



WATER ENGINEERS FOR THE AMERICAS

2014 YEAR END REPORT

EXECUTIVE SUMMARY

The non-governmental organization “Water Engineers for the Americas” (WEFTA), based in Santa Fe, New Mexico, was officially created as a non-profit 501(c)(3) in 2002. Since that time the organization has been able to assist over sixty rural communities in developing countries throughout Latin America with their water and sanitation needs.

WEFTA has been fortunate to receive ongoing support from the Wallace Genetic Foundation to help cover operational expenses of the organization, and continues to count on the generous support provided via our sister NGO, Waterlines, as well as generous individuals and new institutional donors committed to doing something about the lack of safe water supplies and proper sanitation in impoverished communities throughout Latin America.

With the ongoing support from Souder, Miller & Associate, the organization’s most significant corporate sponsor, as well as all the volunteer help from our supporters, WEFTA has been able to continue to send volunteers overseas to assess past, present and potential future projects, and provide the invaluable technical advice and recommendations needed to assure each project’s success. During 2014 WEFTA sent teams to El Salvador, Honduras, Peru and Bolivia. This was the first year that in-country partners were requested to make site visits to a neighboring country on behalf of WEFTA.

WEFTA continues to grow as an organization, and has been fortunate to welcome some new partners in this work, both institutional and individuals. The enthusiasm and special talents and insights that these new partners bring are most welcome and will certainly result in healthy development and sustainable growth of the organization. One of the most promising developments has been the good and effective networking with other NGO’s, especially local in-country NGO’s that can be WEFTA’s eyes and ears on the ground, and help voice our common vision of a better world that comes from the responsible sharing of the world’s abundant resources.

In late 2014 WEFTA hired its first full-time Executive Director, Elise Arena, who brings much enthusiasm and experience, as well as an outside perspective to the organization. Also, Holly

Chapman continues to provide support with public relations and external communication, especially as it pertains to the WEFTA website.

At the annual board meeting held on October 10, 2014 the WEFTA board agreed to officially implement an in-country circuit riding program with a formally established quarterly investment in two countries to start. It was agreed that Ing. Enrique Lozano would play that role in Honduras, and the Suma Jayma team as a whole in Bolivia.

The work in Honduras also got kick started in earnest during 2014 with major donations received dedicated exclusively to the construction of water systems throughout the southwestern portion of the country. Five projects received funding in Honduras during 2014, and many projects are on the horizon for 2015 and beyond.

The ongoing work in Peru, specifically promoting the implementation of wastewater treatment facilities within the Urubamba River Valley, received a boost in early 2014 when Lou Harrington and his family travelled to the Urubamba Valley where they stayed for two full months. They worked with public works officials up and down the valley in setting up workshops and formal meetings between local engineering staff and two of WEFTA’s most experienced and senior volunteer engineers in the topic of wastewater treatment, Pete Fant and John Lincoln. There is more on the result of that trip later in this report.



WEFTA team with public works staff of Calca, Peru

There were many wonderful developments throughout 2014, and by all accounts the coming years promise new and exciting challenges.

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SITE VISITS MADE BY WEFTA VOLUNTEERS IN 2014

The following are summaries of what our volunteers observed while in-country. Detailed trip reports are available for viewing on the WEFTA website (www.WEFTA.net).

- ***Trip to Peru by Lou Harrington (and family), Pete Fant and John Lincoln***

The purpose of this trip was to meet with representatives of the various communities in the Urubamba River Valley in Peru to discuss their plans and/or issues that they had encountered in implementing wastewater treatment for their respective communities. The WEFTA attendees at these meetings were Lou Harrington, John Lincoln, and Pete Fant. The site visits occurred in the month of February.



Pete, John and Lou meeting with Urubamba engineer



WEFTA team meeting with public works staff of Calca

A common theme throughout most of this particular trip was the need for just the type of expertise that our volunteer engineers possess, in this case dealing with wastewater treatment. Each community official that the team met with, without exception, was eager to hear what WEFTA had to say about wastewater treatment technologies and processes, and in some cases receive an evaluation of their present wastewater treatment plans. Each community was eager to create a strategic alliance with WEFTA in the development of the most viable option for achieving their goals. The work of the WEFTA team included multiple meetings with Urubamba officials to evaluate the plans developed by a local engineer to treat the wastewater produced by this community of approximately 20,000, as well as a meeting with public works officials in Calca, a town of similar size, to go over the design developed by an architect from Cusco. The WEFTA team found that neither of the plans prepared by local professionals properly addressed the needs of each community, however the team made clear WEFTA's commitment to stay engaged and assist with development of more viable options. John and Pete also led a workshop focusing on the topic of wastewater treatment for staff from the public works department at Pisac. They also met with town officials in Huayllabamba, along with their consultant, a local biologist they had hired to prepare plans for rehabilitation of their existing lagoon system.



Abandoned wastewater lagoons of Huayllabamba



WEFTA team with Huayllabamba officials

As was the case in previous meetings between WEFTA volunteers and local public works staff, it was made clear very early that the topic of wastewater treatment is not something that the local engineers are well versed in, to say the least. The biologist hired by the town of Huayllabamba was the only local professional who seemed to have a good appreciation for the biological processes inherent in effective wastewater treatment.

The key challenge for our volunteer engineers will be to help the locals develop simple yet effective solutions for treating wastewater, and not outpace the people we're committed to serve. It'll be important to ensure that the long term operation and maintenance of the suggested solutions are feasible and cost-effective, and that the capacity exists locally to assure proper O&M.

The related trip report is available on the WEFTA website.

- ***Trip to Bolivia by Lou, Teresa and Sean Harrington***

Clearly the majority of work funded via WEFTA since the founding of the organization has occurred in Bolivia where WEFTA has developed a close working relationship with the Bolivian NGO by the name of Suma Jayma.

In the month of February, Lou, Teresa and Sean Harrington travelled to Bolivia from Urubamba, Peru via the coastal city of Tacna. The trip took them straight up the Andes rising from sea level to passes over 15,000 feet tall, then “down” to the shore of Lake Titicaca at 12,500 feet and on to El Alto, Bolivia. The Harrington family stayed with the family of Braulio Rojas, director of Suma Jayma, while in Bolivia. They were able to visit a few past projects including the Machacamarca project, one of WEFTA’s largest projects to date. The system still operates smoothly and brings water to over 200 families that previously did not have water service at their homes. The group then made its way to the community of Igachi that is soliciting assistance with the construction of ecological (composting) latrines at each home. The WEFTA/Suma Jayma delegation described the procedures for receiving assistance from WEFTA. The team was given a



WEFTA and Suma Jayma team in Igachi, Bolivia



warm welcome and was treated to the standard all-you-can-eat feast of potatoes ... literally dozens of varieties to choose from!

- ***Trip to Honduras by Andrew Robertson and Karen Pereira***

In the spring of 2014, Andrew was able to make a trip to Honduras together with his wife, Karen Pereira, to follow up on past projects and speak with various community representatives about new projects on the horizon, and those that are underway or already completed. They spent much of their time with Enrique Lozano (our local representative in Honduras), and representatives of Save the Children Honduras, as well as officials from Fintrac and local leaders.



Enrique Lozano and his wife,
with Karen and Andrew

- ***Trip to El Salvador by Ewan Young and Marvin Martinez***

WEFTA was asked to assist another NGO by the name of Homes from the Heart based in San Luis Talpa, El Salvador. The assistance requested of the WEFTA team of Ewan Young and Marvin Martinez had to do with evaluation of the existing wastewater collection and treatment and potable water system facilities. Ewan and Marvin wrote a very good report detailing the status of each, including recommendations for improvements. A copy of that report can be found on the WEFTA website.



Ewan and Marvin with helpers mixing concrete
to create a surface seal for the community well



Ewan evaluating existing conditions

- ***Trip to Peru by Braulio Rojas and Jason Obergfell (in-country partners in Bolivia)***

In April, Braulio Rojas of Suma Jayma in Bolivia, together with Jason Obergfell, currently living in Cochabamba, Bolivia, travelled from Bolivia to Peru to perform the first site visits by circuit riders based in another Latin American country. Braulio and Jason were requested to visit the Q'ero communities high in the Peruvian Andes. The team reviewed the proposed water system improvements and discussed the options available to the community as far as sanitation goes. Our representatives from Bolivia were able to see that the community members had become accustomed to flush type latrines that carry the sewage waste directly to the river that runs through

the center of each village. They explained the different types of latrines that WEFTA could help them construct, especially the ecological (composting) latrines that Suma Jaya has been building for several years throughout the Altiplano region of Bolivia. The community leaders expressed to the team that their primary interest at this time is in bringing electricity to the villages. Perhaps a discussion of improvements to their existing water and sanitation systems can be more fruitful once it is clear that such projects have become a priority for the Q'ero people.



Jason (on the left) with representatives of the Q'ero community of Quico

- ***Trip to New Orleans by Andrew Robertson and Karen Pereira to participate in conference***

WEFTA was invited by the Vinyl Institute to attend a trade conference held in New Orleans, Louisiana where the organizations highlighted the work of each, and especially the ongoing work in Honduras and the good collaboration between the Vinyl Institute and WEFTA.

WEFTA PROJECTS OF 2014

The following projects were funded and completed in 2014. Detailed final reports and accounting for each are available upon request.

- ***Water System Projects in Honduras***

Five separate transfers were made to Honduras throughout 2014 totaling \$20,614. All of the projects were community water system projects in **Las Aradas, Cofradia, El Maneadero, La Rinconada, and Belen, Manazapa**. The work was coordinated and supervised by Enrique Lozano, as usual. Much of the work was co-funded by the USAID-ACCESO program managed by Fintrac, a US-based consulting company.



WEFTA team at one of the spring sites



Andrew and local officials assessing a past project



- **Projects in Bolivia**

In July of 2014, WEFTA transferred a total of \$15,867 to Bolivia for the construction of the hand pumps project in **Hichuraya**. This project consisted of individual hand pumps for the 35 families that lacked such services. The total population of the community served is 175 people. The families provided all of the unskilled manual labor needed to excavate the wells and install the equipment. The work was completed in October of 2014.



Contribution from Local Community:	\$ 888
In-kind contribution of labor/local materials:	\$ 7,577
<u>Funding from WEFTA:</u>	<u>\$ 15,867</u>
Total actual project cost:	\$ 24,332

WEFTA’s partner organization in Bolivia, Suma Jayma, dedicated most of 2014 to developing their skills while working with the drill rig that WEFTA helped the organization acquire the previous year. WEFTA provided support in early 2014 in the form of purchasing high quality bentonite and getting training on the proper preparation and use of drilling fluids. A Haliburton technician from Arica, Chile travelled to Bolivia to provide the needed training. The Suma Jayma team received invaluable insights from the Chilean tech.

A donation of \$989 was received and sent to Bolivia in January of 2014 specifically for the purchase of a cutting torch to be used in the Suma Jayma shop. Jaime and Jorge of Suma Jayma shared their excitement and pride of owning this new and valuable equipment with the WEFTA team that visited Bolivia in February.

Also, an additional \$1,515 in materials and equipment for the lathe and well drill rig were purchased in 2014.

- **Circuit Riding Programs in Honduras and Bolivia**

At the WEFTA board of directors meeting in October of 2014 the board agreed to formalize the relationship between WEFTA and our partners in Honduras and Bolivia. In the case of Honduras, Mr. Enrique Lozano, a retired engineer, will be playing the role of ‘circuit rider’ and act as official representative of WEFTA in the region. And in Bolivia, it was agreed that the Suma Jayma team, especially Braulio Rojas as director, can play the important role of in-country representative of WEFTA and assure an ongoing circuit riding presence in Bolivia.

UPCOMING WEFTA PROJECTS FOR 2015 AND BEYOND

BOLIVIA

The major effort regarding work in Bolivia will be to ensure the viability of Suma Jayma as a sustainable NGO, and the development of skills with regard to well drilling and marketing this work will be a key element in that. It is the belief of the Suma Jayma staff that such well drilling capacity would be of tremendous service to communities throughout the region and have the added benefit of creating a sustainable work model for their organization, which is in the interest of everyone.



WEFTA intends to continue funding community water systems in partnership with Suma Jayma, and we'll be dedicating efforts to evaluating how we can best assist rural communities affected by mining activities in the Oruro region of Bolivia.



Lou Harrington (WEFTA) and Braulio Rojas (Suma Jayma) meet with Oruro official to discuss the feasibility of the proposed rain catchment system.

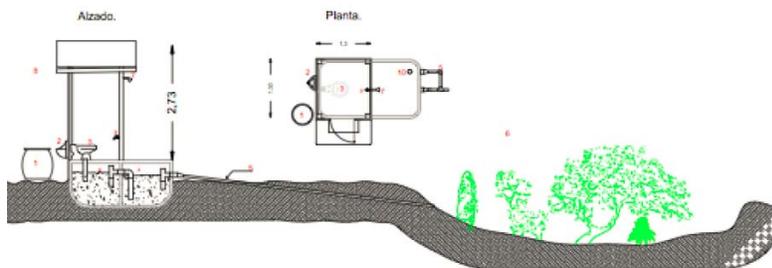
PERU

Representatives of WEFTA are in communication with local authorities in the Urubamba Valley. However, one challenge that WEFTA has encountered has to do with the nature of local politics and the wholesale changing and reorganization of public works department staff with the election of a new mayor in each municipality every few years. A challenge for WEFTA will be to find continuity in the process of sharing the expertise our volunteer engineers have, and making sure the lessons learned are not lost after every election.

Several years ago, WEFTA provided funding to our local representative in the Urubamba Valley, Linda Ochoa, for the bathroom facilities at a local regional elementary school. Linda has always been able to do a tremendous job leveraging funding and getting local governments and/or student parent organizations to contribute, as well as local businesses. With the original funds sent to Urubamba, Linda was able to construct not just the bathrooms for the one school, but three schools! The need for more such facilities is great, and we've received more requests for school bathrooms in the region, most recently for shower facilities at the regional elementary school. The principal of the school insists that proper hygiene education needs to be part of the basic curriculum, and unfortunately has been lacking. She pointed out that many of her more rural students have never taken a shower in their lives, bathing only out of buckets.

MEXICO

WEFTA has been coordinating with Kees Grootenboer who lives in Chiapas, and the Schumacher Kramer Foundation based in the Netherlands, regarding funding for the large Benito Juarez project which will include the construction of latrine facilities at each of the 53 community members' homes. These latrines will be similar to the ones built in Chum Cerro, as described further on the WEFTA website (www.WEFTA.net).



Design of latrine systems



Tanks of concrete with lid and toilet



HONDURAS

Thanks to new sources of funding, the work in Honduras has picked up pace in 2014, and it appears that it will continue into 2015 and beyond. WEFTA will have to rely on the support provided via the close ties developed with the staff of Save the Children Honduras and Fintrac, a USAID-funded organization which WEFTA has teamed with on several projects already, and especially with Mr. Enrique Lozano, our local circuit rider in Honduras, as described earlier in this report. Enrique's involvement will be essential in assuring effective and efficient completion of the much needed projects in this severely impoverished country.



Enrique (in the middle) with friends

SUMMARY FINANCIAL REPORT FOR 2014

WEFTA has been fortunate over the last year to receive very generous donations from other organizations and individuals. The organization continues to be able to rely on the countless hours provided by our volunteer professionals that make the very important site visits each year to the communities where we work.

Below is a list of key contributions followed by a cash flow summary for 2014.

- ***Grant from the Wallace Genetic Foundation***

The Wallace Genetic Foundation has continued to provide ongoing support to cover the operational expenses related to running WEFTA, especially those related to administrative support and resource development, and coordinating with our partner organizations, donors, and the beneficiary communities who ultimately receive the assistance they need to meet their water and sanitation needs. A grant of \$50,000 was received in September of 2014.

- ***Grant from Waterlines***

Waterlines, another New Mexico based non-profit and sister organization of WEFTA, or perhaps better characterized as 'parent' organization of WEFTA, donated \$25,000 in July of 2014 to encourage and facilitate the circuit riding component of the work of WEFTA. This generous gift has made possible the growth of the in-country circuit rider program as well as numerous site visits made by WEFTA volunteers from the U.S. During 2014 WEFTA had its first experience in requesting partners from one Latin American country to visit the site of potential projects in another. In this case, members of the Suma Jayma team, with whom we've been working for several years, were requested to visit the remote Q'ero communities of Peru, as described earlier in this report.

- ***Contribution from the Pittsburgh Foundation***

In July of 2014 WEFTA received a generous donation from the Pittsburgh Foundation, thanks to the support of one of our long-standing and most generous donors. This donation has been used to



support direct project expenses of the organization, a portion of which was set aside to fund the new Executive Director position during 2015.

- ***Contribution from the Chlorine Chemistry Foundation***

WEFTA received a grant of \$30,000 from the Chlorine Chemistry Foundation in November of 2014 to fund the ongoing work in Honduras.

- ***Contribution from Aqua Engineering, Inc.***

In September of 2014 WEFTA received a generous gift of \$8,337 from Aqua Engineering, Inc. of Bountiful, Utah to support the work of the organization.

- ***Contribution from individuals and matching grants***

Throughout 2014 WEFTA received several donations from individuals, philanthropic groups, and a new online donation system set up by Holly Chapman. There have been some significant additional donations made toward the well drilling efforts in Bolivia that continue to arrive.

- ***Contribution from Souder, Miller & Associates***

Thanks to a series of very generous gifts from a senior member of the staff at Souder, Miller & Associates, who instead of receiving large bonuses offered this person, asked that they be sent directly to WEFTA to fund the ongoing work in Honduras. Two such gifts were made to WEFTA in 2014 totaling \$35,000.

In addition to the time donated by a number of individuals, Souder, Miller & Associates (SMA) has provided the administrative personnel and material necessary for the operation of WEFTA. SMA has invoiced WEFTA for the direct costs of such services, but has covered all the associated indirect costs such as benefits for personnel, all equipment and materials such as computers, office space, and infrastructure required by the organization. The success of WEFTA is due in large part to the continued commitment on the part SMA to support the work of WEFTA.

Banking Activity in 2014

Beginning Balance (1/1/2014)	\$ 71,896.04
Donations Received:	
individual donations received first quarter of 2014	\$ 1,476.61
individual donations received second quarter of 2014	\$ 551.00
individual donations received third quarter of 2014	\$ 1,205.00
individual donations received fourth quarter of 2014	\$ 3,872.00
individual donations toward work in Bolivia (Jason Obergfell projects)	\$ 6,000.00
Souder, Miller & Associates (employee donation)	\$ 10,000.00
Souder, Miller & Associates (employee donation)	\$ 25,000.00
Waterlines donation	\$ 25,000.00
Pittsburgh Foundation grant	\$ 30,000.00
Aqua Engineering, Inc. donation	\$ 8,336.93
Wallace Genetic Foundation grant	\$ 50,000.00
Chlorine Chemistry Foundation grant	\$ 30,000.00
Total Donations Received:	\$191,441.54



Program Expenses:	
transfer to Bolivia (Suma Jayma bentonite and cutting torch)	\$ 9,488.29
transfer to Honduras (Las Aradas and Cofradia water systems)	\$ 5,500.00
transfer to Honduras (El Maneadero water system)	\$ 5,895.00
transfer to Honduras (Save the Children Honduras project)	\$ 1,400.00
transfer to Honduras (La Rinconada water system)	\$ 200.00
transfer to Bolivia (Suma Jayma Hichuraya hand pumps)	\$ 15,867.00
transfer to Honduras (Belen, Manazapa water system)	\$ 7,619.00
Suma Jayma lathe & drill rig materials	\$ 1,515.22
circuit riding in Honduras	\$ 7,000.00
circuit riding in Bolivia	\$ 1,500.00
travel expenses for WEFTA volunteers to El Salvador	\$ 1,689.09
travel expenses for WEFTA volunteers to Peru	\$ 1,978.05
travel expenses for WEFTA volunteers to Honduras	\$ 518.50
travel expenses to events within U.S.	\$ 2,643.20
invoice from SMA for operational expenses (12/16/13 - 6/30/14)	\$ 10,252.54
executive director (contracted)	\$ 4,343.98
external communications/PR support (contracted)	\$ 18,612.30
misc. expenses (wire transfer fees, taxes, brochures, business cards)	\$ 1,577.23
Total Program Expenses:	\$ 97,599.40
Ending Balance (12/31/2014)	\$165,738.18

Board of Directors: Peter Fant, P.E., Jason Gehrig, P.E., Lou Harrington, John Lincoln, P.E., Jennifer McDowell, Scott Rogers, P.E. and Blanca Surgeon

