



BCC WATER NETWORK

# Bolivian-Canadian Clean Water Network

## MORE THAN JUST A DROP IN THE BUCKET...

January 27, 2009

Volume 2, Issue 3

### Wrapping-up 2008, focusing on 2009

BCC Water Network is a volunteer-run organization that partners with Bolivian charities to help provide safe drinking water and sanitation to the poorest of the poor in Bolivia

#### Quick Facts:

- Currently has two member organizations: **COBAGUAL** and **Jaraña**
- Has a team of Canadian volunteers and a Calgary-based volunteer **Board of Directors**
- Present focus is on affordable means of reducing waterborne disease through **BioSand Filters (BSF)** implementation and basic hygiene training
- Promotes a participatory development model, where filter users help construct their filters
- Currently **305 filters** installed by **COBAGUAL** and over **2300 people** with clean water

Roberto Salas hand delivers a filter in San Andres



The fast pace of getting back to work after a nice winter break feels like 2008 happened years ago. While 2009 has already seen our work continuing to move forward in Bolivia, we thought this newsletter would be a good opportunity to recap work done in 2008. The COBAGUAL team finished up the year working in the community of *Limoncito*, just outside their home base of Ascension de Guarayos and since returning from their winter break, they've been back at



Community Steward *Bartolina Marayai*, right, facilitates an interactive workshop with community members in San Andres

Some very exciting news came in November when the Bolivian-

Canadian Clean Water Network received with the 2008 YMCA Calgary Peace Medal for the International Group category. We were extremely honoured to have our work recognized by YMCA Calgary. For this recognition we must first and foremost thank Glyn Hughes, mentor and friend for nominating us. Moreover, much appreciation goes to Thalia McRae of YMCA Calgary for arranging trans-provincial logistics, and a big thank you to Derek Baker for representing BCC Water Network at the awards luncheon.

it, making the necessary preparations to work in *Los Chacos*. On the Canadian end, we have been lucky enough to get some amazing support from local collaborators. A big thank you goes out to Maarten Dankers who has been tirelessly working on the BCC Water Network website. It is now up and running and we encourage you all to take a look:

<http://bccwater.weebly.com/>

We're hoping to keep it updated as both local and Bolivian project news develops.

# COBAGUAL Update



After missing most of September and October due to political strife in the region, COBAGUAL was able to conclude its first project outside of Ascension. This project resulted in 27 families in the village of San Andres gaining access to improved drinking water and hygiene education. In addition to receiving filters that they helped build, each of these families was able to participate in one of two interactive educational group workshops and then receive additional training in their homes while their filters were installed. The educational session that each family received during the installation involved interactive games that tested the community members' knowledge of hygiene.

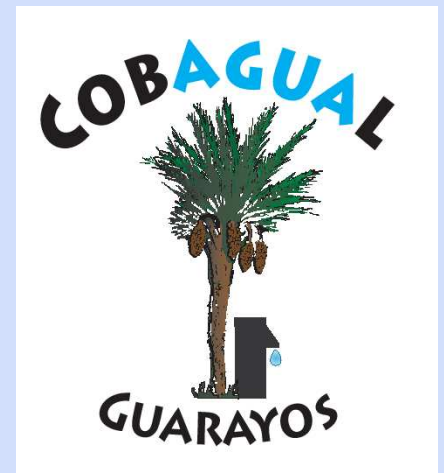


The citizens of San Andres did not just demonstrate their enthusiasm for the project by participating in workshops, helping to build their concrete filter boxes, and wash the gravel to be installed in their filters. They also did so by providing a worksite for COBAGUAL, helping to move their filters from the worksite to their home in wheelbarrows, and paying 27 Bolivianos each (about \$5) to help cover the cost of filter materials and safe storage containers. It is hoped that this extensive community involvement and the emphasis on user education will ensure long-term benefits in the community.



*Filter Technicians Felipe Quispe (left) and Angel Perez work together to improve the concrete mix for COBAGUAL's filters (July 2008)*

A final, and important step to further improve the sustainability of the project was the training of Maria, a mother and new BioSand filter (BSF) owner in San Andres, as a community steward. Her role will be to provide follow-up visits to her fellow community members to make sure that lessons in hygiene and filter maintenance are not forgotten.



In addition to working on BSF projects, COBAGUAL representatives had several meetings with local government officials and international NGOs (non-governmental organizations) in an effort to procure funding and find ways to work together in order to maximize efficiency.

In late October, after successfully completing the project in San Andres, COBAGUAL was approached by the citizens of Limoncito, a farming and ranching community about 50 km north-west of Ascension, requesting a BSF project for their village. The need for BSF technology in Limoncito was especially great given that most of the community obtains their water from nearby swamps and, as a result, suffered from repeated bouts of diarrhea. Through November and the first half of December, COBAGUAL was able to help 27 families in Limoncito while taking all of the same steps to ensure project sustainability as they had in San Andres. COBAGUAL has now finished the project in Limoncito, and is in the planning stages of working in the community of Los Chacos.

# Technology Focus: Solar Disinfection (SODIS)

Sunlight can be an extremely effective tool for preventing waterborne disease. It does so by killing and deactivating microorganisms through UV radiation and heat. Solar disinfection (SODIS) represents a remarkably cost-effective way to use the power of sunlight to purify drinking water in developing countries.

To use SODIS one simply needs to fill a clear plastic bottle (no more than 2L in volume) with relatively clear water and leave it exposed to sunlight for several hours. The exact amount of time that this exposure must last depends on the light's intensity. On a cloudless day as little as 6 hours may be required, while if the sky is overcast the bottles must be left out for 2 full days. The method is most effective when bottles are left on a shiny surface, like a tin roof, which can reflect sunlight and vigorously heat the water. This simple method can kill 99.9% of fecal coliform bacteria and is also highly effective against viruses and water-borne parasites. The fact that it works best on clear water makes it an ideal method for disinfecting filtered

water.

Although it is a cost-effective and simple way to purify drinking water, several factors make it unlikely to be adapted by potential users without extensive training and follow-up. One such factor is that, unlike filtration, it does not change the appearance of filtered water, so some users have a difficult time believing that it actually improves water quality. Furthermore, it is only capable of purifying a limited amount of water per day (depending on the number of appropriate bottles and amount of space available), and produces lukewarm water that may need to be chilled or left to cool for a some time at room temperature. These factors make SODIS a somewhat inconvenient method and limit the likelihood of adoption. COBAGUAL trains community members in SODIS as a method to disinfect their water after filtration with the BSF. So far they have not found the method to be widely accepted, other than in the case of a few families that live in Ascension who use it when they are in the countryside away from their filter.



A SODIS user in Bolivia. Courtesy Helvetas,

Sources:

<http://www.cawst.org/index.php?id=132#SODIS>  
<http://www.sodis.ch/> (accessed on December 29th, 2008).  
[www.helvetas.ch/.../2004\\_03\\_19\\_sodis\\_bilder.asp](http://www.helvetas.ch/.../2004_03_19_sodis_bilder.asp)  
(accessed January 2, 2008)

## COBAGUAL 2008 Year in Review

We'd be lying if we said the year went perfectly smoothly for the Eastern Bolivian team. 2008 started out with obstacles primarily due to the extreme weather conditions in and around Ascension. Heavy rains led to delays in accessing necessary materials for filter construction, and wore heavily on COBAGUAL's work space.

Moreover, some ongoing follow-up visits indicated that a handful of families had ceased using their filters for a variety of reasons. This led to a mass surveying of all filter users to see how widespread the problem was. Luckily, the incidents proved to be limited to a few isolated cases, rather than the norm. Nonetheless, this prompted COBAGUAL to make improvements to both user training and follow-up visits.

Financial instability has also been a challenge throughout the past year. One important factor that has negatively affected productivity has been the falling value of the Canadian dollar relative to the Boliviano. This meant that each Canadian dollar donated did not go as far as it once did. Coupled with this was the rising cost of living in Ascension, especially with respect to basic food items, leading to an increase in COBAGUAL employee pay.

Lastly, COBAGUAL's transition to working in rural areas has increased the transportation costs of their projects, especially since the Municipal Government truck has been unavailable for use due to serious mechanical problems.

Despite these challenges, the COBAGUAL team was able to do an amazing job of bringing clean water and hygiene training to their fellow community members. Here are some highlights from 2008:

\*Total number of families that received filters: 155

\*Total number of families that received hygiene training and filter education: 155

\*Total number of people helped: 1,027

\*Number of brief, short-term follow-up visits completed : 290

\*Number of detailed, long-term follow-up visits completed : 180

\*Total funds spent in 2008 (CDN): \$10,000

# BCC Water Network 2009 Wishlist

While the thought of “wishlists” might be a distant memory for some, we’re looking to the year ahead with some concrete goals. Throughout 2009 Janaki, Trevor and their growing team of Canadian volunteers will continue to work to raise money to financially support their Bolivian partners while simultaneously striving to connect them with other organizations working on similar projects and provide them with further advice and training. We hope to significantly increase our fundraising capacity in 2009 by finishing the process of becoming a registered charity.

Our specific fundraising goals, all of which will go towards projects in Bolivia, are as follows (approximate CDN cost in brackets):

- Finance COBAGUAL’s work to improve the lives of an additional 180 families in rural eastern Bolivia through the BioSand Filter (BSF) and hygiene education (\$18,000)
- Finance 1-2 of Jaraña’s minor projects. These may include support for follow-up visits to improve and further document some of their existing projects. Another possibility would be

to finance a project to repair 2 unused molds in Cochabamba and use them to train the organization, CEDESPAR in BSF implementation (\$2,000)

Total fundraising goal: \$20,000.00

Please consider contributing!



*COBAGUAL employees facilitate a community workshop in Limoncito*



\*Please note that as of June 1, 2008 cheques should be made out to the “Bolivian-Canadian Clean Water Network”\*

If you have any questions or suggestions regarding the BCC Water Network or our newsletter, please do not hesitate to contact us.

Thank you once again for your continued support!

Sincerely,

Trevor Hirsche and Janaki Jayanthan

Co-directors, Bolivian-Canadian Clean Water Network

## Thank you to our latest donors!

**Dan Hampson, Cam and Nicole Benedict, Gary and Shirley Hirsche, George and Nicky Porter, Keith Hirsche and Jan Porter-Hirsche, Maarten Dankers**

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

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