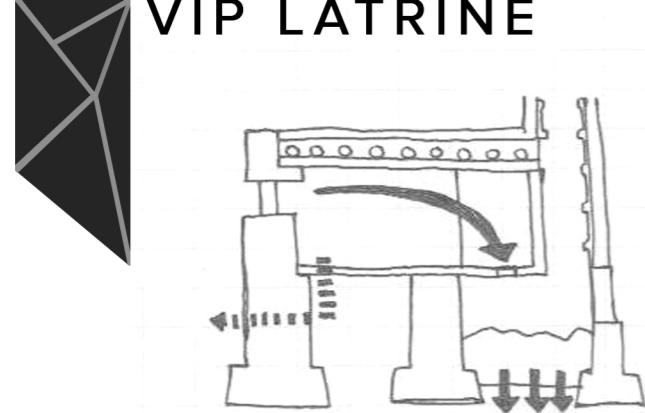


# PRECEDENCES

## VIP LATRINE



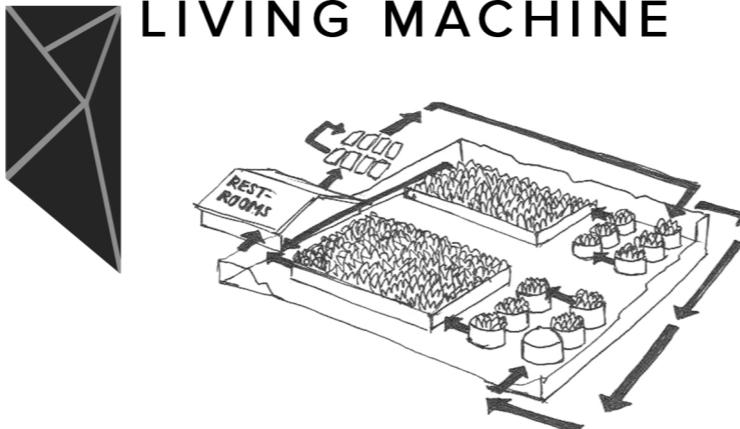
Uses a solar-heated flue to force fresh air through toilets and waste pits, removing odor // Solid waste composts as fertiliser // Liquid waste and waste water seeps into ground for filtration.

Limitations: Difficult and costly to build

Key learning point: Natural ventilation system that can flush fresh air into cubicle without electricity.

**COST PER UNIT: \$18,600**

## LIVING MACHINE



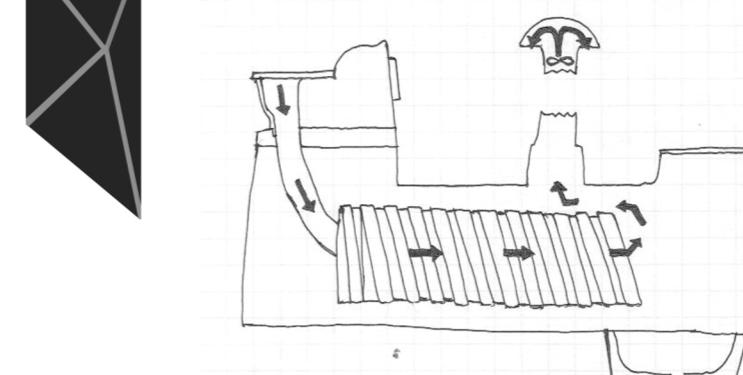
Uses a dry flushing system // Separates solid waste and liquid waste // Liquid waste passes through a filtration system where plants absorb the bacteria and toxins and turn them into nutrients // Solid waste is treated with lime and ash, composts for 18 months as fertiliser.

Limitations: Regular removal of waste and urine is required.

Key learning point : Dry flushing system.

**COST PER UNIT : \$150 - \$550**

## ECO-SAN



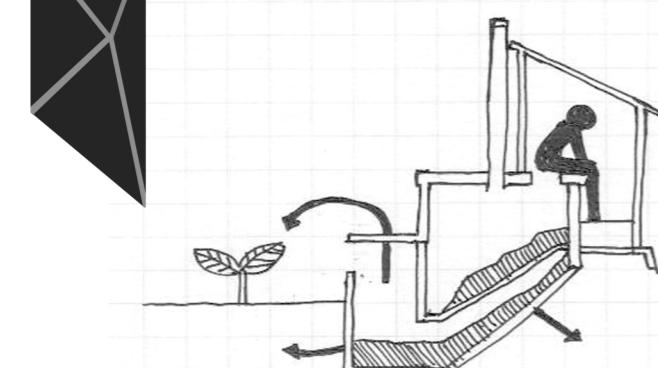
The human excrement falls down a vertical chute and into a specially designed conveyor // Every time the toilet lid is lifted, a mechanism rotates the conveyor. With each rotation the human excrement slowly moves along, taking approximately twenty five days before falling into a reusable collection bag.

Limitations: No mechanism to contain odour.

Key learning point: Makes use of fecal matter and turns it into something useful.

**COST PER UNIT: \$400 - \$445**

## ECO DRY TOILET



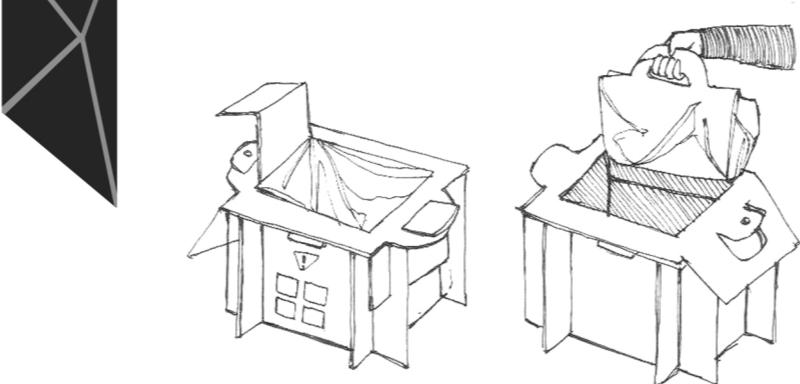
Separates liquid and solid waste to different stalls // Composts solid waste for 6 months to be used for fertiliser // Liquid waste passes through a filtration system where plants absorb and convert the bacteria and toxins into nutrients // Nearly clean water exit the filtration system and is once again filtered by amphibians and plants.

Limitations: Costly to build.

Key learning point: System to filter wastewater naturally with plants.

**COST PER UNIT: \$8,600**

## UNBATHROOM



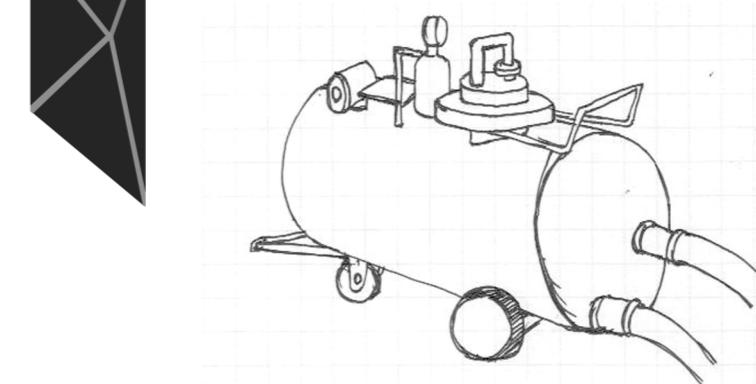
Uses a bio-degradable recyclable cardboard toilet // Able to pack flat for shipping // Can be used indoors // Not linked to any sewage system, users have to dispose of feces themselves.

Limitations: Manual disposal is required, odour is not controlled.

Key learning point: Portability and foldability, usage of cardboard.

**COST PER UNIT: \$2**

## VACUTUG



Mechanical emptying system to empty pits and septic tanks // relies on small scale, private operators to empty pits by means of hand/motor operated pumps.

Limitations: Solids are often not removed from tanks, the poor cannot afford to empty their entire pit and so only the minimal amount is emptied. Design a pit for proper emptying is important

Key learning point: capable of transporting waste to a disposal point.

**COST PER UNIT: \$40 - \$75**