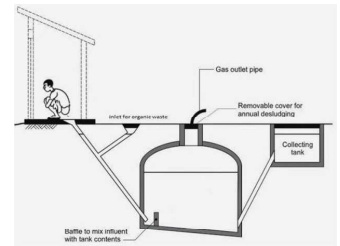


Kenyan Boy Comes Up With Genius Way To Turn Human Poop Into Energy

One of Kenya's most prestigious high schools had two environmental issues plaguing it.

First a newly built dormitory was making its 720 student residents nauseous. A poorly made sewer system was releasing a horrible smell into the student residence. And the system would also regularly clog and leak sewage into a stream which the nearby community uses as a fresh water source.

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The second problem originated with the firewood the school uses for cooking. Breathing the wood smoke was a hazard to the health of the kitchen workers, and the wood was sourced from the nearby forest. The forest was under stress due to the area residents, the school included, taking too much firewood for heating and cooking needs. The forest was slowly being decimated and was termed a 'shrinking forest'.

A group of five students, led by a 17-year-old, came up with a brilliant device which has the ability to solve both problems at the same time.

The group of five started with the idea that if the waste from the 720 dorm students and also the organic waste that comes from the kitchen, grass cuttings, and cow dung were collected and harvested, a workable solution could be developed to address both problems.

They designed, on paper, an underground Human Waste Bioreactor which is a waste holding tank that lets microorganisms break down this waste. This produces methane, a natural gas with a wide range of uses.

The five students entered the HWB - Human Waste Bioreactor - in the first-ever Innovate Kenya challenge.

They won the competition. The grand prize was a trip to a special science camp at MIT. At the science camp, MIT students and professors helped them build functional prototype of their design.

To raise funds for its completion - installing the HWB in their school - the team entered the next Innovate Kenya challenge and presented their working HWB device.

The students won and the prize money was enough for the HWB installation. The HWB is now installed and in operation. It has gotten rid of the obnoxious smells in the dormitory and is providing the school's kitchen with a supply of methane biogas for cooking.

But the school isn't exclusively dependent on HWB methane biogas just yet. There's still a need to supplement the methane biogas with firewood.

So the team went back to work again. They've come up with the next version of HWB, the HWB toilet. The team believes that the HWB toilet will ensure that the school has more than enough methane biogas to completely eliminate the school's need for firewood.

The HWB toilet separates urine from the solid part, stool. Urine needs to be separated from the stool because urine lowers the rate of gas production or, worse still, stops the whole process.

It will cost around \$85,000 to create and install the HWB toilet. That's a lot of money for a high school to come up with. But the team believes that they can do it again! After all, the HWB will save the school more than half that amount.

Good luck guys!

