# The Sanitation Decision Support tool

Results of the Sanitation Decision Support Tool. The tool was created by WASTE (www.waste.nl) and the Akvo Foundation (www.akvo.org), in order to assist people in choosing sanitation technologies. We hope this tool proves useful, any comments can be send to m.t.westra@akvo.org.

Session information
Date: Mon Nov 30, 2020
Time: 01:47:49

## Options chosen

**Water supply (one possible)**
- none
- fetched / hand-pump / standpipe / tanker
- **connection**

**Space availability (one possible)**
- large
- **medium/large**
- medium
- small/medium
- small

**Flood prone (one possible)**
- **not affected**
- frequent (low-lying area)

**Groundwater table (one possible)**
- shallow
- medium
- **deep**

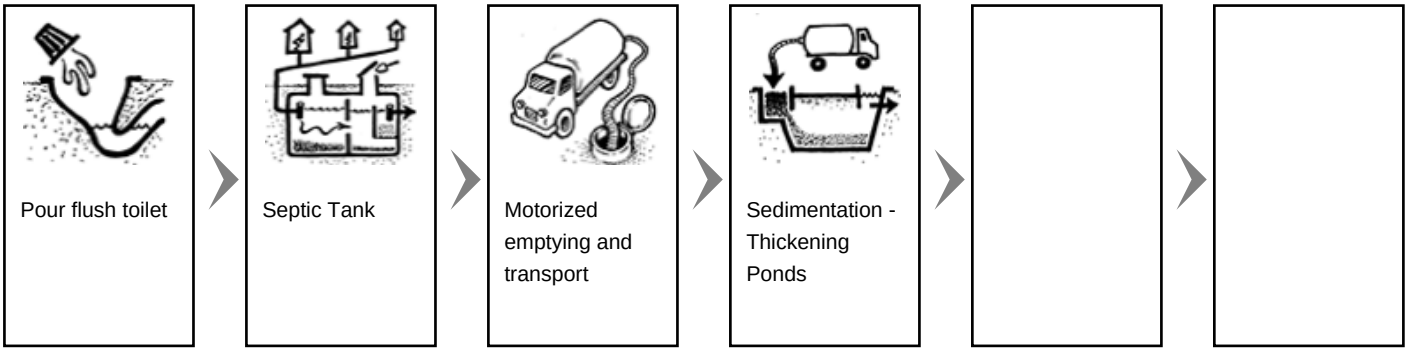
**Terrain / Topography / Slope (one possible)**
- flat
- **slope**

**Vehicular accessibility (one possible)**
- no access
- limited / narrow access
- **full access**

**Soil type (one possible)**
- clayey
- silty
- sandy / gravelly
- **rocky**

**Anal cleansing method (more possible)**
- **water**
- soft paper
- hard or bulky

## Selected technologies



# Links to Akvopedia articles

- Pour flush toilet:
  http://www.akvo.org/wiki/index.php/Pour_Flush_Toilet
- Septic Tank:
  http://www.akvo.org/wiki/index.php/Septic_Tank
- Motorized emptying and transport:
  http://www.akvo.org/wiki/index.php/Motorized_Emptying_and_Transport
- Sedimentation - Thickening Ponds:
  http://www.akvo.org/wiki/index.php/Sedimentation_-_Thickening_Ponds

# Short descriptions

## Pour flush toilet

A Pour Flush Toilet is like a regular Flush Toilet except that instead of the water coming from the cistern above, it is poured in by the user. When the water supply is not continuous, any cistern Flush Toilet can become a Pour Flush Toilet. Just like a traditional Flush Toilet, there is a water seal that prevents odours and flies from coming back up the pipe.

**Relevant options**

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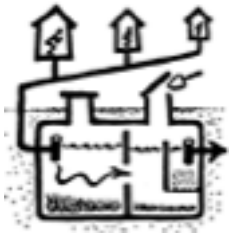
## Septic Tank

A Septic Tank is a watertight chamber made of concrete, fibreglass, PVC or plastic, for the storage and treatment of blackwater and greywater. Settling and anaerobic processes reduce solids and organics, but the treatment is only moderate. A Septic Tank should typically have at least two chambers. The first chamber should be at least 50% of the total length and when there are only two chambers, it should be 2/3 of the total length. Most of the solids settle out in the first chamber. The baffle, or the separation between the chambers, is to prevent scum and solids from escaping with the effluent. A T-shaped outlet pipe will further reduce the scum and solids that are discharged. Liquid flows into the tank and heavy particles sink to the bottom, while scum (oil and fat) floats to the top. With time, the solids that settle to the bottom are degraded anaerobically. However, the rate of accumulation is faster than the rate of decomposition, and the accumulated sludge must be removed at some point. Generally, Septic Tanks should be emptied every 2 to 5 years, although they should be checked yearly to ensure proper functioning. The design of a Septic Tank depends on the number of users, the amount of water used per capita, the average annual temperature, the pumping frequency and the characteristics of the wastewater. The retention time should be designed for 48 hours to achieve moderate treatment.



**Relevant options**

At option **Terrain / Topography / Slope (one possible)** you have selected **slope**. This means that in your situation,Septic Tank might be a suitable technology. This depends on: **Special attention to land slide**

At option **Soil type (one possible)** you have selected **rocky**. This means that in your situation,Septic Tank might be a suitable technology. This depends on: **Difficulties for excavation. Possible above ground.**

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## Motorized emptying and transport

Motorized Emptying and Transport refers to a vacuum truck or another vehicle equipped with a motorized pump and a storage tank for emptying and transporting faecal sludge, septage and urine. Humans are required to operate the pump and manoeuvre the hose, but they do not lift or transport the sludge.

**Relevant options**

At option **Terrain / Topography / Slope (one possible)** you have selected **slope**. This means that in your situation,Motorized emptying and transport might be a suitable technology. This depends on: **Special attention to heavy loads in steep slopes**

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## Sedimentation - Thickening Ponds

Sedimentation or Thickening Ponds are simple settling ponds that allow the sludge to thicken and dewater. The effluent is removed and treated, while the thickened sludge can be treated in a subsequent technology. Faecal sludge is not a uniform product and therefore, its treatment must be specific to the characteristics of the specific sludge. In general, there are two types of faecal sludges: high strength (originating from latrines and unsewered public toilets) and low strength (originating from Septic Tanks. High strength sludge is still rich in organics and has not undergone significant degradation, which makes it difficult to dewater. Low strength sludge has undergone significant anaerobic degradation and is more easily dewatered.

**Relevant options**

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