



Soak pit installed by a villager in his yard for the treatment of the wastewater (An-Oston village)



An-Oston's CDWUU

Community Drinking Water Users Union

The An-Oston CDWUU has been established and registered as a legal entity at State Department of Justice on 03 May 2012. With the staff of three (chairwoman, bookkeeper, technician) and 7 water quarter leader, they're operating the local water supply, collecting the water tariff and ensuring the sustainability. They're also supporting villagers especially in sanitation and wastewater aspects.

Gulay (chairwoman): 0 709 544 388
Danier (technician) : 0 708 195 508



KAWS

Kyrgyz Alliance for Water and Sanitation

The Kyrgyz Alliance for Water and Sanitation (KAWS) is a non-government and non-commercial organization which is based on the membership of legal entities. KAWS has been established in 2007 as a result of the unification of community unions and local experts dealing with rural development, water supply, sanitation and hygiene issues in the Republic of Kyrgyzstan.

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SAFE DRINKING WATER

How to Treat Wastewater ?

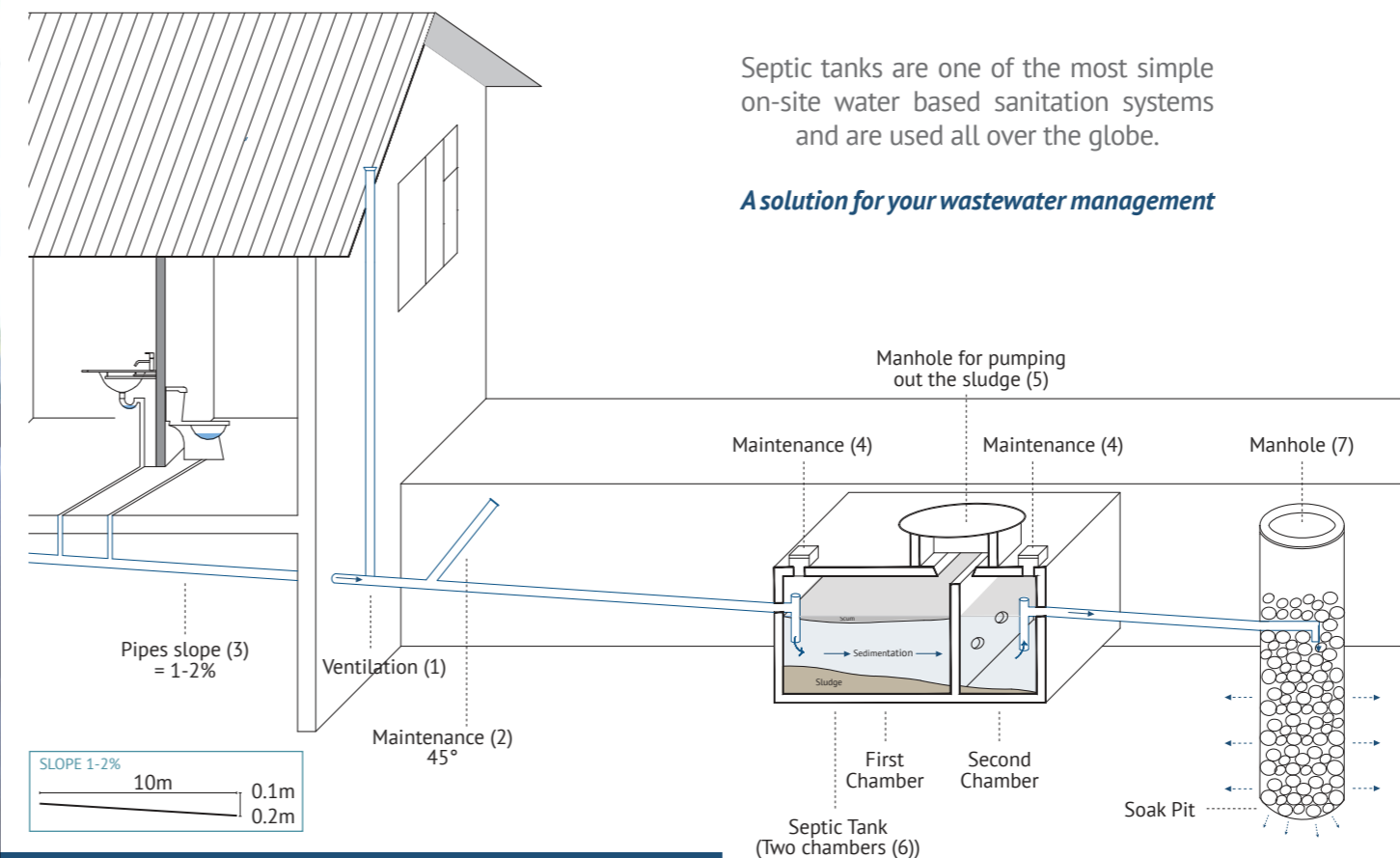
IT'S YOUR TURN !



Protect your children's health

Protect your environment

Wastewater Treatment : Septic Tank and Soak Pit

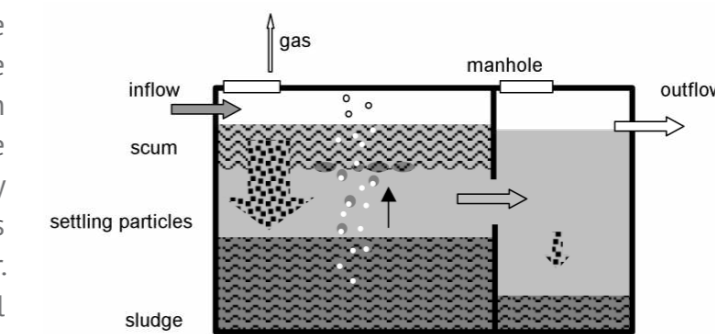
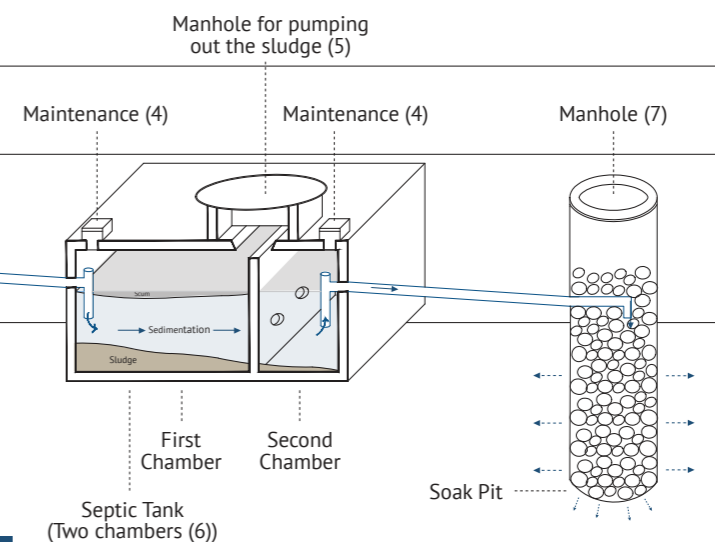


SEPTIC TANK : How Does it Work ?

A septic tank takes raw sewage in, allows the solids to settle (sludge) and allows the remaining liquid to flow into the surrounding soil by means of a soakpit. Scum on the surface is also prevented from leaving the tank. Microorganisms in the anaerobic environment in the tank **digest** the sludge and scum. The system consists of several stages, supply to the tank, the tank itself and the soak field. Septic tanks treat sewage (grey water and black water) but not rainwater. Sludge volume is reduced by **microbial action** but still needs **periodic emptying**. **Septic tanks** provide sludge and biological wastewater treatment. The **soakpit** provides secondary **biological + physical** treatment.

Septic tanks are one of the most simple on-site water based sanitation systems and are used all over the globe.

A solution for your wastewater management



Physical and Biological Treatment

DESIGN AND CONSTRUCTION : RECOMMENDATIONS

SEPTIC TANK DESIGN

1. Choose a **location**. The suitable location is in the garden, street side for the regular desludging every third year) **(5)**
2. **Volume** of the tank. The volume consists of **two components**. Sludge storage and liquid retention volume (*please refer to the table behind*)

SEWER LINE

3. The sewer pipe carries the sewage to the septic tank. The line should be away main sewer from the house. It should have water-tight joints and a **uniform slope (3)** (between **1-2%**). The line should be as straight as possible.
4. The **pipe (min 100mm diameter)** should be made of **non-corrosive** water tight material commonly grey PP pipes, they are robust and heat resistant. You need ready-made joints to connect them.

SEPTIC TANK CONSTRUCTION

5. The walls of the tank can be made of reinforced concrete, stone masonry, brick or concrete blocks. The tank should be water tight to avoid exfiltration. The space between the walls and the side of the hole need to be filled with gravel. The base should be at least 10cm thick.
6. The tank should be divided into two compartments **(6)**. The first should be twice as big as the second. There is hole in the separating wall which allows liquid to flow through but not scum or sludge.
7. Inlet and outlet pipes consist of T pipes.
8. The system should be ventilated between the house and the septic tank **(1)**
9. The cover of the tank can be made of removable **(5)** sections with round accessholes (min D=0.8m). These provide access to the tank for desludging, checking levels and maintenance.

SOAK PIT

10. In areas where the ground water level below 4m and where the soil is sandy, a soak pit can be used. These can be lined (like a well) or unlined and filled with rocks.
11. The area of the soak pit does not include a base.
12. The soak pit should be between **1.5 and 4 m deep**.
13. To allow for future access, a **removable** (preferably concrete) **lid (7)** should be used to seal the pit until it needs to be maintained.

GUIDELINE FOR DESIGNING A SEPTIC TANK FOR YOUR FAMILY

For household fully equipped (washing machine / kitchen / shower / toilet)

nb of people	volume (L)	volume (m ³) total	dimension (m)
max 4 persons	liquid : 1920 air : 380	about 2.3	Depth : 1.7 Width : 1.0 Length: 2.7
max 8 persons	liquid: 3249 air : 650	about 3.9	Depth : 1.7 Width : 1.15 Length: 3.35
max 12 persons	liquid: 3800 air : 760	about 4.5	Depth : 2 Width : 1.2 Length: 3.3

Note : The capacity of the septic must increase if many guests come regularly at home.

HOW TO TAKE CARE OF YOUR WASTEWATER SYSTEM ?

You need :

- an easy access to your septic tank and soak pit

TO periodically empty the sludge (every third year)
TO do the maintenance

- to ventilate the septic tank

FOR the well treatment fonctionment

Please for more details of the construction, refer to :
« Septic tank and soak pit: technical details of construction »