



Photo: Population Services International

The Field Engineer

WHO: Sanitation engineer/WASH technical expert working for an NGO field office.

CONTEXT: Your organization received funding to improve sanitation for households in your service area. As the sanitation engineer, you have been tasked with identifying three new or improved sanitation technologies that could meet the needs of different populations and could be evaluated for user acceptability and technical feasibility in three different contexts.

PROBLEM: Formative research in your service area has identified existing challenges in the current sanitation system.

INSTRUCTIONS: Using the Sanitation Technology Filtering Tool, work through the following challenges. Prior to moving on to the next challenge, please clear all filters from the previous challenge. To summarize the results of each challenge, you can use the [Eawag System Template](#).

Challenge 1: Space constraints

Many households in your service area are renters and live in compounds with limited space. The project lead is interested in testing a container-based sanitation solution that provides an end-to-end service model (including user interface, storage and containment, and conveyance).

- Please use the Sanitation Technology Filtering tool to identify a list of technologies that may be appropriate in your area. (NOTE: treatment and use/disposal options will be dependent on what is available in particular location and context.)
- Please use the Summary tab, Technology Profiles, and System Template to describe three potential solutions and to identify three to five questions to consider when piloting a container-based system.

REMINDER: please clear all filters from the previous challenge.

Challenge 2: Inadequate treatment and disposal facilities

A recent Shit Flow Diagram for your city illustrated that the majority of fecal waste is not being treated or disposed of properly. While the long-term goal is to build a new treatment and disposal center, there is a need to identify options that can safely manage existing fecal waste.

- Please use the Sanitation Technology Filtering Tool to identify non-container based sanitation options for individual households that provide offsite treatment and produce compost as an output for reuse.
- Please use the *Summary* tab and the Technology Profiles to further explore two of these technologies and build a full sanitation service chain.

REMINDER: please clear all filters from the previous challenge.

Challenge 3: High water table

Your service area includes several neighborhoods along a lagoon, so identifying storage solutions that are suitable for a high water table and provide above ground containment is important.

- Please use the Sanitation Technology Filtering tool to identify non-container based storage and containment technologies that would be appropriate for individual households that live in areas with a high water table that provide either onsite OR offsite treatment.
- Please use additional filters, the Summary tab, and System Template to further build out a full sanitation service chain for two of these technologies.

REMINDER: please clear all filters from the previous challenge.

Challenge 4: Improved pit emptying and removal technologies (conveyance)

While there is a good system for vacuum trucks in your service area (or should we say city), many households live in areas where the vacuum trucks cannot reach, which means they are still relying on individuals who provide manual pit emptying services (using hand tools). You have been asked to explore other pit emptying technologies that have the potential to be both faster and more hygienic.

- Please use the Sanitation Technology Filtering tool to identify technologies that would provide an alternative to manual pit emptying using buckets and shovels.
- Please use the Sanitation Technology Profile to learn more about these technologies.

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