

Sanitation Case Study:
Latrines and filters for nineteen
communities in Trojes, Honduras



About this document

CAWST's Latrine Program Implementation Case Studies give detailed overviews of different latrine programs. Each case study describes how the implementer(s) addressed seven components of latrine programs, and what challenges they have faced. Each case study is in a "Question and Answer" format. This document is part of a collection of resources for learning and training about sanitation. To access CAWST's other sanitation resources, visit cawst.org/resources.

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About CAWST

CAWST, the Centre for Affordable Water and Sanitation Technology, is a Canadian charity and licensed engineering firm based in Calgary, Canada. CAWST acts as a centre of expertise in water, sanitation, and hygiene (WASH) for the poor in low- and middle-income countries, and addresses the global need for WASH by building local knowledge and skills. Our expertise is in non-networked WASH technologies and approaches. CAWST solely focuses on capacity development: we do this by providing subsidized training, consulting, and free open-content education resources. We help other organizations start, strengthen, and grow their WASH programs.

Program overview



LEAD ORGANIZATION	Pure Water for the World (PWW)
TYPE OF ORGANIZATION:	Non-profit organization
NAME OF PROGRAM:	Latrines and filters for 19 communities in Trojes
LOCATION OF PROGRAM:	Trojes municipality, El Paraiso department, Honduras
DATES OF PROGRAM:	March 2017–May 2018 (expected finish)
SIZE OF PROGRAM:	64 latrines in households, 14 latrines in schools
IMPLEMENTATION REACH:	195 children and 199 adults were reached with household latrines, 559 children and 23 teachers were reached with school latrines

About the program

A latrine project starts when a community sends a project proposal to PWW requesting support. Once the proposal is evaluated and accepted, PWW develops a proposal to find external funding.

Once a project is funded, PWW goes to the community and explains to the local authorities and households the requirements needed to be part of the project. To receive PWW's technical assistance and manufactured materials, households must attend all the required training sessions (including latrine construction), collect the local materials, dig their own pit, and pay a small symbolic fee. PWW then trains community members, provides technical assistance on the latrine construction, and provides the manufactured materials. The household builds the latrine themselves or pays a mason. PWW supervises the quality of the construction and provides follow-up visits to monitor quality and use.

About Pure Water for the World (PWW)

PWW is a nonprofit organization founded in 1999 and based in Vermont, USA, with offices in Tegucigalpa and Trojes, Honduras, and Port-au-Prince, Haiti. Its mission is to improve the health and livelihood of children and families living in underserved rural communities in Central America and the Caribbean by providing effective tools and education to establish sustainable safe water, hygiene, and sanitation (WASH) solutions. PWW Honduras primarily supports the implementation of HydrAid biosand filters and latrines for households and schools. PWW provides WASH education by supporting teachers to include WASH in their school curriculum, as well as training community agents to support program beneficiaries.



STAKEHOLDER
ENGAGEMENT



PRODUCTS AND
SERVICES



DEMAND
CREATION



FINANCES



CAPACITY
DEVELOPMENT



MONITORING FOR
IMPROVEMENT



FECAL SLUDGE
MANAGEMENT

Stakeholder Engagement

There are many stakeholders involved in implementing a latrine program. Partnerships with community leaders, government, and respected organizations can make a big difference in an initiative's success. Let's find out more about PWW's approach to engaging with others.

Which stakeholders are involved in the project, and what are their roles?

The key stakeholders are the beneficiaries, the PWW promoters, and the government health promoters in the communities.

PROGRAM STAKEHOLDERS	
Households	Responsible for getting local materials and building their latrines (with PWW technical assistance). They can subcontract a mason, if needed, for digging the pit and building the slab and superstructure. Households must attend all training sessions and pay a symbolic fee to get a subsidy. They are in charge of latrine maintenance.
Masons	Community members that have knowledge on construction – they are also beneficiaries. They are trained by PWW and then get hired by households to build their toilets.
PWW promoters	Provide technical assistance and guidance on latrine options, design, and construction. They are also responsible for providing training (including to community agents) and monitoring latrine quality and use.
Government health promoters (from health department office)	Conduct follow-up household visits to monitor people's health. They should be creating awareness on correct use of latrines and other hygiene practices (although this is rarely done). They write monthly reports for the health authorities. They are based in Trojes and have several communities assigned, where they travel at least once a month.
Community agents (volunteers trained by PWW)	Volunteers responsible for long-term monitoring and troubleshooting with beneficiaries but currently only for biosand filter programs. The plan is to have the same role for the sanitation program.
Local leaders	Members of the community board (registered at the city council), members of the parents' board (at the school), teachers, and religious leaders. They present the community's project proposal to PWW and support the implementation of the project.
Donor	Support in defining the scope of the project and provide financial resources.

How do you select the volunteers in the community?

During the initial project presentation and training, PWW informs the community that they need volunteers to act as community agents to support households. People that are interested sign up. Later, they receive specific training on health and WASH promotion. Each community agent has a maximum of five households to support. They choose the households based on proximity and relationships. However, they can't choose family members. Volunteers do not receive a salary for their contribution to the program.

Do you engage with the local government?

Not really. The national government and PWW have very different approaches towards sanitation implementation. The government has a national program called "Better Life" that provides support to households, including latrines. However, these latrines are provided for free.

In addition, we find that their community and beneficiary selection process is quite influenced by political decisions, which can be controversial.

At PWW, we try not to get involved in politics so we can maintain good relations with all households in the communities. At the same time, through our experience, we know that giving water or sanitation technologies for free doesn't work, and there must be some kind of contribution from the beneficiaries. That's how a community is really empowered.

Do you inform the local government of your work?

Yes, we do, through the health promoters. Also a couple years ago, we tried to develop a joint water and sanitation plan for Trojes, but it was never achieved, as there was lack of interest from the government.

How do you engage with the community?

PWW promoters work very closely with all the community members, including masons and community agents. They are part of the decision-making process, and we support them with training and technical assistance.

Our team visits the communities several times and builds a strong relationship with them. They know they can trust us and that they can call us when they need support.

Is there any local platform to share progress with other stakeholders?

In Honduras, we're part of the platform Para Todos por Siempre (Forever for Everyone). It was created in 2013 with the ambitious vision of collecting, developing, and sharing lessons learned on innovative models and approaches aiming for universal access to sustainable water and sanitation services. The idea is that these can later be shared with, and adopted by, the national government and other stakeholders to scale them up. It is a great platform for knowledge sharing. The main challenge is that it's more focused on big INGOs.



Lessons

Any lessons on engaging with stakeholders you would like to share with other implementers?

The most important thing is to empower the families and have them own the project from the beginning.

Products and Services

Latrine design and construction is often the focus of sanitation programs. Supporting services, before and after the installation of a latrine, are essential for long-term use. Let's find out more about PWW's latrines and the services they provide.

You build latrines for households and schools. Why did you chose to implement in schools?

There was a need for latrines in schools in Trojes. Schools don't always have latrines, or they have too many students for the number of latrines, or the latrines are in bad condition. Since school sanitation is not a priority for the government, PWW decided to help fill this gap.

What type of latrine do you promote for households?

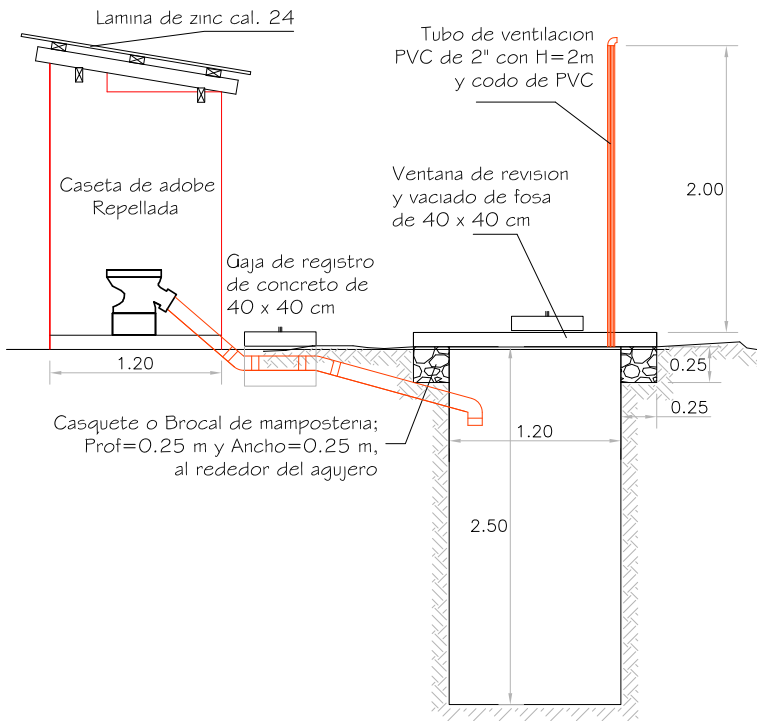
We've designed two types of latrines to meet different situations. For households with no water, we initially recommended dry toilets. The design evolved to Urine-Diverting Dry Toilets.

For households with water, we promote pour flush toilets. These have either one pit or twin pits (with a distribution box), situated 2–3 metres from the toilet. Usually families initially only dig one pit



Pour flush toilet with a distribution box and one pit.





Blueprint of pour flush with a distribution box and one pit.

with the distribution box and dig the second one when the first pit is getting full. Flushing water usually comes from the closest stream using a hose.

Why did you change to Urine-Diverting Dry Toilets?

Back in 2009, we started implementing dry latrines as it was a simple design, and we didn't know much about sanitation. With time, we realized that households didn't always want to use them because they smelled bad. After attending a CAWST workshop, we learned about the Urine-Diverting Dry Toilet and adapted our design to better meet people's needs and because we thought this was a more hygienic solution. We used our technicians' knowledge to create a mold for the Urine-Diverting Dry Toilet, which took us over a year. People seem to be happier with the new design.

Do the latrines for households include any handwashing facility?

Not yet, but households are looking for low-cost solutions. Therefore, we are thinking about simple solutions that don't increase the cost significantly. We are planning to add a shelf with a container for water and soap. The greywater produced will be transported to the latrine pit via a hose.

What if families already have a latrine?

If a family already has a latrine, PWW checks the quality and provides technical support if any improvement is needed. These latrines tend to be built with low-cost materials (for example, footing made with wood instead of concrete, slab made with a metal sheet) and they don't follow the proper dimensions or site the latrine in the most appropriate place. The quality of latrines is better when families get our support.

What type of latrines do you promote for schools?

For schools with piped water, we have two designs: for big schools, we promote a block of four pour flush latrines and for small schools, or schools that already have facilities, we promote two pour flush latrines. In both cases, latrines are connected to a double pit system and have handwashing facilities.

For schools with rainwater harvesting systems, we promote one pour flush toilet and one Urine-Diverting Dry Toilet (in case they run out of water during the dry season).

How did you select these types of latrine?

We selected these designs for multiple reasons: affordability, user preferences,

ease of build, ease of maintenance, and water availability. Communities were asked about their preferences for latrines. They chose these ones because they don't smell, they are comfortable, they are safe for children, and they use a design that is common in the area. We also conducted soil filtration tests to ensure that pour flush toilets could perform as planned in the area.



School toilets with a handwashing station.

So how does a household obtain a latrine?

PWW receives a community proposal, which includes details on their needs. Once the proposal is received and approved, PWW requests a population census from the community. Once the population census data is collected, PWW locates funding. We always start working on household filters before we work on latrines.

Before getting the manufactured materials, families have to attend several general WASH training sessions (this is usually

done when the filter project starts) and attend one specific training on latrine construction. In addition, they'll have to get local materials, such as sand and gravel, dig their pit, and pay a small symbolic fee of HNL 300 (US\$13). Then it is up to the household to build the latrine or pay someone to build it for them. In the latter case, usually the community agrees on one or two masons to reduce costs.

How does a school obtain a latrine?

It is a similar process. The community pays a symbolic fee of HNL 800 (US\$34) to PWW, collects the local materials and pays for the mason. PWW provides the manufactured materials and supervises the construction.

Where do the materials come from?

The beneficiaries collect the locally available materials such as sand, gravel, or wood. If sand and gravel are not available, they transport it from nearby sources using horses. Manufactured materials (concrete blocks, toilet bowls, or cement) are provided by PWW and are bought in Tegucigalpa or Trojes as they are not locally available.

Have households or masons faced any technical problems building latrines?

PWW provides training on latrine construction, which limits the technical issues. However, sometimes the ground is unstable, and our design does not include lining to reinforce the pits (to reduce costs). If soil is unstable, we recommend digging a new pit somewhere more stable. But where there are not many options, they need to build a bigger slab; the other recommendation is to dig a circular pit, instead of a square.

Any issues with the superstructure?

The walls used to be made with metal sheets (which are faster to build), but they



would start rusting after three to four years. The new design uses adobe bricks. Then we noticed that the adobe bricks were not resistant enough to the rain and wind, so since last year the adobe bricks have been installed with concrete plaster.

Any other changes to the design?

In 2009, PWW worked with pour flush latrines with one pit (no distribution box) and no hole on the pit cover, which made it more difficult for emptying. In 2012, we changed the design to include two pits with a distribution box and a window on the pit cover so it can be emptied when full.

If the latrine breaks, who repairs it?

Beneficiaries are the latrine owners. Once it is finished, they are responsible if anything breaks.

But since we've made the design changes in 2012, no latrine has broken.

How do you ensure the latrines are used and maintained correctly and consistently?

With our water filter projects, volunteer community agents are trained to supervise a maximum of five families. However, this is not yet the case for latrines. We have just changed this. Community agents are now going to be trained to also supervise latrines. Up till now, latrine supervision was done only by PWW staff. We would supervise the construction and go back after one year to check use and maintenance.

Are people satisfied with their latrines?

We generally have good feedback from households and schools. We work with low-income families so they are very grateful that we support them with the costs of the materials.

No latrines have been abandoned?

In most cases, when a latrine is abandoned, it is because families do not live there permanently or they've done

Training on latrine construction. Everyone from the community can attend, not only masons



renovations in the house, and abandoned the old latrine. Sometimes latrines get abandoned because they belonged to a ranch guard and the new one doesn't want to use it. When we initially started implementing latrines, it was more common to see abandoned latrines, as families didn't understand the importance of sanitation. In many cases, they didn't want to use their latrines because they wanted to keep them clean. However, as our training program developed and included training on environmental sanitation and disease transmission, people started wanting the latrines, as they didn't want to spread feces around and get sick.

Beneficiary showing the pit he dug

Lessons

Any lessons on products and services you would like to share with other implementers?

We have a lot of lessons learned. But here are a few key ones:

- It is important to provide clear instruction on the construction process and materials required, and supervise the latrine construction process. Not everyone has the same quality standards. We would like to provide households and masons with blueprints and a list of materials before building the latrine.
- It was also important for us to realize that not all households have the time to build a latrine within our deadlines. The most common reason for not building is that they have been working, often farming. We need to plan more in relation to coffee and bean harvesting times.
- Don't provide subsidized materials until the household has gathered the other required materials.
- Plan for more drying time for adobe bricks in rainy conditions.



Demand Creation

The definition of creating demand is when people have the motivation, opportunity, and ability to purchase, maintain, and use a latrine. Demand creation should inspire people to continue using latrines because they see the value it adds to their lives. Let's find out more about PWW's approach to creating demand for latrines.

What was the sanitation situation before you started this program?

We don't have concrete baseline data before we started working in latrines, but to give you an idea, probably 2% of the population had a single pit latrine, and most people practiced open defecation.

What was your relationship with the community like before the latrine project?

When we start working in a community, we need to gain their trust because government institutions have often come beforehand offering assistance and support and did not necessarily keep their promises.

We always start projects with water filters. Therefore, when starting a sanitation project, we already have a strong relationship with the community and they trust us. Time between filter implementation and latrine implementation varies: we try to do it all together, but it depends on the donor requirements. For this project in particular, there was a one-year gap, but in other communities, it took up to five years to go back with latrines.

Toilets were an important need in the rural communities. How did you prioritize which communities you worked with?

We have a long list of communities that have already received their filters. We tend to prioritize communities based on geographic location, trying to get full coverage of one area before moving to the next one. This makes our follow-up visits more efficient. This strategy helps us to get 100% coverage in water and sanitation in an area, and then we can start expanding in other areas.

How did you build that trust in the communities?

By involving them in the decision-making process, supporting them throughout implementation, and by building the capacity of the community agents.

We are quite close to community members and even give them our cell phone number, so they can call us if they have any problem with their filters or latrines.



How does PWW create demand for latrines?

Demand for latrines often already exists—households are eager to have a latrine. This is the case because when households get their filters, we raise awareness through workshops on the importance of having latrines. Also, through word of mouth, communities learn about PWW's sanitation work and prepare plans for how they would like to improve their communities.

What motivates households to get a latrine?

There are various reasons why households want a latrine. Often they know they should have one for their health because health centres promote building latrines. They have also seen other communities where PWW has worked and have seen how comfortable it is to have a latrine at home. They are also embarrassed to not have a latrine when a guest visits them from the city.

What are the main barriers?

Money, lack of knowledge on how to build a latrine, but also cultural issues that make them conformist (in other words, if they are not asked or pushed to build a latrine, they continue their previous behaviour of open defecating or using rudimentary single pit latrines). Once they get someone to help them overcome these barriers, they are ready to do it.

PWW staff raising awareness on hygiene and sanitation



Lessons

Any lessons on creating demand you would like to share with other implementers?

- If money is a barrier, a good message to create demand is the reduction of health costs related to waterborne diseases. We do this during our trainings, estimating how much it would cost for a family if one of their children got sick.
- Create a relationship with health centres. We'd like to provide health centres with more informative materials to help them promote latrines.

Finances

Funding a latrine program can be complicated. There are various costs and many financial models. Let's find out more about how PWV funds latrine programs and plans for financial sustainability.

How much does a household pay for a latrine?

We did a study on how much households were willing to pay. We had estimated around HNL 500 (US\$21), but they told us it was too much. The agreed price was HNL 300 (US\$13). This is roughly the cost PWV pays for transporting the materials to the communities.

What's the total cost of a latrine?

Cost depends on the materials locally available, how much the users contribute towards construction, and the time required by a mason. To give you an idea, PWV pays HNL 3,500 (US\$148) for manufactured products, HNL 350 (US\$15) for transporting them to the community, and provides four days of training/guidance, which costs up to HNL 1,400 (US\$60).

Households pay for the mason's labour, which is HNL 300 per day (US\$13). Typically, it takes up to five days to build one latrine, which would be HNL 1,500

(US\$64). If masons are hired to build the adobe bricks, one extra day is needed. And it takes two days for digging the pit, so that costs HNL 600 (US\$26).

How do you decide who benefits from the material subsidy?

Almost everyone is eligible for the subsidy. The requirement is that the household must attend all the workshops delivered in the community, have a biosand filter, collect the local materials, and pay a symbolic fee. Furthermore, the household can't be a high-income household. The family's situation is determined through observation and information from community leaders. For example, an old couple who has a very humble house, but the community leaders inform us that they have a son with a lot of money who provides them with money—they will not receive a subsidy. However, a single mother with very young children, who the leaders confirm has a very complicated situation, will receive a subsidy.



Were there any tensions caused by the subsidies?

We did not have any conflict with the subsidy because people in the community know everyone's family situation, and solidarity between neighbors gets the best of them.

Are there cases when families build their own latrines, without receiving any subsidy?

Yes, in some cases, families can afford to build their own latrines; they get the materials from Trojes. Some families can afford to build their latrines but still request help as they find it challenging to save money and find the time to build the latrine, or because they lack knowledge on how to do it.

How do households pay for the latrine?

They pay the HNL 300 (US\$13) in cash, and we give them a receipt in return.

This is neither for the materials nor for the mason. It is a symbolic fee to create ownership. Masons are paid for by the households, and they need to agree terms personally (PWW is not involved in that transaction).

Are masons able to make a living off building latrines?

Local masons are sometimes hired by the community. They make good money, but the project does not last very long. The masons are quite busy during the two dry months in the summer when they are working on bigger projects, but otherwise the rest of the year it is easy to find a mason.

How is your organization funding this latrine project (for example, staff, products, etc.)?

By a private company donation from the USA. This donation covers everything

related to program implementation. But this is not the case for other latrine projects. Not every donor covers all implementation costs, in which case we need to look for several funding sources.

What is your vision for financial sustainability?

PWW intends to work with local government (who is responsible for public health) and develop a Water and Sanitation Municipal Plan. Government, water councils, community agents and the rest of the civil community will then work together to ensure communities have access to safe and sustainable sanitation. That is the future.

Lessons

Any lessons on financing you would like to share with other implementers?

- PWW does not start a project until the funding has arrived, but sometimes a long period of time has passed from the day the census data has been collected to the day we get funding. Population growth must be accounted for and anticipated.
- Don't start a project until the funds have arrived.
- Work with the whole community at the same time to avoid potential conflicts.
- Have a clear selection process for providing subsidies. This process should involve the community itself (for example, leaders).
- Families' contribution is key for ownership.

Capacity Development

Developing capacity is a process for individuals, organizations, and societies to obtain, strengthen, and maintain their capabilities. This includes everything from the knowledge and skills a mason needs to build a latrine to the regulations and laws governing sanitation products and services in a country. Let's find out more about how PWW approaches capacity development.

Do you develop the capacity of households?

Yes. We build their capacity through workshops and individual support. When we start working at a community, we deliver a six-week training program. Each session takes half a day (three hours) and they are mandatory for all community members. This training program includes sessions on: environmental sanitation, use and maintenance of the biosand filter, household hygiene, personal hygiene, and menstrual hygiene for each community. Some of the training sessions target different sections of the population (for example, household hygiene training for women, latrine construction training for men, community agents training for the volunteers). The menstrual hygiene workshop is given to everyone but in separate groups (men and women, sometimes also boys and girls).

Once the sanitation project is funded and planned for a community, we deliver a one-day workshop on latrine construction to all community members, including the

local masons. In this session, we cover topics like siting latrines, dimensions of the pit, and how to build a slab. We also provide ongoing support on the construction of the latrines. We have a specific training program for community agents, as they will start to provide support to households too.

Do you develop capacity of local masons?

Training is mainly focused on beneficiaries, but includes masons. The training includes sizing slabs, mixing concrete, reinforcement, slab molds, and sizing pits, among other topics. PWW offers latrine blueprints to the masons. These drawings have been developed by PWW with the assistance of an engineer. The masons then build a latrine together for practice.

What is your approach to developing capacity?

The approach is always participatory, with activities, games, and brainstorming so people become familiar with sanitation issues. We use CAWST's activities such



as transmission routes, sanitation ladder, gender role cards, and multiple barriers cards. We also give the families posters on: how to use the filter and what to use the filter water for, hygiene practices, hand washing, and how to use a latrine. We used CAWST materials as a basis and have developed our own lesson plans and training materials adapted to the local context and needs.

Did you develop the capacity of your own staff?

Yes, PWV staff have all received training on topics such as education (facilitation skills), and technical knowledge. Training sessions were mostly delivered by CAWST. However, not all staff have received specific training on sanitation.

PWV staff conducting a training

Is any other organization responsible for developing capacity of sanitation stakeholders?

Health promoters are supposed to assist families with awareness around latrine use, but that rarely happens.

Lessons

Any lessons on developing capacity you would like to share with other implementers?

- Get multiple stakeholders to support households. Community agents are a good stakeholder to provide the ongoing support households may need.
- Use participatory methods in training and include the whole family in the process.



Monitoring for improvement

Monitoring is essential to continuously improve a latrine program. It should be practical; all information collected should be used to measure how well goals are met and to identify ways to improve the activities. Let's find out more about how PWW effectively monitors a latrine program.

What do you monitor?

Up till now, we only monitored the latrine structure after construction. But we are now going to start monitoring the use of latrines.

What indicators do you use?

For the latrine structure, we look at the quality of such things as the door, walls, and slab.

For the use of a latrine we are going to look into where else people from the household relieve themselves, whether anyone in the house has difficulties using the latrine, latrine cleanliness, presence of anal cleansing products, water (for pour flush toilets), handwashing station with soap, and so on.

How do you do the monitoring?

The PWW staff return to a community after a year to monitor the situation. They do household visits and conduct interviews and observations. We plan to train community agents to do the monitoring of latrines. We will create an easy monitoring form for them to fill out (mostly using visuals to make it easier).

How do you use the results to improve your project?

During household visits, PWW staff advise the family on how to improve the use and maintenance of their latrine. If we see recurrent problems, we can address these in our program. As an example, through the monitoring process, we realized that aluminium sheets used for latrine walls were not durable enough and we changed them to adobe bricks.

We don't currently do formal analysis of the monitoring results for the latrines, but we do for the biosand filters. We plan to use tablets with Open Data Kit from now on to standardize and facilitate the data analysis.

Is there a national monitoring program for sanitation?

Yes. The National Water and Sanitation Plan (PLANASA) has a monitoring program with goals and indicators. An example of a goal is: By 2022, 85% of wastewater will be treated. The PLANASA goals don't match the SDG deadline, they are planned sooner. PLANASA aims for 95% coverage of people with access to an adequate



drinking water service and sanitary system by 2022. If Honduras was to align with the SDGs they will need to achieve universal coverage by 2030. There has been a lot of progress in Honduras, but the last fraction of the population will be hard and expensive to reach. Most of these people are living in dispersed rural areas.

The government has developed good monitoring tools to evaluate water and sanitation service quality. These include the registry of service providers and SIASAR (Rural water and sanitation information system). Current data shows that 7% of latrines are not being used for various reasons, including poor infrastructure. Service affordability, which is in the SDGs, is currently not included in SIASAR or the registry of service providers.

Does anyone monitor the health impact?

The health centers in Trojes have health promoters that go to the communities. They mostly track when there is some kind of outbreak and report back to the municipality. They visit their assigned communities on a regular basis, and they

create a map of the priority population groups (for example, pregnant women, the elderly) and visit them monthly. If there are cases of diarrhea or pneumonia in the community, they create a spreadsheet report to monitor them. However, unless there is an outbreak, the follow-up is not that frequent.

Lessons

Any lessons on monitoring you would like to share with other implementers?

- Monitor the latrine structure as well as use and maintenance.
- You really need to build trust before you monitor and ask households to show you their latrine. Before we start a household visit, we start by chatting with the family, asking them about their family, work, sometimes they offer coffee.

PWW staff conducting household monitoring



Fecal Sludge Management

Latrine pits and tanks will eventually fill up. Fecal sludge management includes emptying, transportation, treatment, and use or disposal of fecal sludge from an on-site sanitation technology (like a pit latrine or septic tank). Let's find out more about how PWW manages fecal sludge.

Have any of the latrines filled up?

Up till now no latrine has filled up. According to the families that have had latrines for a long time, they tend to fill up after 10 years.

What is the plan after the latrines fill up?

The plan is to build another pit. Rural households have enough space available to do so.

Pour flush latrines will then have a twin pit system. When one is full, the other one will be emptied. We recommend that after two years the first pit can be emptied if it is dried, by using buckets or shovels and the hole in the pit cover.

Have you thought about what will happen to the emptied fecal sludge?

It is difficult in our culture to get people to use fecal sludge as fertilizer. They don't like to grow edible food with their feces. Potentially, they could use it for coffee plants. We haven't thought about other alternatives for sludge use.



Local coffee plantation





Trojes landscape

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