

LET'S  
TALK  
SH\*T



[sanitationambassadors.org](http://sanitationambassadors.org)





## Sewerage



## Plastic



## Water



## Energy

## THE PROBLEM

### Global Challenges

Two hundred years later, the “gold standard” of Sanitation & Water management is failing us. Our waterborne sewerage system - flushing toilets, sewers and centralised wastewater treatment plants - is an outdated technology that consumes a lot of energy, wastes precious drinking water to transport our shit and creates massive amounts of pollution, causing havoc for rivers, lakes and coastlines, as well as communities, around the world.

Failing infrastructure means 80% of wastewater flows back into the ecosystem without being treated or reused and, in the process, other than medications, chemicals, heavy metals and high levels of nitrogen that kill off the marine life, 11 million tons of plastic enter our oceans annually (UNEP). In South Africa this is compounded by loadshedding (power outages).

The impact of pollution on future water scarcity is a growing concern, with the prediction that Sub-Saharan African will become the hotspot of surface water pollution globally.

And while industrial agriculture struggles to provide food security to our booming population in the midst of climate change, the mining reserves of phosphorus and potassium – essential elements of fertiliser which cannot be synthesised – are dwindling.

But do you know where to find an endless supply of NPK\*? Every day, each human being urinates the nutrients required to grow one loaf of bread, and most of us just flush it away.

\* NPK reflects the three elements found in this fertiliser mixtures—Nitrogen, Phosphorus and Potassium





Toilet?



Dirty?



Dignity?



Safety?

## THE PROBLEM

### Challenges in schools

Millions of learners and their teachers in Africa don't have access to hygienic toilets or handwashing facilities, which negatively affects their daily lives. According to a National Education Infrastructure Management report, more than 12 000 schools in South Africa use pit latrines many of which are badly built and are not maintained, contaminate the ground-water and spread diseases and bacteria like E.coli and Cholera, not to mention the tragic instances when children fall into them and drown. Some schools do not have any toilets at all, forcing children to practice open defecation.

Sadly, the lack of basic sanitation in schools has other consequences too. So that they don't have to use the toilets, children don't drink water throughout the day and then become dehydrated and can't focus on learning. It also compounds the phenomenon of Period Poverty amongst schoolgirls who end up missing out on approximately 25% of their education from the time that they begin menstruating, because they can only manage their periods at home

This crisis needs our urgent attention, we must prioritise the education and development of our girls and women if we want to create a healthy, powerful and resilient Africa for our grandchildren.





## STATE-OF-THE-ART SANITATION SOLUTION

### The Throne

The challenge to provide the user with a flush and forget experience comparable with the “gold standard” flush toilet, is met with an aspirational, state-of -the-art, Swedish-designed urine diversion hybrid toilet with a 20-yr proven track record.

A dignified porcelain throne made for little kings and queens, easy to keep clean and by providing a unique opportunity for resource recovery, preventing pollution downstream by separating and recycling nutrients and organic matter. These beautifully designed toilets are as suitable for high-end urban bathrooms as well as rural areas.

100 ml/flush



#### **Technical description**

*Name: Ecodry UDDT - Urine diversion hybrid toilet*

**Material:** Ceramic

*UDDT with flush functionality*

**Flush volume:** 100 ml /flush (urine)





## STATE-OF-THE-ART USER EXPERIENCE

### Tap & Nozzle

Each cubicle is equipped with a handwash basin, and a water-saving atomiser tap with a time-delay feature. After pressing it, the water runs for 2-3 seconds, just enough to wet your hands.

The Altered:Nozzle Dome® is optimised for public areas where you need high efficiency but still offers maximum savings. The Dome® Technology creates a water dome that diffuses into a water spray, giving you a total hygienic experience with only 0.4 L/Min or 96% savings.

This way, you only use the water you need, and there's no risk of leaving the tap on. If rainwater is your only water source, your tank will last much longer.

#### ***Technical description:***

*Altered Nozzle: 0.4 l per minute*

*Material: Ecobrass®*

*Tap: Time-delay tap in stainless steel. Press the button and it turns of automatic in 2-3 seconds enough to wet your hands*







Day 1 & 2

## INNOVATIVE BUILDING TECHNOLOGY

# 2

### The WaSH Centre

New building technology that recycles plastic landfill waste, with lower CAPEX and OPEX than other traditional materials.

Attractive, durable buildings that don't need painting and don't rust. Designed in the flat-pack, IKEA method for production at scale, efficient logistics and speed of construction.

It takes 2 days for a trained team to erect a standard unit so that on the third day, the learners can use the toilets. Almost immediately, this enables increased attendance, better concentration in the classroom and reduces illness. Each private toilet cubicle in the WaSH Centre promotes good hygiene, privacy, safety, gender equality and water saving.

#### *Technical description:*

*Frame: High quality powder coated aluminium*

*Cladding : Mixed recycled plastic*







Day 3





## EFFICIENT COLLECTION AND MANAGEMENT

3

### The Sanitation Ambassadors

Container Based Sanitation (CBS) with a scheduled service is similar to the “flush and forget” experience with logistics comparable to municipal refuse collection. It is a labour intensive, low tech, community-based job creation opportunity in areas with high unemployment.

Trained sanitation workers exchange the containers seamlessly using mobile technology to alert and guide the process. Sealed, customised containers are lighter and easier to manage, allowing for more dignified, safer handling with less physical stress on the body.

The core of our organisation is focused on facilitating the growth of a sanitation workers industry, to nurture community-based entrepreneurs who provide an installation, collection, maintenance, and education service.





## SAFE TREATMENT FOR SOIL REINTEGRATION

# 4

If we are so clever, why are we the only land mammals that pee and poop in water? Our excreta does far more damage when it is mixed with water because there are no microorganisms and bacteria in water to process it, it should always go into the soil.

Unfortunately, there are too many people on the planet now for each of us to find a quiet place to deposit our turds, so we need to collect them safely and then convert them to soil conditioners and other valuable products. One of the ways of sanitising human excreta so that it can be processed is a method developed with the Swedish University of Agricultural Sciences (SLU), which neutralises pathogens, bacteria and helminths.

We intend to be the first in the world to apply this method at scale as it is simple, cost-effective and uses very little energy and water. Compared to a traditional wastewater treatment plant, it's a "no-brainer" and hopefully a glimpse of the future!



SWEDISH UNIVERSITY  
OF AGRICULTURAL  
SCIENCES





## CLOSING THE LOOP WITH RESOURCE RECOVERY

# 5

We can only close the loop of our sanitation chain by realising the potential value of our “waste products” and converting them into resources, such as putting the nutrients and carbon back into the soil as fertiliser.

There are also many other ways to recycle excreta resources safely such as Biogas energy production, Black Soldier Fly farming, Biochar and more....

**Eat, sh\*t, grow and repeat!**



A photograph of a white ceramic toilet in a bathroom with white tiled walls and floor. On the wall behind the toilet, there is black graffiti that reads "LET'S MAKE SH\*T HAPPEN!". The word "LET'S" is large and stylized, with "MAKE SH\*T" written in smaller letters in the middle. "HAPPEN!" is also large and stylized, with an exclamation mark.

**LET'S**  
MAKE  
SH\*T  
**HAPPEN!**





**Sanitation Ambassadors NPC is a non profit organisation**

**[www.sanitationambassadors.org](http://www.sanitationambassadors.org)**

