

Bolivian-Canadian Clean Water Network

Cooperación Boliviana-Canadiense para Agua Limpia (COBAGUAL)

MORE THAN JUST A DROP IN THE BUCKET...

BCC Water Network Quick Facts:

- Founded on February 28, 2007 in Ascension de Guarayos - In Bolivia's Amazon Basin
- Currently has a team of 4 Bolivian paid staff, one Bolivian volunteer and two Canadian volunteers and a Calgary-based volunteer Board of Directors
- Present focus is on implementing BioSand Filters (BSF) and providing basic hygiene training
- Employs a participatory development model, where filter users help construct their filters rather than pay for them to address need of the poorest
- Currently 210 filters installed and over 1300 people with clean water



May 8, 2008

Volume 2, Issue 1

News from the Network



The BCC Water Network has marked some important milestones since its last newsletter in December. February 28th, 2008 was the first anniversary of the day that Roberto Salas, Ernesto Durán, Janaki and Trevor formalized the foundation of COBAGUAL by signing a commitment with the Municipal government of Ascensión

to provide clean water and hygiene training to as many families as possible in the town and surrounding communities. Last month, the Bolivian team installed their 200th BioSand filter in Ascensión, something that seemed almost unattainable a little over a year ago when we were still training the Bolivian employees and they had not yet installed their first. On the home front, we finally completed our incorporation process, thanks in no small part to the help of our board of directors. We are now a non-profit society under the Societies Act of Alberta, which should hopefully allow us to fundraise a bit more easily than when we were simply an informal association. It is also another step on the journey to being able to offer tax receipts to our donors.

On top of our usual routine of giving presentations and coordinating with COBAGUAL to support their work in Bolivia, we've met with and contacted several organizations both in Canada and Bolivia to explore ways in which we could possibly coordinate to help increase access to safe water in the most efficient way possible. This sort of networking will be a major focus of our trip to Bolivia in mid-June. We're planning to meet with local water and sanitation groups in at least two different departments of the country to assess possible collaboration.

The last couple of months have brought budgeting challenges, have really taught us a lot about the importance of securing funds for long-term project goals. We have been so grateful for the financial support of our repeat donors when funds have been lessening. We also have to acknowledge the support of Diana Frost, one of our board members, who pitched our project to the Urban Spirits Rotary Club of Edmonton, leading to a considerable donation from the club. A huge thank you must go to Lori Mienhart and all the members of the Urban Spirits Club for providing BCC Water Network with enough funds to complete our pilot project in Ascensión!

Update from the field

The severity of the rainy season provided some major logistical challenges to overcome in the weeks following the Christmas break. The rains caused flooding that made the transportation of the sand to the worksite difficult, if not impossible. Without appropriate sand, reliable filters could not be installed since the ideal flow rate was not achievable. Moreover, constant downpours and harsh winds took their toll on the roof of the worksite which made it nearly impossible to continue building filter boxes. This required the construction of a temporary work place to proceed with the pilot project while the team waited on the municipal government to make the necessary repairs. In spite of these set-backs, the Bolivian team has been able to install 60 filters in three neighbourhoods in Ascension so far this year.



Early follow-up visits indicated that more needed to be done to ensure that filter users were protecting the integrity of their filtered water.

Many families were using ladles to serve water from storage containers. While convenient, this leaves room for contamination of ladles, and ultimately of the filtered water. To address this, the Bolivian employees have begun adding a spout to existing covered water containers, which would eliminate the need for ladles, and prevent recontamination of the water.

Last week was the annual town fair, where people gathered from the entire region to celebrate the anniversary of the founding of Ascension. Given that our worksite is on the fair grounds, the team

in Bolivia utilized the occasion to spread the word and field questions about the project. The opportunity to exhibit the filters generated further interest in Ascension, as well as in surrounding communities.

Technology Focus: Household chlorination of drinking water

Chemical disinfection, usually with some form of chlorine, is a highly effective and widely used method of killing pathogens in drinking water. Sodium hypochlorite, is the most commonly used disinfectant in households in the developing world, since it is present in household bleach, which is usually readily available and quite affordable (Mintz et al., 1995). A recent analysis of several household water chlorination studies in several developing countries revealed that chlorination of drinking water reduced the incidence of childhood diarrhea by 29% (Arnold and Colford, 2007). A major strength of chlorine disinfection is that it continues to protect water in its storage container for several hours after it has been added, thereby minimizing the risk of recontamination (Mintz et al., 1995). Moreover, it has widespread global availability given its use in household laundry use.

In spite of its many advantages, household chlorination of drinking water has some important limitations. If added to water with a lot of sediment or organic material, the chlorine reacts with these materials and can be 'used up' before it can kill all of the viruses and bacteria present. Furthermore, chlorine is not strong enough to kill many parasites. For these reasons, chlorine is

most effective at purifying water that has already been filtered to remove larger pathogens and sediments.

To kill bacteria and viruses present in water, one simply needs to add a measured quantity of bleach to a known volume of water, stir it, and let it sit for about half an hour to allow it time to react. The amount of bleach needed per volume of water depends on the concentration of the bleach and will vary from region to region. In Ascension our employees train community members to add half a tablespoon of bleach to a 20 L bucket of water. During their educational workshops and house visits COBAGUAL employees train community members to chlorinate their water after they've filtered it to insure the highest water quality possible. In practice, however, few families have decided to do so since they do not enjoy the taste of chlorine, and have been satisfied with the health improvements rendered by simply using the BioSand filter.

Right: A women in rural Kenya using a chlorine solution to purify her drinking water.

Source:

www.drinking-water.org

References:

Most information was taken from

CAWST, 2008. Chlorine Disinfection technical brief. Available online from CAWST's website at <http://www.cawst.org/assets/File/chlorine.pdf>.

Other References:

Arnold, B. and Colford, J. 2007. Treating Water with Chlorine to Improve Water Quality and Reduce Child Diarrhea in Developing Countries: Systematic Review and Meta-Analysis. *American Journal of Tropical Medicine and Hygiene* 76(2): 354-364.

Mintz E, Reiff F, Tauxe R. 1995. Safe water treatment and storage in the home: A practical new strategy to prevent waterborne disease. *Journal of the American Medical Association* 273: 948-953.



Become a volunteer!



If you have an interest in our work, you can join a growing team, which includes Ernesto Duran, COBAGUAL Project Coordinator, and our Board Members: Derek Baker, Diana Frost, Dan Hampson, and Ann Martinez, and become a volunteer!

We're currently looking to get some help in the following areas:

- data entry of budgeting information and follow-up visits;
- website design;
- researching funding sources/ proposal editing

Spanish speaking and non-Spanish speaking volunteers welcome!

Thank you to our latest donors!

Nicky and George Porter, Roy and Joanne Topley, Kailee Hirsche, Brian and Elaine Russell, Jan and Keith Hirsche, Gary and Shirley Hirsche, Glyn and Celia Hughes, Dan Henderson and Sarah Dorma, Mike and Marie Coulson, Mildred Perkins, Aarthi Jayanthan, Darrell and Mary Jean Belrose, Hillhurst United Church, Dr. Irma Parhad Programmes, Urban Spirits Rotary Club of Edmonton

And thank you again to everyone who has supported our work!



Please note that as of June 1, 2008, cheques should be made out to the "Bolivian Canadian Clean Water Network".

We hope you enjoyed this newsletter. You can expect the next one out in late August. In the meantime, if you have any questions or suggestions regarding the project or our newsletters, please do not hesitate to contact us.

To access our newsletters online, please visit www.el-blog-boliviano.blogspot.com

Thank you once again for your continued support!

Sincerely,

Trevor Hirsche and Janaki Jayanthan

Co-directors, Bolivian-Canadian Clean Water Network

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