



# Settling-Thickening

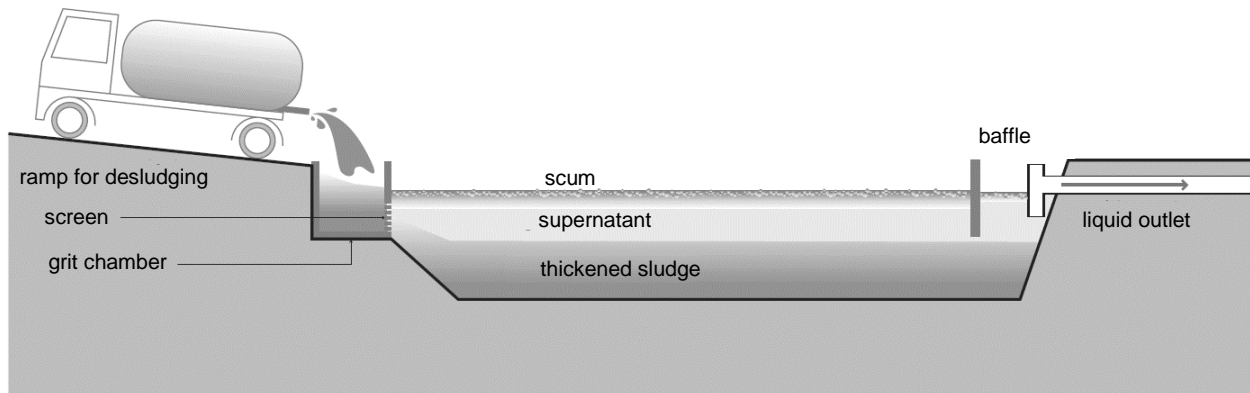


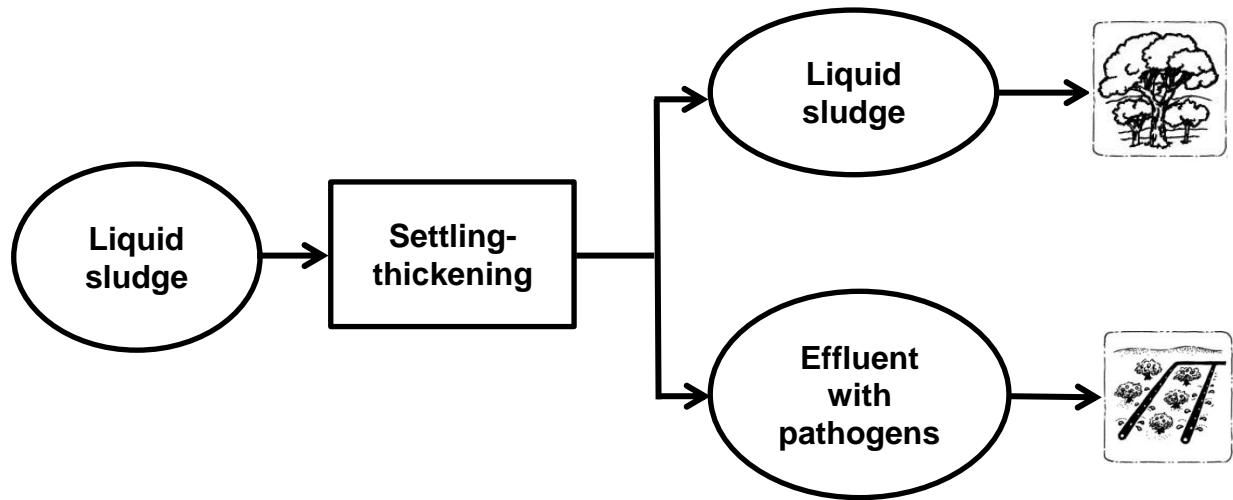
Diagram of a settling-thickening tank (Credit: Tilley et al., 2014)





Two settling-thickening tanks in Kampala, Uganda (Credit: Lars Schoebitz)

- **Design:** Settling-thickening technologies thicken and dewater faecal sludge. Solids settle to the bottom as the faecal sludge flows from one end of the pond or tank to the other. The liquid (effluent) flows through the outlet and requires further treatment. Some solids (for example, fats, oils, and grease) float to the top and form a scum layer. Example technologies include settling-thickening tanks, settlers, Imhoff tanks, and septic tanks.
- **Operation:** Settling-thickening technologies operate (semi-)continuously. Settling-thickening technologies often include two lined ponds or tanks. While one is being operated, sludge thickens in the second. The sludge is then pumped out for further treatment.
- **Time and energy required:** Sludge is removed every month to every few months. Other than pumping, settling-thickening technologies require low amounts of energy.

## Treatment Technology Description



<b>Treatment Objectives</b>	Pathogen Inactivation	<b>Low</b>
	Dewatering	<b>High</b>
	Stabilization/Nutrient Management	<b>No</b>
<b>Pathogen Inactivation</b>		<ul style="list-style-type: none"> <li>• The objective is to dewater and increase the concentration of solids in faecal sludge, not to reduce pathogens.</li> <li>• Some pathogens may be killed through storage, depending on the retention time.</li> <li>• The effluent requires further treatment before use for irrigation in agriculture.</li> </ul>
<b>Level of Development</b>		<ul style="list-style-type: none"> <li>• Has been implemented in many countries for faecal sludge treatment. There is experience in design, operation, and maintenance.</li> </ul>

### References

Strande, L., Ronteltap, M. & Brdjanovic, D. (2014). *Faecal sludge management: Systems approach for implementation and operation*. London, UK: IWA Publishing. Retrieved from: [www.sandec.ch/fsm\\_book](http://www.sandec.ch/fsm_book)

Tilley, E., Ulrich, L., Lüthi, C., Reymond, P. & C. Zurbrügg (2014). *Compendium of sanitation systems and technologies*, 2nd Revised Edition. Dübendorf, Switzerland: Swiss Federal Institute of Aquatic Science and Technology (Eawag). Retrieved from: [www.sandec.ch/compendium](http://www.sandec.ch/compendium)