

Small is good in quest to resolve water crisis

March 13 2012, by Richard Ingham



Participants talk next to logo of the 6th World Water Forum in Marseille, southern France. A global meeting on water opened in France with demands to provide billions of poor people with clean water and decent sanitation and address the spiralling demands of the future.

Can Peepoo stop the flying toilet? A small Swedish company believes so. At the World Water Forum in Marseille, it is promoting a cheap, smart fix for the world's billion slumdweller.

Lacking mains [sanitation](#), they have to defecate in latrines, the bushes or, in the security of their home, into a plastic bag.

Once its contents start to pong, the bag gets tossed into the street, a "flying toilet" that imperils health and neighbourly relations.

Enter Peepoo.

Devised by a Swedish architect with the help of his students, it comprises a slim bag with a larger liner tucked inside, both made of [biodegradable plastic](#) and designed to fit over a small pot.

Inside the bag are a couple of spoonfuls of granulated urea, an [ammonia](#) that eliminates [germs](#) and other nasties within two to three weeks.

After use, the bag is knotted and taken to a dropoff point -- where the family gets a small refund because the contents, after rotting, are sold for fertiliser.

Costing three euro cents (four US cents) each new, the bag is sold with its human waste for one euro cent (1.3 US cents).

"We are testing the business model in Kibera," said Camilla Wirseen of the Swedish firm Peepoole AB, referring to a notorious slum of [Nairobi](#).

"So far, it is a huge success. People love it -- there are no smells in the home, the risks of [diarrhoea](#) spreading to other family members are reduced and the bag is cleanly disposed of.

"We have saleswomen who are setting up networks and selling the bags, and that way they make money for themselves."

Peepoo has hidden benefits, too, acting to prevent another scourge.

"They tell us that the number of young children who get raped while going out into the bushes to go to the toilet has fallen," said Wirseen, shaking her head at the phenomenon itself.

Production of the bags is currently 3,000 a day, but will ramp up to 500,000 a day from November to target markets in [South Asia](#) and

elsewhere in Africa but also for stockpiling for disasters.

Peepoople are among a crowd of small, smart entrepreneurs who, alongside mega-corporations pushing their wares at the six-day fair in Marseille, see the world's water crisis as a source of profit and aid.

Dressed in a Hawaiian-style red, black and blue shirt, Jumpei Taniguchi is dazzling visitors by taking a beaker of filthy water and transforming the muck into drinkable water in less than a minute.

His company, Nippon Poly-Glu Ltd. of Osaka, Japan uses a granule formula that clumps bacteria, toxic metals and particles together, but does not use chlorine.

The "clumper," or flocculant, is polyglutamic acid, which is what makes the Japanese dish of fermented soybeans called natto so sticky.

Calcium is added to it to neutralise the negative, repellent electrical charge of particles. That way, the poly-glu sticks the particles together.

"The product is selling very well in Bangladesh," which has high levels of natural arsenic in its groundwater, said Taniguchi. "We have saleswomen, the Poly-Glu Ladies, who sell it in their neighbourhood."

Dutch engineer Henk Holtslag, wearing the handlebar moustache of a 19th-century inventor, works with Dutch non-government organisations which send their skills to developing countries.

He showed off a rope pump, a device with an ancestry going back 2,000 years.

Nothing could be simpler: you drill a hole in the ground and install a pipe with a loop of rope with knots that are just smaller than the pipe's

diameter.

Turn the handle to make the loop go round, and the knots -- in this case, PVC caps -- bring up the water in spurts.

"If you install a rope pump costing just 100 dollars (70 euros), that provides water for 10 families," or enough to grow one and a half kilos (3.3 pounds) of grain per person for 80 people, said Holtslag.

The Dutch are training African technicians in making, installing and maintaining the pumps, thus enabling them to sell the devices to villagers and farmers.

Holtslag and others said the era of direct aid -- of donor and beneficiary -- was over.

Endowing local people with skills and harnessing the power of enterprise were the keys, said John Naugle of Relief International, a US NGO which has designed a flexible rainwater collector helped by a \$4.5-million (3.5-million-euro) Bill and Melinda Gates Foundation grant.

The rugged \$50 (38 euro), 1,400-litre (350-gallon) plastic bag is being test-marketed in Uganda, branded as "bob" and backed by eye-catching marketing.

"What happens when a direct aid project's budget is used up? It ends," said Naugle. "But the need for water is forever."

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