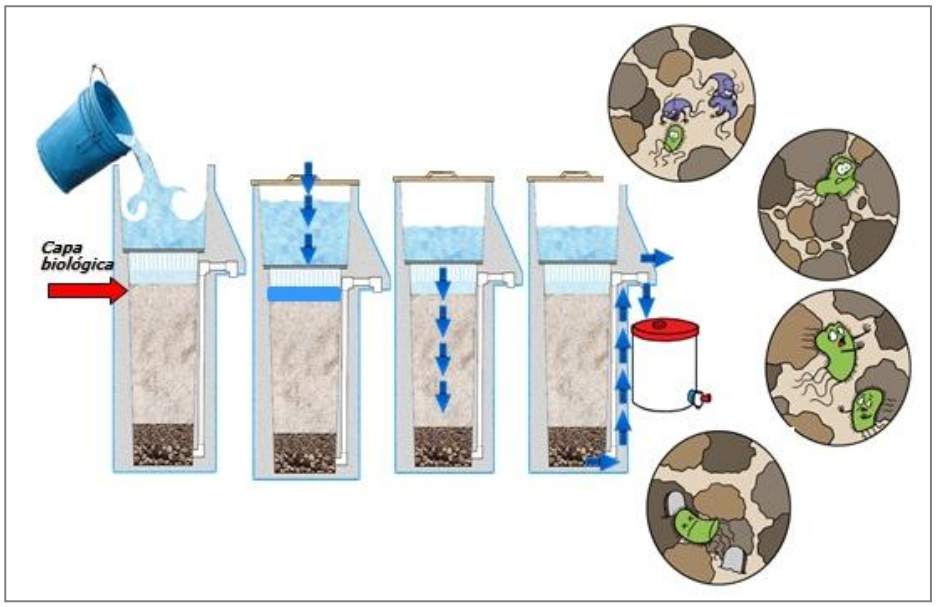
BIO-SAND FILTERS

ADOPTED IN PERU BY AGUASAN

By Daysi Mamani Suaquita

AguaSAN Perú a non-profit organization that researches and implements approach for water security, has been adopting in Peru the technology of the Bio-sand filters. Henry Juarez, the founder and executive director of AguaSAN Perú also launched the *Clean Water for Peru Initiative*.



In many Peruvian peri-urban areas of large cities and in rural areas, many sources of water used for human consumption are being contaminated with human pathogens, heavy metals and other dissolved compounds. As a result, thousands of families lack access to safe water. Families that drink contaminated water may suffer from water-borne diseases such as diarrhea, parasites, stunted growth and skin lesions, among others.

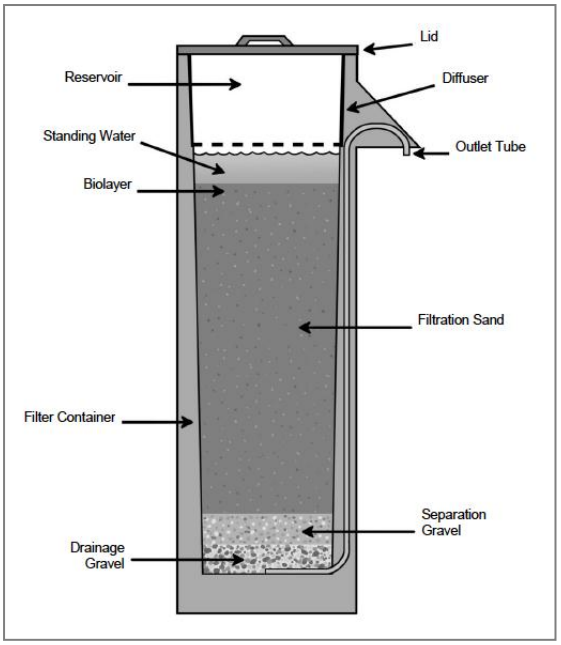
Although the results of global efforts in recent years have been encouraging, problems related to water and sanitation had increased. According to UNICEF, 2.6 billion people lack access to sanitation, and 780 million people lack access to safe water in the world.

Looking for an appropriate technology to offer a simple, low-cost way of improving water quality in Peru, AguaSAN found the Bio-sand filters, a Canadian-made technology that improves on the design of traditional sand filters. AguaSAN began testing the feasibility of using the filter to reduce pathogens in Lima's drinking water, with the support of IDRC (International Development Research Center).

The Bio-sand filter, also called a BSF, is a water filter that makes dirty water safe to drink. It can be used in houses or social buildings like schools. It can be made of concrete or plastic. It is filled with layers of sand and gravel that are carefully prepared to go inside the filter. Most importantly it removes heavy metals from drinking water.

The BSF works in different steps:

- Pour a bucket of dirty water on the top of the filter. Water will start to flow out of the tube. Put the lid back on the filter. The filter should be filled between 1 and 4 times every day.
- The top of the filter is called the reservoir. It can hold 12 liters of water, about 1 bucket. Water coming out will flow fastest when the reservoir is full.
- It usually takes at least 1 hour for the water to stop flowing.
- After water stops flowing, the filter must rest at least 1 hour before pouring in more water. This is called the Pause Period.



Technical information on Bio-sand filters are available in the manual developed by CAWST (Centre for Affordable Water and Sanitation Technology).

In the nineties, David Manz designed the Bio-sand filter for households at the University of Calgary in Canada and has trained many organizations on how to design, construct, install, operate and maintain the Bio-sand filters. David Manz is also co-founder of CAWST, which in June 2009 estimated to have deployed more than 200,000 Bio-sand filters in over 70 countries worldwide. More technical information concerning the construction of Bio-sand filters are available on the website of David Manz.

AguaSAN is helping to reduce child diarrheal diseases through the use of Bio-sand filters, improving life quality and promoting hygiene and community health. The projects are implemented under three strategic components: training of Health Promoters of the beneficiary communities; training for the beneficiary families on issues related to hygiene, health, water management, care, and use and maintenance of the filters; and implementation of bio-sand filters using the beneficiary to strengthen local capacities.

The filter is producing positive results and AguaSAN works with the support of the Government of Peru, IDRC, local and international NGOs, Rotary International and private companies in order to provide filters and training for health workers and local communities.

To know more

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http://www.manzwaterinfo.ca/bsf/bsf1.html

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Manual on Bio-sand filters

http://www.cawst.org/