

## **WEFTA-Panama Trip Report**

### **Prelude:**

We met with Peace Corps (PC) for dinner on Monday night to kick the trip off and discuss the relationship between PC and WL. The key issue discussed (in my opinion) during dinner was sustainability. Hinging on this topic is how PC provides follow-up to projects and the project legacy of PCVs in communities, as well as how WL/WEFTA intends to follow-up with communities post-construction. They are very interested in the circuit rider methodology and curious about other locations where the method is in action. More discussion is needed to determine the next phase of the circuit rider position imbedded in the PC Response program in Panama.

We had a great trip supported by the PC. It is a bonus to have the support of PC: they set up the itinerary for the first week, they contact the PCVs to let them know of our arrival, they drive us to the PCV community, they set up our lodging and they engage in good conversation about the status of projects, PCVs, PC in Panama and the WASH program. One of the main topics of discussion was the transition of the WASH program out of water infrastructure improvement to a more education and capacity development-based program, and the transition of Waterlines support to WEFTA support. My reflection on the EH/WASH program is that only ~30% of the PCVs ever take on a true water project, and I believe that a WASH program still needs to train PCVs on how to repair or renovate a water system even if they are not going to design and build a new one. The majority of communities where WASH PCVs are placed to provide education and capacity development have a water system or some way for the community to access water supply – those systems always need O&M/renovation/expansion.

This transition is opportune for the sunset of Waterlines and the sunrise of WEFTA. In the past Waterlines has provided technical assistance and funding support to PCV driven gravity flow water projects. This assistance has been an important component of the overall WASH program (formerly known as the Environmental Health program). By providing the technical assistance and funding Waterlines was a participant and supporter of the development of a PC program that trained PCVs in water committee formation/development, and gravity flow water system design and construction. Waterlines was an integral partner in the PC program and contributed to the PCVs overall service not to mention the improvement of potable water access to more than 85 rural/indigenous communities.

Now with the new role of WEFTA as a partner with PC Panama, the opportunity is to continue providing technical assistance (in the form of water system design/construction peer review) and post-construction follow-up with PCVs in the field. Without the funding arm of Waterlines, the overall number of water system development projects for PC in Panama will decline. But there will be a continued need to assist PC with the few self-funded (PCVs will still have access to the PC Partnership Program where they can solicit funds from anyone on the internet) or MINSA/local sponsor supported water projects that PCVs help facilitate in their host communities. With more than 187 Waterlines supported projects in Panama there is a need to continue support of these projects/communities by simple visits and follow-up. The Peace Corps is a valuable partner in providing this follow-up by way of a circuit rider program or PCVs that work in the same geographic area of these projects.

**Visits:****Date: Tuesday, January 8<sup>th</sup>, 2019****Location: Guayabo, Coclé (Penonomé District)****Service Population: 42 people/13 homes**

<b>Project Details:</b>	
Spring source	3 springs – dry season 28 gallons/person/day, wet season 189 gpcd – will be a low-profile spring-box construction
Transmission Line	1.4 miles with stream crossing
Storage Tank	660-gallon plastic tank and 120-gallon plastic tank in series (small tank will supply houses directly around the tank site)
Distribution	3,215 feet of pipe with 13 connections including school and church.
<b>Project Cost:</b>	
WL contribution	\$4,906.08
Community contribution	\$4,045.00 (labor & tools)
TOTAL	\$8,951.08
Beneficiary	\$213

**Summary:**

WL team arrived before noon for a water committee meeting with the PCV. The project is funded. They are now starting to plan for materials transport and work groups. 12 community and committee members attended the meeting. We discussed the importance of the project, the PCV contribution and water committee role in putting the WaterSTAR plan into motion. The project will serve 13 homes that were kept out of the last water project (MINSa) because of their high elevation in the community. A new spring source was found/donated to supply the 13 homes. The PCV and water committee identified a day in the coming week to plan out the project steps. The spring is a considerable distance from the community (1.4 miles) with almost 427 feet of elevation drop and gain (there is a large valley between the spring and tank) with 43 feet of head, the PCV has designed this transmission line well on paper but is a little worried about the overall elevation. The PCV seems well integrated and eager to start the project. The community is also mobilized to take this project on in the coming months.

**Follow-up:**

It will be important to return to the community next year to see how the project has progressed, how the transmission line worked out, and how well the water committee is managing the O&M of the new system.

**Date: Wednesday, January 9<sup>th</sup>, 2019****Location: Las Trancas, CNB (Muna District)****Service Population: 223 people/33 homes**

<b>Project Details:</b>	
Spring source	1 spring – dry season 5.5 gallons/person/day, wet season 139 gpcd – existing low-profile spring-box construction
Transmission Line	1,053 feet
Storage Tank	4,500-gallon block tank
Distribution	4,501 feet of pipe with 33 household connections
<b>Project Cost:</b>	
WL contribution	\$5,000.00
Community contribution	\$7,005.60 (labor & tools)
MINSa contribution	\$1,797.10 (materials)

TOTAL	\$13,803
Beneficiary	\$62

Summary:

WL team arrived before noon for an informal meeting with the PCV and some of the water committee members (10 total community members in attendance). The project is funded. We hiked up to the spring box, hiked down along the transmission line to the tank site, down through the community to the last house in the system, then looked at the school. Materials were on site to begin construction of the storage tank (4,500 gallons). The rest of the system, for the most part, was complete. The transmission line will be buried once the inlet to the tank is set. The distribution system is in place and just needs to be buried once the service connections are completed. All of this work is planned to be completed during the dry season/in the coming months. The driest months (April and May) will be the true challenge for this community. They had an extremely dry year last year and the spring only gave 1,217 gallons per day during the month of May. During the wet months the spring flows well over 30,000 gallons per day. The PCV plans to put in flow reducers in the service lines to make faucet flows more equitable and develop a conservation plan to ensure everyone gets equal amounts of water during the driest months.

Follow-up: It will be important to return to the community next year to see how the project has progressed and how well the water committee is managing the O&M of the new system and the conservation plan for the dry season.

**Date: Wednesday, January 9<sup>th</sup>, 2019**

**Location: Alto Estrella, CNB (Muna District)**

**Service Population: 308 people/47 homes**

<b>Project Details:</b>	
Spring source	1 spring – dry season 88 gallons/person/day, wet season 100 gpcd – low profile spring-box construction
Transmission Line	528 feet
Storage Tank	3,500-gallon block tank
Distribution	3.3 miles of pipe with 47 household connections
<b>Project Cost:</b>	
WL contribution	\$5,000.00
Other PCPP funds	\$2,010.46
Local Political Rep	\$1,000.00 (materials)
MINSA contribution	\$398.65 (transportation)
Community contribution	\$1,175 (\$25/house connection fee)
Community contribution	\$10,829.35 (labor & tools)
TOTAL	\$20,413.46
Beneficiary	\$66

Summary:

WL team arrived in the afternoon and met with the PCV and two water committee members. This project is funded. We discussed the project with the PCV and the water committee members then walked to the spring site and new tank site. The community already gathered funds to build the spring catchment through their household connection fee (Note that a lot more people in the CNB have cash flow as the Red de Oportunidades (Panama welfare system) has given more impoverished people stipends). Some comments were made to the PCV about the design and how to improve the construction. Difficult to criticize the spring design when they were able to bring community funding to the project and get the spring catchment and protection initiated. We discussed how to protect the watershed as well – which in their case will require fencing the spring area to keep

people and cattle out, cutting down trees that cause root problems in the spring box and planting other vegetation to protect the area from run-off. We then walked down to the tank site. The area was cleared of vegetation and material was stockpiled nearby. They will begin to level the area and start building the tank in the next few weeks. The community begins right after the tank site and continues down around a large mountain. The distribution system is complex with multiple pressure zones and branch lines – there will be considerable work ahead to get the tank built and the distribution system completed and buried. The project is impressive with the multiple funding entities and community mobilization. The PCV seemed well integrated and knowledgeable on gravity flow water system construction.

Follow-up: Tim will follow up with the PC program manager and team with improvements to the current low-profile spring catchment design. A post-construction visit next year is a good idea to see the actual tank, distribution system and recommended spring catchment improvements.

**Date: Thursday, January 10<sup>th</sup>, 2019**

**Location: Quebrada Pava, CNB (Mirono District)**

**Population: 192 people/31 homes**

<b>Project Details:</b>	
Spring source	2 springs – dry season 16 gallons/person/day, wet season 28 gpcd – will be low profile spring-box construction
Transmission line	2 systems: A- 164 feet, B – 214 feet
Storage Tank	2 tanks: A-2,160 - gallon block tank, B – 450-gallon plastic tanks
Distribution	2 systems: A-6,233 feet with 19 shared tap stands, B- 820 feet of pipe with 5 shared tap stands
<b>Project Cost:</b>	
WL contribution	\$5,000.00
Other PCPP funds	\$2,102.04
Community contribution	\$3,750.00 (labor & meals)
TOTAL	\$10,852.04
Beneficiary	\$57

#### Summary:

We met the PCV and Nicholas in San Felix, then had breakfast before driving up to Quebrada Pava. During breakfast we were able to hear more about the project and status of the work groups. The PCV indicated that the work groups had started to dig the trenches for the lower water system. And when we arrived, we would be able to see much of the planned systems and visit with the work groups. We were able to drive all the way into the community on a newly cut road that extends up from the entrance to Cerro Piedra. Quebrada Pava is made up of two sub-communities and thus will be served by two distinct water systems. The upper community will be made up of 19 tap stands and the lower community will be made up of 5 tap stands, together they will serve 192 people. Not every house will have their own faucet, instead two houses (typically owned by the same family) will share a common tap. Each system will have its own source and tank. Both sources are very low flow during the dry season, so we talked to the PCV about the importance of the flow reducers and a conservation plan to ensure that everyone received equal amounts of water during the dry season. They do have the small creek to rely on for bathing and clothes washing during the dry months. During the wet season there will be adequate supply. We visited both springs and tank sites and spent some time with the work group in the lower community who were busy digging trench for the distribution system. They opted to work on the smaller system first to ensure that it was complete before the majority of workers would be working on the distribution system for their own houses. We were all impressed by the work ethic and progress made in the first day of digging trench.



Follow-up:

Nicholas will work with the PCV on the construction of the low-profile spring catchments for both communities. It was clear that the PCV was not comfortable with building the boxes. Tim will follow-up with the PCV and Nicholas to ensure that this partnership actually happens. It will be important to return to the community next year to see how the project has progressed and talk more about the conservation plan and dry season spring flow.

**Date: Thursday, January 10<sup>th</sup>, 2019**

**Location: Cerro Puerco, CNB (Muna District)**

**Population: n/a**

**PCV Name: None**

Summary: Robert and Nicholas visited with the water committee in Cerro Puerco while Corina, Leo and Tim visited with the PCV in Cerro Ortiga. The issue of the leaking storage tank was the subject of the meeting. Robert and Nicholas had the water committee fill out a WL solicitation form.

Follow-up:

It is possible to work with PC to have a volunteer in the area follow-up with the committee and solve the leaking tank issue.

**Date: Thursday, January 10<sup>th</sup>, 2019**

**Location: Cerro Ortiga 1, CNB (Muna District) – subsector of Cerro Ortiga**

**Service Population: 115 people/16 homes**

<b>Project Details:</b>	
Spring source	1 protected spring – dry season 43 gallons/person/day, wet season 130 gpcd – low profile spring-box construction
Transmission line	2,447 feet
Storage Tank	5,050-gallon block tank
Distribution	Completed with MINSA material donation
<b>Project Cost:</b>	
WL contribution	\$4,515.55
Community contribution	\$4,055.00 (labor & meals)
TOTAL	\$8569.02
Beneficiary	\$74 (* does not include the value of the distribution system)

Summary:

There have been other WL supported projects in Cerro Ortiga (C. Ortiga II and Mandabiti) The WL team visited Cerro Ortiga II in 2018. The spring catchment in Cerro Ortiga I was already constructed by the previous PCV that worked in the community of Mandabiti She had funds left over from her project there and was able to protect the spring. With the construction of the spring catchment MINSA was able to provide a 500-gallon plastic tank and distribution piping.

We arrived in the community in the early afternoon, Nicholas and Robert were attending a water committee meeting in Cerro Puerco. We visited with the PCV (who was headed out of his community to the hospital with what he thought was Dengue) and discussed the project status. Next, we spoke with the water committee president and the PCV and heard their plans to start construction on the new tank and install the new

transmission line. We walked to the old tank site and the new tank site but did not have enough time to visit the spring (it was visited in 2018 by the WL team). This project should move pretty quickly once the PCV is healthy. Both the president and PCV agreed that the beneficiaries were ready to work once the materials were delivered.

Follow-up:

It would be prudent to visit all of the Cerro Ortiga area to provide follow-up on all three projects and talk with the water committees of all three to see what kind of sharing can go on (knowledge, resources...). Given that the PCV was under the weather it was a challenge to read whether he was truly invested in the project. Tim will follow up to see how the project is progressing.

**Date: Friday, January 11<sup>th</sup>, 2019**

**Location: Cerro Miel Abajo, CNB (Muna District)**

**Service Population: 106 people/14 homes**

<b>Project Details:</b>	
Spring source	1 spring – dry season 88 gallons/person/day, wet season 185 gpcd – low profile spring-box construction
Transmission line	6,233 feet
Storage Tank	3,500-gallon ferrocement tank
Distribution	2,230 feet
<b>Project Cost:</b>	
WL contribution	\$5,000
Community contribution	\$5,548.50 (labor & meals)
TOTAL	\$10,548.50
Beneficiary	\$100

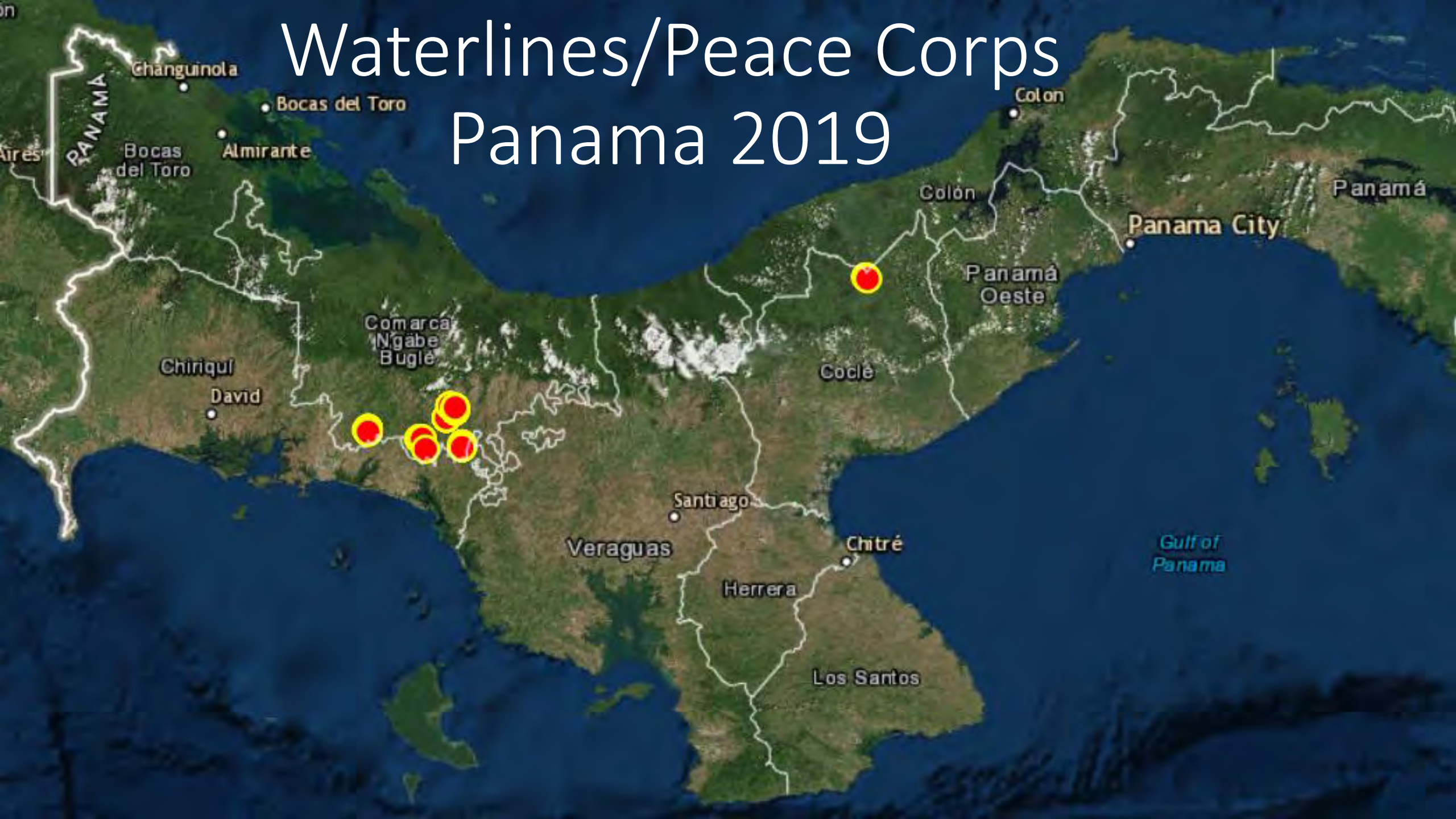
Summary:

We drove all the way up into parts of the CNB I never imagined would see a road or electricity, we could practically reach out and touch Pena Blanca to our left. We met the PCV and her water committee president in her small sub-community of Cerro Miel, then started our walk to the community of Cerro Miel Abajo. Most of the men in the community were picking coffee in Costa Rica so we had a short conversation with a few of the older men and the women of the village. They were happy with the water flow in the household taps and had already been through the dry season with the new system with success. They were content with their new system. A few of the water committee members were able to accompany us up to the spring catchment site. We hiked the transmission line up to the spring and saw a few of the air release valves and washouts. The spring has great flow, but we again had to provide some direction on improving the catchment cleanout and overflow, transmission line air intake and watershed protection. The water committee members present were interested in the improvement discussion and have the materials to make the changes. The watershed protection component is always a little bit harder to swallow – it means cutting existing trees and planting better trees that won't affect the spring box. We walked out of the spring area along open ridges with amazing view to the Cordillera Central, the Gulf of Chiriquí and the Azuero Peninsula.

Follow-up:

The current PCV was only four months into service so she was less involved/integrated into the community. As well, Cerro Miel Abajo is not her host community. She will be focusing on other projects in her host community that more than likely will not include a water project. It is recommended to go back to Cerro Miel Abajo in a few years to check-in, for now this community and the water system are doing well.

# Waterlines/Peace Corps Panama 2019







Panama City





Guayabo, Coclé – Upper community and school





Guayabo, Coclé - View to S of spring watershed





Guayabo, Coclé - View to N of community





Guayabo, Coclé – Robert with kids





Las Trancas, CNB - community





Las Trancas, CNB - View to S of spring location





Las Trancas, CNB - Robert investigating spring box





Las Trancas, CNB – Walking the transmission line





Alto Estrella, CNB - new tank site conversation





Alto Estrella, CNB - transmission line





Alto Estrella, CNB – laundry washing spring





Alto Estrella, CNB - self funded spring box





Alto Estrella, CNB - kiddo





Quebrada Pava, CNB - community





Quebrada Pava, CNB — medi-chi





Quebrada Pava, CNB - spring 2 trail with old water line





Quebrada Pava, CNB - lower community tank site





Quebrada Pava, CNB - tank site and materials





Quebrada Pava, CNB - distribution trench





Quebrada Pava, CNB - kiddos





Cerro Ortiga, CNB - view to spring watershed





Cerro Ortiga, CNB - old tank site





Cerro Ortiga, CNB - new tank site waiting on material





Cerro Puerco, CNB





Cerro Puerco, CNB - leaking tank





Cerro Miel, CNB - view to N of continental divide





Cerro Miel, CNB - view to S of Pacific





Cerro Miel, CNB – road work





Cerro Miel Abajo, CNB - view of tank site (mid photo)





Cerro Miel Abajo, CNB – traditional Ngabe houses





Cerro Miel Abajo, CNB - Robert and kids





Cerro Miel Abajo, CNB - kids and faucet





Cerro Miel Abajo, CNB - community meeting





Cerro Miel Abajo, CNB - spring box





Cerro Miel Abajo, CNB – hiking to the spring





• Cerro Miel Abajo, CNB - view to S from spring site