

Household Water Treatment and Safe Storage Implementation Case Study: Biosand Filters

AGUA PURA PARA EL MUNDO (APPM) – PURE WATER FOR THE WORLD

Introduction

Agua Pura Para el Mundo (APPM), or Pure Water for the World, is a non-profit NGO headquartered in the USA and operating in Honduras and Haiti. They are dedicated to improve the health of children, families and communities by providing them with sustainable water solutions. Their strategy is breaking the poverty cycle through the “water triangle”: first, providing a pure water system; secondly, basic health and hygiene education and finally, through the appropriate disposal of excreta.

APPM started implementing concrete biosand filters (BSFs) in Honduras in 2009. Later, they switched to Hydraid[®] plastic filter containers. To date, they have implemented more than 1,800 filters in several communities in Trojes, Honduras. They have also developed a sanitation programme, and have started piloting other household water treatment technologies, such as the Sawyer[®] filter.

Creating Demand

APPM raises awareness and creates demand for the biosand filter through holding meetings in communities. First of all, they contact the leaders in the community to see if they might be interesting in bringing a biosand filter project to the community. Once the leaders have agreed, APPM organizes a meeting with the whole community, where they introduce the project and the biosand filter, and creates a list with the families that are interesting in receiving a filter.

During that meeting, APPM also describes their Community Agents (CA) program, and asks for volunteers. The CAs will help promote the filters, educate community members, and follow-up with filter users. The members of the community that are interested in helping their community and who are available can sign up to become a CA. APPM encourages women to participate.

APPM's program has been so successful in Trojes, that they are now receiving requests from communities who approach APPM, where they haven't even done the initial introductory meeting.

Supplying Products and Services

Initially, when APPM started their project, they were building and installing concrete Biosand Filters. They were built by a local entrepreneur. APPM bought the concrete filter containers from him. APPM transported and installed the filters in the households.



APPM Concrete BSF, Honduras

APPM decided to switch to the Hydraid plastic filter due to several reasons:

- The local concrete manufacturer was increasing the price of the concrete containers,
- The communities where APPM works are very isolated, and it is very difficult to access/transport concrete filters,
- Climate conditions made the delivery of the filters even harder.

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APPM gets the plastic filter containers from the United States. Then, they are delivered to Trojes by road.

APPM gets the sand and gravel sieved and packaged by the local partner of Hydraid® in Honduras, Triple Quest. APPM receives three sacks per filter from Triple Quest: one for the drainage gravel, one for the separating gravel and one for the filtration sand. These materials just need to be washed before installing.

Lately, APPM has discovered the sand they were receiving had a big amount of very small particles, which slows down flow rates in the filter if it is not removed (usually through washing). They decided to start passing the sand through a very fine screen (#44) to remove the dust, and avoid washing the sand.

form, where they write down the flow rate at installation and if there were any problems that may need to be taken into account in the future.

APPM also provides a safe storage container to each household. It is provided with the filter at installation to make users to understand how important safe water storage is in the process of getting safe water.

APPM believes users need to contribute somehow to create an ownership feeling. When distributing concrete biosand filters, people were asked to pay 7 USD\$. In case families weren't able to pay this amount, they had to contribute in kind, with labour building the filters. Now, with the plastic filters, families are only asked to contribute money.



Plastic filter installation



A plastic Hydraid® biosand filter

The plastic bodies and media for the filter are stored at the APPM's office, located in Trojes. When installing filters in a community, APPM distributes the materials to a main location in the community. Then, the CAs and the beneficiaries are responsible for transporting them to each household.

The CAs are responsible for installing the filters. They are provided with a tool to check the level of the sand, a 0.5 L plastic bottle for checking the flow rate, and a monitoring

Monitoring and Improvement

Once the CAs of the community have been selected in the introductory community meetings, they received a 2 day training on the biosand filter. During those days, they learn about general WASH issues, how to install filters, use and maintenance of the BSF, trouble shooting and how to do households visits. While in the workshops, each CA is assigned a number of

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households from the community for whom they will be responsible.



APPM's Community Agents program training

In the 2 day CA training, each CA receives a manual that summarizes the information learned. APPM has developed their own materials (manuals, posters, etc.) based on CAWST materials but adapted to the local needs.



CA's manual developed by APPM

The CAs main responsibilities are: deliver and install the filters in each household, help the users in case they find problems with their filters, provide feedback to APPM if there are materials missing (e.g. sand) or if they found a problem they couldn't solve, and do the follow-up visits scheduled for each household.

APPM's CA program plays a key role in the success of their program. They are volunteers and do not receive any salary for

doing this job. However, the success of the CA program is based on the CA are members of the community as well. Therefore, they know very well their neighbours and what are the problems and needs in the community. They are also respectful members of the community that their neighbours respect and trust. The CA are also well trained, and have developed the appropriate skills to carry out their job correctly.

When the filters are installed, the users know which CA is responsible for their filter. APPM also provides them with some contact information, in case they have problems with their filters. The APPM staff health promoters provide their cell phone numbers, and area available to help CAs solve any question the beneficiaries might have which the CAs cannot answer.

APPM uses the CAs as their primary method of monitoring the biosand filters. Within 2 weeks after installation, the CA goes with an APPM staff health promoter to visit each filter. Together they check that the filter was installed properly and the users didn't find problems with their filters. This visit is used to reinforce the key message regarding the use and maintenance of the filter and to solve any question the users might have.

APPM has established a follow-up visit schedule for the CAs:

- 1st visit – 1-2 weeks after installation (accompanied by a health promoters from APPM)
- During the first three months after installation, the CA will visit the households once a month
- After the 3rd month to 1 year after installation, the CA will visit the households every three months
- After 1 year, the visits will be every 6 months.

During all those visits, the CA will fill out a monitoring form. The aim of this form is firstly, register if problems were found, and secondly, register that the visit took place.

In the past, all these monitoring form were sent to APPM's office in Trojes, but the team

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didn't have the time and resources to manage this huge amount of information coming from the communities.

APPM contact frequently the CA to check they are doing their job. They discuss together if there has been problems with any filter and how they solved them.

APPM has created a "problem registry" where they note the problems found, if they were solved and how.

Building Human Capacity

APPM understand how important training and building human capacity is within the community to ensure the success and sustainability of their program. They have realized this after years of providing consultancy services to other organizations implementing BSF projects in Central America.

APPM recognizes the role that the CAs play on their program. That's why they have developed a customized workshop adapted to their needs to build strong skills among their CAs.

APPM also delivers other workshops to raise awareness and build capacity among the communities about WASH issues. The workshops include the following: environmental hygiene, household hygiene, latrines and personal hygiene.



Young filter users in Honduras

Supported by UNICEF, APPM has developed a new concept for delivering training: a Mobile Training Centre. This Centre was designed to deliver refresher workshop to the CAs in the communities where the BSF were installed a couple of years ago. This program has also become a tool for creating demand. Where they arrive to the communities, there are always new families and new individuals interested in becoming a CA. The Mobile Training Centre also plays a key role on building end users' capacities. This centre goes to communities that already have filters and reinforce key messages about the use and maintenance of the filters. Its objective is also to raise awareness on WASH issues.

APPM have received training from CAWST on several topics. They were trained on Project Implementation for the Biosand Filter and Community Health Promotion. Both trainings helped them to become stronger on BSF project implementation and to establish their CA program.

APPM has participated in an Effective Facilitation Skills for Trainers workshop delivered by CAWST with the objective of building APPM's staff's skills as trainers.

CAWST also spent time with APPM's staff developing their CA workshop, creating different lesson plans and other materials.

APPM has also participated in a Low Cost Sanitation workshop to gain new ideas on how to adapt and improve their sanitation program.

Program Financing

APPM receives funding for education and project implementation through a variety of sources APPM's biosand filter program is mainly financed by UNICEF and CIDA (Canadian International Development Agency). UNICEF is also responsible of the funding for the Mobile Training Centre. APPM also gets funds from their headquarters in the United States, who raises funds from corporations and individuals. APPM also has partnership with different Rotary Clubs in the United States.

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References

APPM staff. Personal communication,
November 2011.

CAWST site visit to APPM's project.
November 2011

Further Information

Agua Pura Para el Mundo:
<http://purewaterfortheworld.org/>

Hydraid Plastic Biosand Filters: CAWST
HWTS Factsheet, or
hydraid.org

Sawyer filter: CAWST HWTS Factsheet, or
www.sawyer.com

CAWST, Centre for Affordable Water and Sanitation Technology
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Wellness through Water.... Empowering People Globally
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