

Flatrine

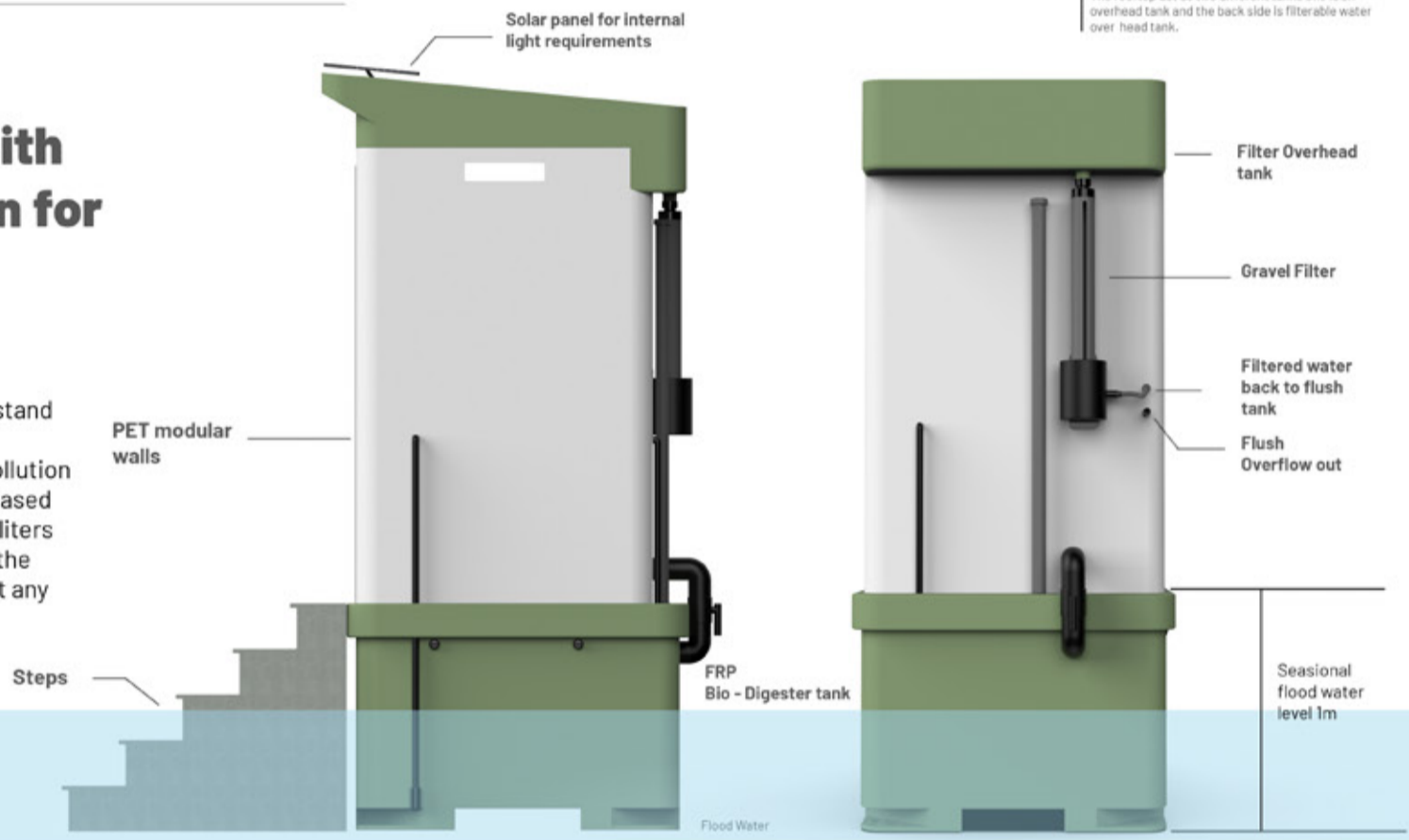
The Latrine system for Frequent flood hazard zones



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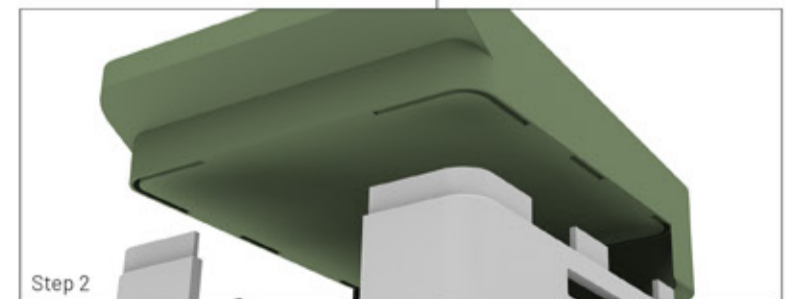
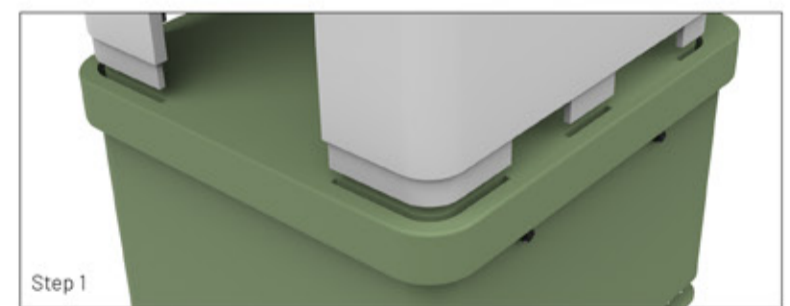
Fully pre-fabricated, high raised biotoilet with gravity based filtration for frequent flood zones

Flatrine is the Polyethylene terephthalate and fiber-reinforced material-based prefabricated structure. The entire system is designed to withstand seasonal floods or frequent floods without any compromise of function. To avoid wastewater pollution on floodwater the Flatline consists of a gravity-based filtration system. Also, the rooftop contains 300 liters tank to fulfill the internal water requirements of the toilet. The entire latrine system can work without any extra source of energy.



Easy to Build

The entire structure is prefabricated with Polyethylene terephthalate and FRP material and can be easily built in less space with help of a local plumber or mason.



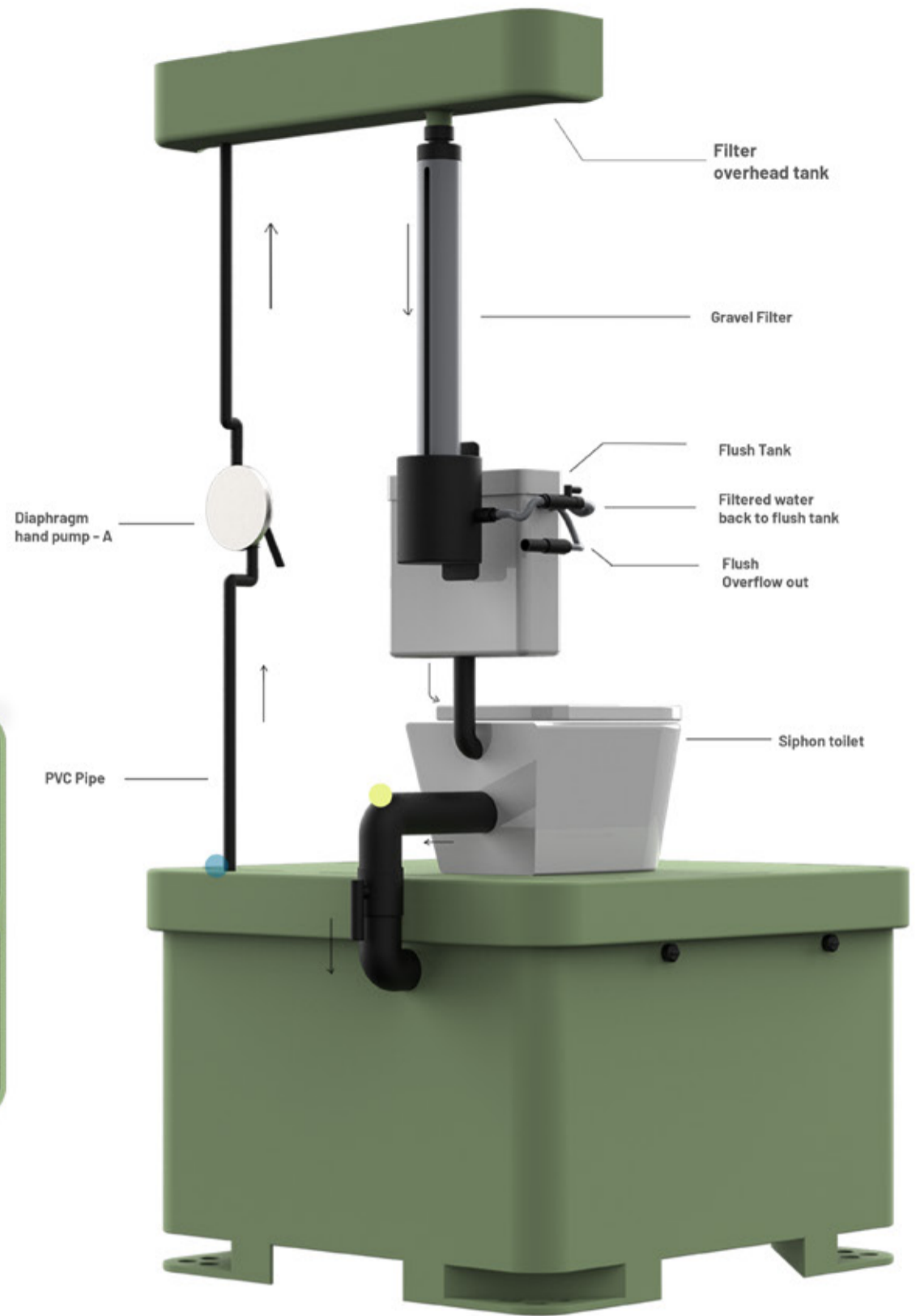
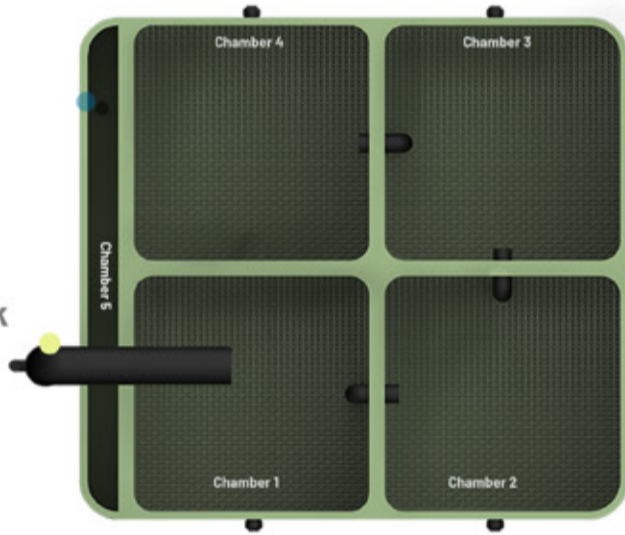
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Concept in Action

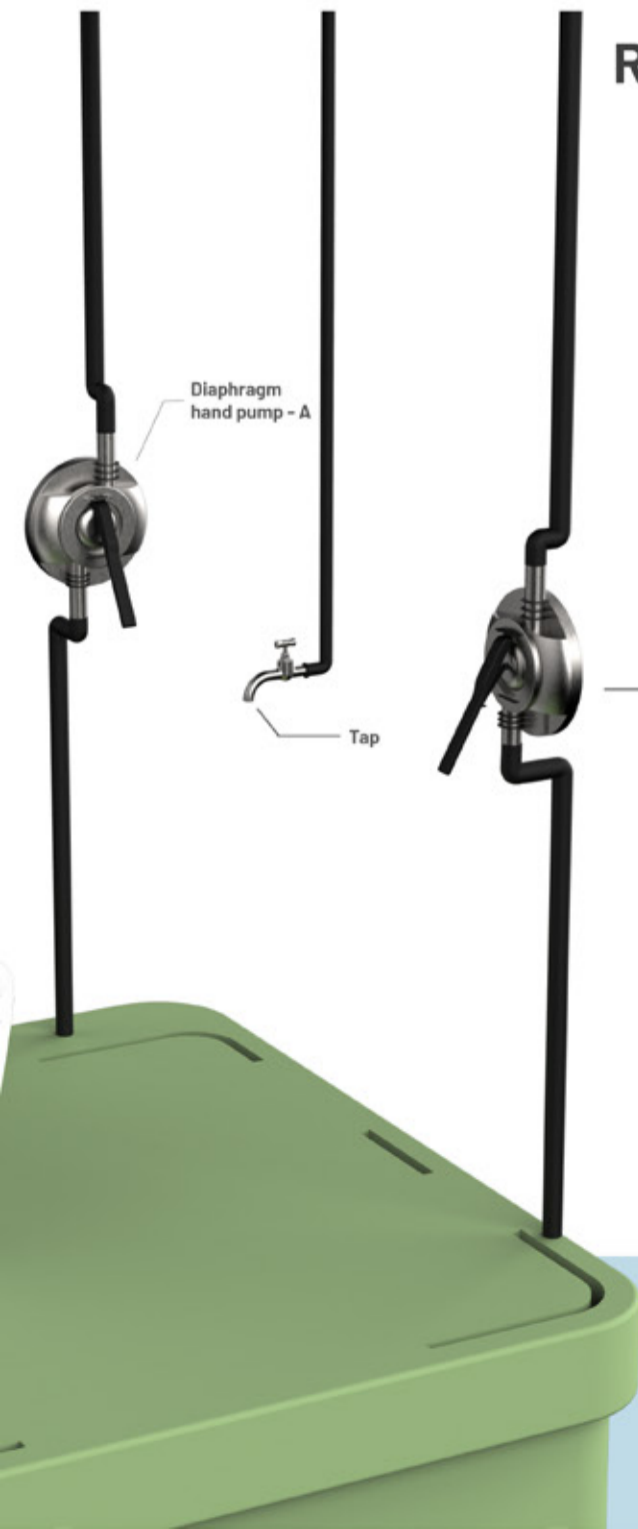
Once flushed the fecal content and flush water directly goes into biodigester chamber 1. The biodigester technology is developed by a defense research development organization. DRDO developed Biodigester technology is environmentally friendly, maintenance-free, and efficient without depending on conventional energy sources. The effluent is odorless and gets rid of most of the pathogens. The biodigester technology has two components: an anaerobic microbial consortium and a specially designed fermentation tank.

The digestion process will happen up to chamber 3. In the fourth chamber, the water will be chlorinated and collected in chamber 5. The collected bio-digest outlet water cannot be released directly to the surrounding floodwater. On that account, chamber 5 water is pumped into the tank with the help of a diaphragm pump, then the outlet water is treated with a gravel filter. The filter is worked on gravity force. The filtered water is again used to flush and the overflow water will go out.

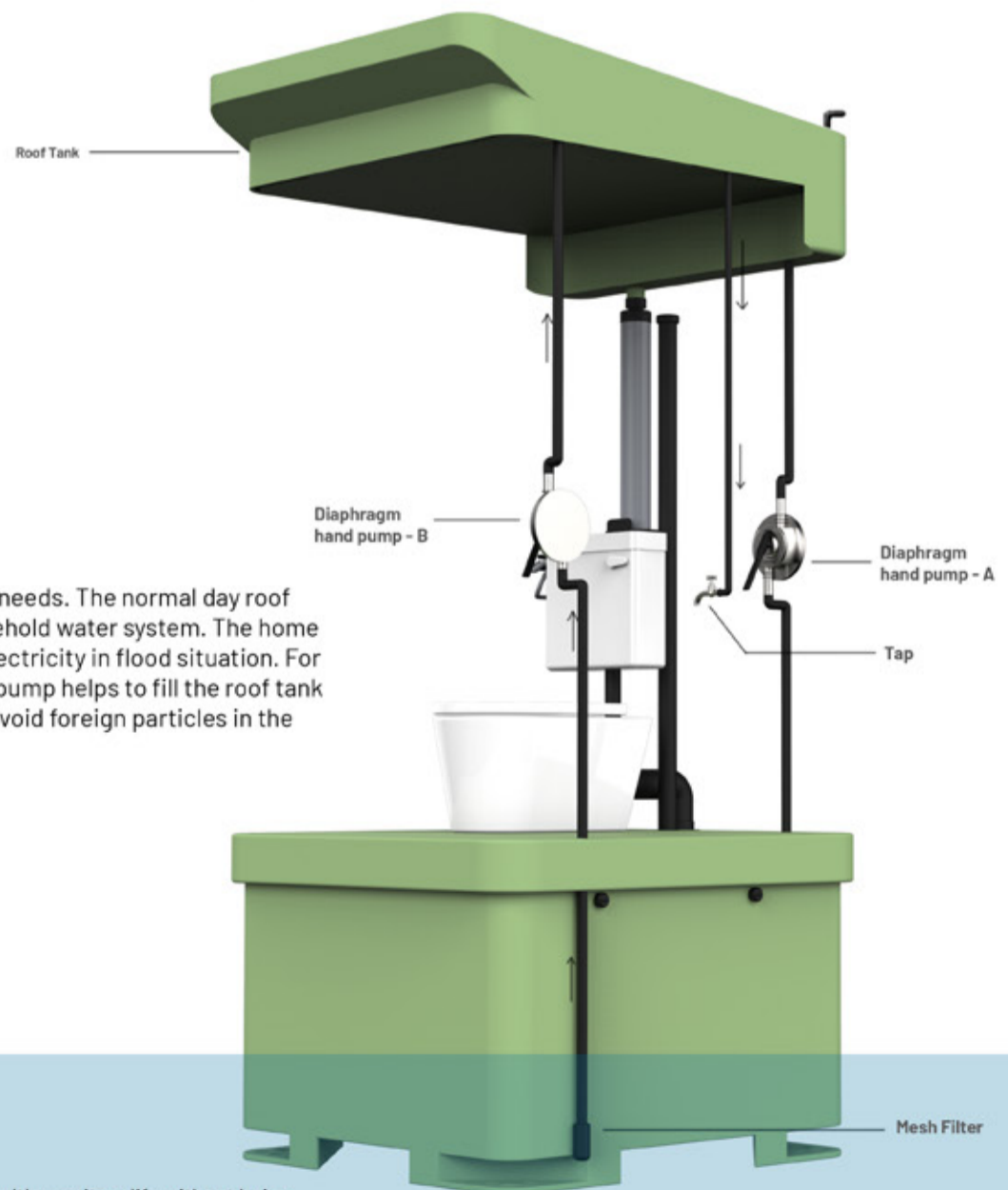
Defence
Research and
Development
Organisation
Technology Based
Bio-Digester Tank



Roof tank and second Diaphragm Pump



The roof tank is used to meet indoor water needs. The normal day roof tank will be directly connected to the household water system. The home water system will not work due to lack of electricity in flood situation. For this type of situation, a second diaphragm pump helps to fill the roof tank from flood water. The mesh filter helps to avoid foreign particles in the flood water.



With the help of F-latrine, people can lead a healthy sanitary life without being subjected to the threats posed by contaminated floodwater.