PATH's Water Filter: A New Standard for Household Water Treatment

Health need

The World Health Organization estimates that more than 750,000 children under five years of age die each year from preventable diarrheal diseases[1], a figure that surpasses child death totals from AIDS, malaria, and measles combined. Many of these deaths are attributed to unhealthy household environments, which include a lack of access to safe water and sanitation facilities.[2] Various products exist today to treat and safely store water. Yet, according to international experts, less than one percent of the 1.1 billion people without access to improved water supplies are being reached with current efforts to promote household water treatment and storage (HWTS).

Technology solution

In collaboration with Cascade Designs, Inc. (Seattle, WA) and India-based Quicksand, PATH designed a HWTS device specifically for developing-world consumers. Proper assembly and use of the device can be understood without prior experience with water treatment products or practices. Its size, shape, and physical appearance are appropriate and appealing. It meets the water consumption needs of low-income households and is aspirational for consumers. There is no chemical smell or taste in the treated water, and frequent cleaning of the device—a common developing-world practice for household goods—can be done effectively with hands and fingers.

All of the product design requirements were learned through two major initiatives completed by PATH's Safe Water Project: (1) an extended user study of how low-income households in rural and semi-urban areas of Andhra Pradesh, India, used and misused a variety of HWTS products, and (2) the development of design guidelines for HWTS products for developing-world consumers. The final design is PATH's application of our HWTS design guidelines, which have been shared widely and are available on the PATH website. These two initiatives are also informing marketing strategies for low-income households who have little experience with HWTS products or water treatment.

Current status and results

We finalized agreements with three Chinese manufacturers to develop, produce, and sell their own gravity-fed HWTS devices to low-income households based on our HWTS guidelines. Their devices and filters are in production and share a compatible filter-to-device connection (common interface) developed by PATH and our partners. Independent evaluation of these products has validated the design approach with nearly 90 percent of users stating a high desire to purchase. Having multiple product producers offers consumers and nongovernmental organizations choice and creates competition which will provide long-term benefits to the HWTS category.

1. World Health Organization (WHO). Fact Sheet N°330: Diarrhoeal disease. Geneva: WHO; 2012. Available at: http://www.who.int/mediacentre/factsheets/fs330/en/index.html

2. United Nations Children's Fund (UNICEF). Committing to Child Survival: A Promise Renewed. New York: UNICEF; 2012.

PATH/Glenn Austin

The prototype device was designed for low-income households.

[Users] found the water quality to be excellent (taste, clarity, and cleanliness); the unit to be easy to use and to clean; and that clients will consistently use it to treat drinking water.

Freedom from Hunger. *Feedback Report—Gram-Utthan, Freedom from Hunger Field Fitness Test of Pureeasy HWTS in Orissa, India, June 2013*. Freedom from Hunger; 2013.

Availability

For detailed product and purchase information: http://sites.path.org/water/hwts/technology/new-water-filters-resources/

For more information regarding this project, contact Glenn Austin at gaustin@path.org.

Donor support

Funding for this project was provided by the **Bill & Melinda Gates Foundation.**

Mailing address: PO Box 900922, Seattle, WA 98109, USA Street address: 2201 Westlake Ave, Suite 200, Seattle, WA 98121, USA
Tel: (206) 285-3500, Fax: (206) 285-6619, www.path.org

PATH