

Welcome to CAWST's August 2009 Technical Bulletin!

In response to requests from past workshop participants and active project implementers, we bring to you this periodic technical bulletin. We hope to keep you abreast of the latest research, information and activities in the CAWST network.

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Household Water Treatment for People Living with HIV / AIDS

Providing safe drinking water for people living with HIV/AIDS is critical for their care and treatment of the disease. Adults and children living with HIV/AIDS are particularly susceptible to diarrhea; HIV positive mothers who are not breastfeeding need safe water to make formula; and anti-retroviral drugs for treatment are absorbed better when taken with safe drinking water.

Studies show that *Cryptosporidium*, a common waterborne pathogen, is one of the leading causes of death for people living with AIDS in developing countries. It is particularly important for people living with HIV/AIDS to use a household water treatment process that is able to remove *Cryptosporidium* oocysts from contaminated water.

There are a variety of household water treatment options that are effective at removing or deactivating *Cryptosporidium* oocysts; including ceramic filters, biosand filters, solar disinfection (SODIS), and flocculation/chlorination (e.g. PUR). Using chlorine alone is not effective against *Cryptosporidium*.

For more information on this topic, you can download the following resources from our website:

- [HIV/AIDS in Developing Countries and the Importance of Safe Water¹](#)
- [Effective Household Water Treatment Systems for People Living with HIV/AIDS²](#)

If you have any questions related to this topic, please email Tom Mahin at tmahin@kawst.org.

T. Mahin and R. Peletz. Cryptosporidium Contamination of Water in Africa: The Impact on Mortality Rates for Children with HIV/AIDS. 34th WEDC International Conference Proceedings, Addis Ababa, Ethiopia, May 2009.

¹ http://www.cawst.org/assets/File/LEX_HIV_AIDS%20Safe_Water_Final.pdf

² http://www.cawst.org/assets/File/LEX_HWTS_&_HIV_AIDS_Final.pdf

R. Peletz and T. Mahin. Effectiveness of Different Household Water Treatment Approaches for People Living with HIV/AIDS in Africa. 34th WEDC International Conference Proceedings, Addis Ababa, Ethiopia, May 2009.

Community Health Promotion Workshops & Training Materials

Community health promotion is essential for the successful implementation of any household water treatment, sanitation or hygiene program. CAWST offers two workshops on community health promotion targeted for trainers and field workers.

The Community Health Promotion for Trainers workshop provides participants with the knowledge and skills to effectively organize, train, and supervise Community Health Promoters as part of a new or existing program. The emphasis is placed on behaviour change, participatory learning and action tools, facilitation techniques, social marketing and communication, training methods, and how to work with households, community groups and schools. Topics are covered in an interactive fashion using participatory learning and action tools the participants can then apply to train Community Health Promoters.

The Community Health Promotion for Field Workers workshop is delivered for a specific household water treatment technology program. The purpose is to teach local Community Health Promoters how to conduct follow-up visits and basic troubleshooting for the technology. The workshop reviews the fundamentals of global water issues, water quality, disease transmission, household water treatment, proper hygiene and basic sanitation. Participants also learn about behaviour change and how to use participatory learning and action tools, social marketing, and communication methods. Topics are covered in an interactive fashion using participatory learning and action tools the participants can then apply within the communities they are working.

Training materials are available for download from our ftp site. Please contact Laura Thomas at lthomas@cawst.org if you would like more information on how to download these files.

Upcoming international workshops are listed below and on our [website](#)³.

Point of Use Technologies in Nepali Schools

Study on Effectiveness on Point of Use Technologies at Schools in Nepal
[Environment and Physical Health Organization \(ENPHO\)](#), Nepal, 2008.

The study was designed to assess the effectiveness of various point of use water treatment technologies at the school level and develop guidelines on their selection and installation of treatment technologies in Nepali schools. The study was conducted by ENPHO in collaboration with UNICEF and government agencies in 2008. The researcher compared the following five different household water treatment technologies in 12 schools according to criteria for microbial removal efficiency and suitability of the technology: small colloidal silver filter (SCSF), large colloidal silver filter (LCSF), biosand filter (BSF), chlorination and solar disinfection (SODIS).

³ <http://www.cawst.org/index.php?id=269>

The following table shows the average removal efficiency of the technologies at each school. The range of removal efficiency is shown in parentheses.

Technology options	Sample size (n)	Total coliform	E coli.	Turbidity	Iron
Small CSF	40	78% (13% -100%)	92% (0% - 100%)	43% (0% - 100%)	100%
Large CSF	8	77% (33% -100%)	89% (50% - 100%)	54% (18% -76%)	100%
Biosand Filter	12	64% (24% -100%)	94% (75% - 100%)	74% (18% - 94%)	100%
Chlorination	4	100%	100%	-	-
SODIS	6	92% (58% -100%)	92% (70% - 100%)	-	-

Conclusion

This study was conducted for a limited timeframe of one month. Long-term monitoring should be done to assess the performance of any technology. All technologies have their own advantages and limitations; selection of the most appropriate technology should be based on the local situation. The selection of technology may depend on the size of the school, available resources, characteristics of the source water, and/or the motivation level of school management.

ENPHO presentation available at:

http://www.cawst.org/assets/File/ENPHO_school_pou.pdf

CAWST Workshops – August to October, 2009

CAWST plans to provide training in the following countries:

Canada	Project Implementation for the Biosand Filter (Aug. 10-13)
Haiti	Drinking Water Quality Testing (Aug. 17-20)
India	Community Health Promotion (Aug. 19-22) (Sep. 2-5) (Sep. 22-25) Project Implementation for the Biosand Filter (Aug. 24-28) Project Planning (Sep. 14-16) (Sep. 17-19) Introduction to Household Water Treatment and Safe Storage (Oct. 8-10)
Sudan	Project Implementation for the Biosand Filter (Sep. 10-14) Community Health Promotion (Sep. 15-19)
USA	Project Implementation for the Biosand Filter (Sep. 15-18) Introduction to Rainwater Harvesting (Sep. 19)
Zambia	Effective Facilitation Skills (Oct. 5-9) Project Implementation for the Biosand Filter (Oct. 12-16)

Household Rainwater Harvesting (Oct. 19-22)

Zimbabwe Drinking Water Quality Testing (Aug 12-15)

Information about these workshops, including course outlines, is available online <http://www.cawst.org/index.php?id=166>. Please check this web page regularly for our updated training schedule.

All of CAWST's workshops can be delivered anywhere in the world by our International Technical Advisors. If you are interested in hosting or participating in a workshop, please contact us at cawst@cawst.org.

Recent Research

Kanchan Arsenic Filter Evaluation and Applicability to Cambodia

D. Uy, T. Ngai, T. Mahin, C. Samnang, M. Saray, M. Adam, and D. Baker

Source: 34th WEDC International Conference Proceedings, Addis Ababa, Ethiopia, May 2009

Arsenic contamination of drinking water in many regions has driven the search for mitigation options. In Cambodia, the Kanchan Arsenic Filter for household water treatment is being evaluated for its applicability as one potential solution to this crisis. In 2008, ten Kanchan filters, in 5 configurations, were tested over a 30 week period by the Institut de Technologie du Cambodge (ITC). Each filter treated 40 L/day. The ground water had arsenic and phosphate concentrations averaging 637 µg/L and 5.09 mg/L respectively, representing challenging source water. Arsenic removal averaged 95-97% for all configurations.

After the first week of start up, all but 1 in 224 samples achieved the Cambodian standard of 50 µg/L. Arsenic removal was not significantly affected by the flow rate or the cleaning of the filter. There was no apparent depletion of arsenic adsorption capacity over the 30 weeks (8400 L filtered). Iron and turbidity removals were also very high, improving the user acceptability of this technology. The Kanchan filter has also been tested by ITC at 30 additional locations from November 2008 to April 2009. These results show an average arsenic removal of 96% in Kandal province (average raw water arsenic concentration of 500 ppb in tested wells) and 94% in Prey Veng (average arsenic concentration of 271 ppb in tested wells). 136 of 139 samples over the 5 month testing period were reduced below the Cambodian standard of 50 µg/L.

ITC hopes to keep testing the study filters to obtain longer term data, pending funding. CAWST supports arsenic mitigation options for those who are drinking arsenic contaminated water; however, we believe that using an arsenic free source is always the best option for the safest drinking water.

Article Available at: http://www.cawst.org/assets/File/Uy_WEDC_KAF_Cambodia_2009.pdf

Funding Opportunities

1. Fondation Ensemble

The "Programme Fund" is open for letter-of-intent submissions. The next deadline for submitting the three-page form is September 10, 2009. The Programme Fund's priority countries for 2009 are: *Peru, Cambodia, India, Ukraine, Romania, Bulgaria, Senegal, Burkina Faso, Madagascar, Mali, Malawi, and Morocco*. They also have a project fund.

http://www.fondationensemble.org/aprog_fond.php

2. Foundation Center

The Foundation Center website has a very useful interactive mapping tool which shows all Direct Grants by U.S. Grantmakers to Non-U.S. Recipients around the world since 2003. Click on a country and it will generate a list of all recipient organizations. Then click on a recipient and it will tell you names of all grantmakers to that recipient and amounts granted. This may be helpful in identifying which foundations have a history of donating in particular countries, and the development sectors they favour. In 2008, more than \$540 million in grants were given to nearly 1,500 non-U.S. recipients worldwide.

<http://fconline.foundationcenter.org/maps/>

3. European Union

The European Union (EU), composed of the Member States and the European Commission, is the world's biggest aid donor. The Commission's EuropeAid cooperation office manages EU external aid programs and ensures that development assistance is delivered worldwide. The European Union offers calls for proposal on an ongoing basis for non-state agencies. Major areas of funding are: human and social development, food security, human rights, agriculture, civil society, natural resources, environment, capacity and institution building, etc.

Currently, there is an open call for proposals and forecast countries are: *Philippines, Vietnam, Jamaica, Croatia, Cyprus, Serbia, Moldova, Russia, Morocco, Lebanon, Jordan, Fiji and Mali*. For detailed guidelines and future reference access their online database.

<https://webgate.ec.europa.eu/europeaid/online-services/index>

4. Terra Viva Grants

Terra Viva develops and manages information about grants for agriculture, energy, environment, and natural resources for developing countries. They maintain a database of over 300 grant makers who mainly provide funds for the "green" sectors of the developing world: Southeast Asia and Pacific Islands, East Asia, South Asia, Eurasia and Central Asia, Middle East and North Africa, Sub-Saharan Africa, Latin America and Caribbean. From their website you can access the most recent funding opportunities and call for proposals from foundations, government agencies and international organization.

<http://www.terravivagrants.org>

5. Consultative Group on International Agricultural Research (CGIAR)

The CGIAR Challenge Program on Water and Food (CPWF) is an international, multi-institutional research initiative with a strong emphasis on north-south and south-south partnerships. Its goal is to increase the productivity of water used for agriculture, leaving more water for other users and the environment. CPWF is opened Phase II call for proposals on river basin development program on water and food. The call for proposals includes projects in the *Andes, Mekong and Nile basins* and has a deadline of August 31, 2009.

<http://www.waterandfood.org/phase-2.html>

CAWST Annual General Meeting

The CAWST Board of Directors and staff invite you to our 8th Annual General Meeting (AGM) as we celebrate the efforts of CAWST's global network to bring clean drinking water to people living in some of the poorest places in the world.

The AGM and celebration will be held on Thursday, September 24, 2009 at the Sun Life Plaza Conference Centre in Calgary, Canada. Members and guests outside of Calgary are encouraged to join us online for a live audio webcast. A link to this webcast is available at www.cawst.org.

As a friend of CAWST, we hope you will join this important annual celebration!

Space at the event and via web cast is limited so please RSVP by Wednesday, September 16, 2009 with Jaclyn Bock at jbock@cawst.org or +1 (403) 243-3285 extension 221.

Talk to You Later...

Please let us know if there are any topics that you would like us to include in upcoming CAWST Technical Bulletins. You may forward any inquiries or comments to cawst@cawst.org.

To remove your e-mail address from the distribution list, please e-mail Steve Kaczmer at skaczmer@cawst.org.