster healthy families and a sufficient year-round food supply.



Better yet, we are promoting best management practices for agriculture, by training our rural village partners on growing organically, and more recently by using permaculture techniques. Recently, our intern in Cambodia, Sharlee Hughes, took four farmers on a tour of a nearby farm to learn about companion planting. They learned about the concept of permaculture and how they can implement those practices at their own farms. You can read about this tour in the article about our Economic Development program (page 7), and you can read about our intern Sharlee on page 8.

Teaching our rural partner villagers about the leading techniques for small-scale farming allows them to become more food secure. Better yet, once a family is self-sufficient with its garden, villagers can begin to consider earning some income from selling their excess crops. This is how our Food Security program supports, and becomes connected to, our Economic Development program.

Please visit our website for more information about our Food Security Program:
<https://www.thetrailblazerfoundation.org/food-security.html>

Education Program

Not One, But Two Schools on the Construction Agenda

You may recall, last year we had to postpone our school construction project due to lack of funding. We are pleased to report that we have secured the funding and strong commitments for funding for not one, but two school construction projects for Trailblazer's Education program. This is great news, as each school will be built to have six classrooms, which can accommodate 480 children (40 students per classroom, with two sessions a day) per school.

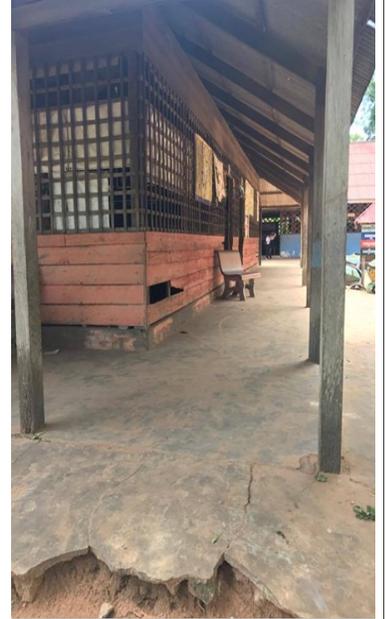
Funding for these schools will come from a variety of sources. These school buildings will be funded by two past donors, and three new donors. The past donors include: Four Girls For Families (a funding program started by four young girls), and the British Schools Foundation, which have donated \$15,000 and \$20,000, respectively.

The first of our new donors is INTO Giving, an international university studies program that gave a \$10,000 grant. The second new donor is the Soroptimists of Jackson Hole, Wyoming granting \$5,175.00. The third donor is a private citizen, who is for Trailblazer an angel donor, who came to us through Abercrombie and Kent Philanthropy (which has been funding our Health Program for a few years now).

We are honored that these donors care and are committed to generously supporting the education of rural students in Siem Reap Province, Cambodia.

The first project will be a new primary school building in Beng village, , one of three villages that requested the new school building. The new building was requested by the community leaders of these three villages, whose children travel to the existing school in Beng village. The new six-room concrete school building (per Cambodian standards) will replace two dilapidated, and therefore unsafe, wooden buildings. Before 2000, when the existing wooden structure was built, the students studied at a "school" that only consisted only a roof (with no walls). Additionally, because the number of students has increased since 2002, one of the two kindergarten classes is held under a tree.

The current student population is 238 students (grades K through 6), of which 112 are girls. With a new school, it is estimated that 25 new students will attend the school each year. These new students would be incoming kindergarteners.



Beng current wooden building, to be replaced



Tapang current wooden building, to be replaced

The second project will be a primary school building in Tapang Village. The new two-story six-room concrete building will replace another wooden building that is used by students from five nearby villages. The new concrete building will accompany another six-room concrete building, which continues to safely service the student population. The current student population is 472 students (grades K through 6), of which 101 are girls. Leaders from the five villages estimate that the new school building will accommodate an increase of 70 to 80 pupils annually.

Please visit our website for more information about our Education Program:
<https://www.thetrailblazerfoundation.org/education.html>

Economic Development Program

Farmer's Continued Training Experiences

In 2017, we launched a Farmers Community Group pilot project, designed to support village farmers as they grew crops to sell at higher end markets in nearby Siem Reap City. As we mentioned in our previous newsletter, the initial excitement of our participant farmers waned when they realized how much work it would take to grow the types of crops that would sell in “the city,” and to grow them organically (which is what the market called for).



Given that many of the farmers who signed onto this community group already had large gardens (one of the reasons they were able to think about growing enough crops to meet the demand), they found it too difficult to afford the organic fertilizer it would take to grow organic crops. Another reason enthusiasm waned was that some farmers didn't want to diversify their crops (realizing they preferred to just grow for their families). However, four farmers remained enthusiastic about growing crops that met the demand, and these farmers make up the new core of our Farmers Community Group project.

These four farmers will continue to receive Trailblazer's agriculture trainings, knowledge that has already helped them think about how to increase yields and farm on a larger scale. Through these “business development” trainings, they now know how to install drip irrigation (which saves time and water), and use plastic mulch (which decreases weeds), and other beneficial agricultural practices.

Recently, Trailblazer took these four farmers to a workshop hosted by FarmEd branch of an international organization called, Project Everest. There, our core community farmers saw crops such as corn, winter melon, different lettuces, cucumber, onion, and garlic being grown – all of which were new to our farmers. As well, our core four saw how they could grow various types of plants, such as marigolds, that act as natural deterrents to insect pests. This type of “companion planting” was totally new to our farmers. After the tour, the farmers had a two-hour class that further detailed the practice of companion planting, and how to implement these practices on their own farms.

The best news of all about this tour, and our core four, is that within a week of this visit, some of our farmers had already begun implementing these practices! That bodes well for the future of our *Farmers Community Group project*.



Please visit our website for more information about our Economic Development Program:
<https://www.thetrailblazerfoundation.org/economic-development.html>

Intern Highlight

Why Interns Play an Important Role in Our Work

Sharlee Hughes had come to us through Portland State University (Oregon), and the Oregon IE3 Global International Internship program. She has a Bachelor of Science degree in Geography and Sustainable Urban Development, and is shared what she learned from her international relevant coursework.



Sharlee worked closely with Chanto, the Food Security program manager of our in-country affiliate, Trailblazer Angkor, as well as with the Farmer's Community Group that was launched last year. With Sharlee's support, Chanto and the farmers enhanced relationships with local businesses and organizations that support Trailblazer's Farmer's Community Group project, and our efforts to get the organic produce into the city.

Also, leveraging the growing global movement of people wanting to be more aware of where their food comes from, Sharlee created fliers to showcase Trailblazer's farmers, as well as their produce. These fliers are being distributed to restaurants, bars and markets in Siem Reap City, thereby making it easier for people in the city to learn about options for obtaining organic produce, and to connect with the farmers who have that healthy produce (without having to go to the village to find it).

Sharlee worked to improve Trailblazer Foundation's social media outreach, so we can expand our public profile. Specifically, Sharlee took pictures of her time in the field, and shared her story and photos with Trailblazer's online audiences to show what we are doing every day to better the lives of rural villagers in Siem Reap Province.

Please visit our website for more information about our Volunteers/Visitors page:
<https://www.thetrailblazerfoundation.org/volunteers--visitors.html>

Other News

Join Trailblazer's Chris Coats for Six Days of Learning and Adventure in Cambodia

We hope you will join us for Trailblazer's first-ever organized trip to Cambodia, hosted by Chris Coats with logistical support from Friendly Planet Travel. Chris looks forward to sharing her personal and professional knowledge of Siem Reap, Angkor Wat, and the surrounding rural communities with you. In addition to visiting Angkor Wat and Tonle Sap Lake, during this six day tour you will also meet and talk with Trailblazer's Cambodian staff and some of our partners in the field. This is a great opportunity for you to experience, first hand, Trailblazer's work and impact in Cambodia.

This trip of a lifetime is priced at \$800 plus airfare, which includes a small donation to Trailblazer Foundation. More details about this adventure are provided below. For more information about the tour and how to book your ticket, please contact Chris Coats at Chris@theTrailblazerFoundation.org or (307) 399-2192.

Should you want to visit other places in southeast Asia, Friendly Planet Travel can help you book tours elsewhere in Cambodia and Vietnam before and after your time in Siem Reap.

International airfare:

This is estimated at a cost of US\$1100 per person round trip from Los Angeles to Siem Reap. Friendly Planet can assist passengers with domestic flights from other gateways in the USA at a supplemental cost.

Siem Reap, September 14-20 2018

Per person sharing a double room, Sakmut Boutique Hotel: US\$800.

Rates include the following services:

- Arrival and departure transfers
- 6 nights accommodations with breakfast
- Transportation to and from Trailblazer sites
- Half day tour to Tonle Sap with lunch at local home, vehicle and guide
- Half day tour(s) to Angkor Wat with vehicle and guide
- Phare circus tickets
- 1 week Angkor Wat pass

Rates do not include:

- Airfare, international or domestic
- Visa for Cambodia
- Meals not mentioned
- Tips and gratuities

For more information about this personalized tour with Trailblazer co-founder Chris Coats, visit our website:

<https://www.thetrailblazerfoundation.org/tour-cambodia.html>

Additional Tour Options Through Friendly Planet Travel:

- Phnom Penh Pre-Tour: September 12-14
- Taste of Vietnam Post-Tour: September 19 or 20 departure from Siem Reap, arrives in Ho Chi Minh City on September 20 (for more information, visit: <https://www.friendlyplanet.com/vacation-packages/taste-of-vietnam.html>)

The Final Word!

Photos of the bio-sand water filter mold, construction in process, and preparation of filtration media.





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