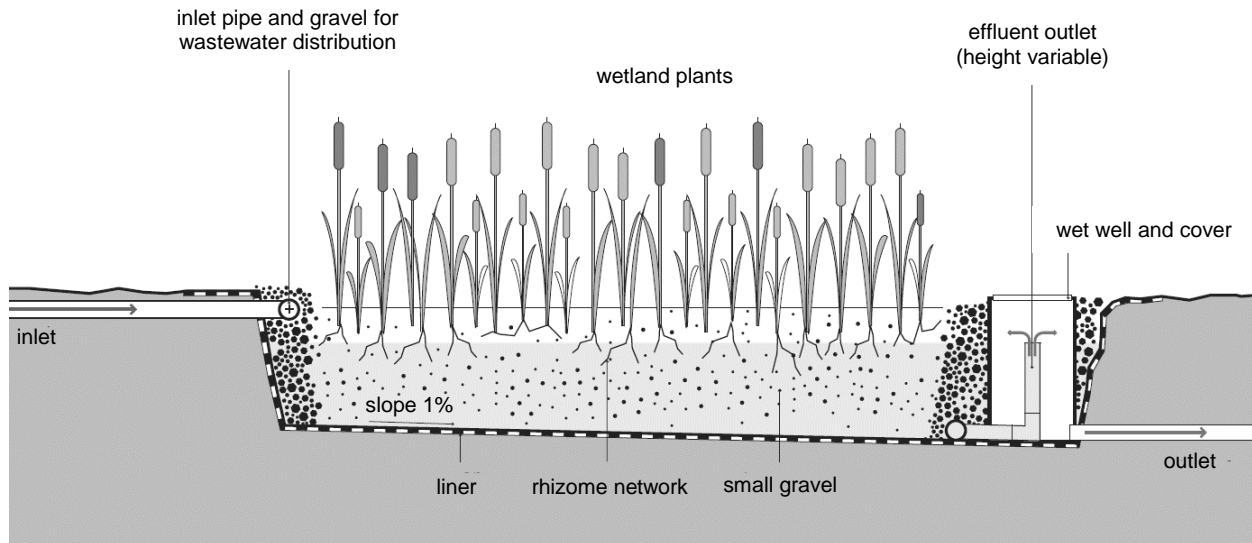
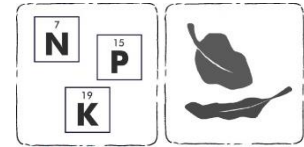


Co-treatment with Wastewater



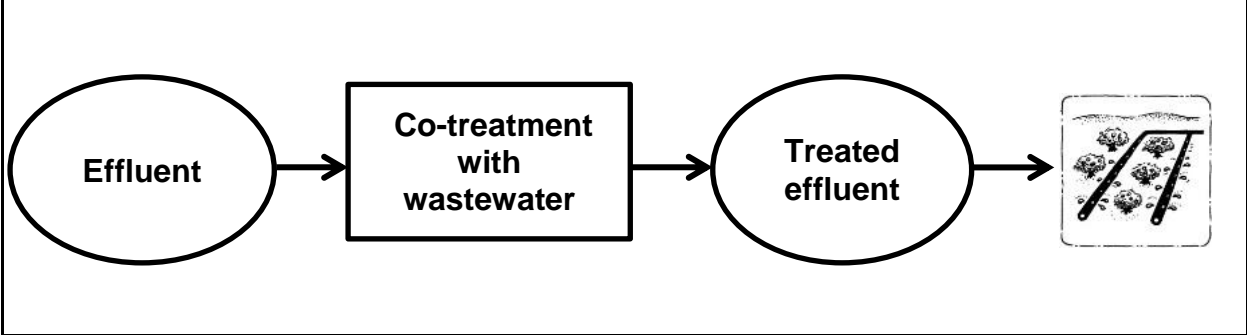
Constructed wetlands are a common effluent treatment technology for faecal sludge (Credit: Tilley et al., 2014)




Waste stabilization ponds are a common effluent treatment technology for faecal sludge, here from settling-thickening tanks and drying beds in Kampala, Uganda. (Credit: Eawag-Sandec)

- **Design:** Effluent from faecal sludge treatment technologies usually needs further treatment before discharge into water bodies or use for irrigation. Effluent treatment technologies include waste stabilization ponds, anaerobic baffled reactors, constructed wetlands (also called planted gravel filters), planted drying beds, and anaerobic filters. Effluent can be treated with or without wastewater.
- **Operation:** These technologies cannot be used for treating faecal sludge, but rather effluent coming from other treatment technologies (except planted drying beds).
- **Time and energy required:** Time and energy required is different depending on the technology.

Treatment Technology Description



Treatment Objectives	Pathogen Inactivation	Depends on treatment technology
	Dewatering	Depends on treatment technology
	Stabilization/Nutrient Management	Depends on treatment technology
Pathogen Inactivation	Depends on treatment technology	<ul style="list-style-type: none"> Pathogen inactivation depends on the effluent treatment technology and its operation. Maturation ponds are an example of an effluent treatment technology (also called polishing ponds). In these shallow ponds, pathogens are inactivated by solar radiation.
Level of Development		<ul style="list-style-type: none"> Effluent treatment technologies are being transferred from wastewater treatment. Depending on the treatment technology, there is experience in design, operation, and maintenance for faecal sludge effluent treatment.

References

Strande, L., Rontelap, M. & Brdjanovic, D. (2014). *Faecal sludge management: Systems approach for implementation and operation*. London, UK: IWA Publishing. Retrieved from 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