2.6 billion people just got their own toilet. And a brand-new future.

Imagine one of the world's biggest problems being wrapped up in a small bag. Imagine hundreds of millions people in less developed countries improving their lives in one go – living longer, healthier lives and having productive jobs. Imagine every shanty town a bit less intolerable to live in, with better access to clean and drinkable water. Imagine every man, woman and child being able to use a toilet in a safe, dignified, sanitary and private way.

Now stop imagining. Start thinking Peepoo, an innovation for the planet and its people.
One of the world’s biggest problems

More than 2.6 billion people lack access to basic sanitation. This means that 40 out of 100 people lack even the simplest latrine. The lack of toilets affects the individual as well as society through the contamination of fresh water and ground water. Human faeces contain infectious and often lethal pathogens – viruses, bacteria, worms and parasites. One child dies every 15 seconds due to contaminated water.

The UN Millennium Development Goal #7, target 10, was established in 2002, with the aim of halving by 2015 the number of people without sustainable access to drinking water and sanitation. This means 1.3 billion people in 13 years. Unfortunately, the progress needed to achieve this is slow or even negative. One factor is the rapid increase in the number of people living in slums or slum-like conditions – an increase from nearly 715 million in 1970 to an estimated 1.4 billion by 2020. With only six years to go, it is obvious that the approach to the problem needs to change. In order to accelerate sanitation coverage, we have to start rethinking sanitation.

START AT THE SOURCE

The most obvious way to a solution is to start at the source. This means preventing disease transmission as early as possible in the chain through rapid inactivation of pathogens right after defecation. Simply providing latrines in high-density urban areas will not achieve sustainable sanitation.

OFFERING A CHOICE

Those who need sanitation the most are often the ones who can afford it the least. Therefore, they have no other choice than to use whatever is available. Increasing choice by introducing an innovative low-cost product can rapidly change demand patterns among the poor. Choice is also linked to dignity and status – important factors behind the decision to invest in a toilet.

A CONTEMPORARY SOLUTION

Most toilets are part of larger infrastructural systems and dependent on complex investments and institutional changes. Rethinking sanitation calls for a soft approach that can handle rapid implementation. Instead of thinking in terms of permanent or temporary, we have to look for a contemporary solution, offering the possibility to act now, but at the same time designed to enable the growth of economically sustainable service systems in a longer time frame.

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*** London School of Tropical Medicine and Hygiene.
Start thinking Peepoo

The Peepoo is a personal single-use toilet that sanitisises human excreta shortly after defecation, thereby preventing the faeces from contaminating the immediate area as well as the larger environment.

The Peepoo is a high-technology product for a low-income economy. Like the original Tetra Pak, it uses the minimum amount of material while providing maximum hygiene.

The Peepoo was created from the perspective of putting the user’s needs first. Ergonomically designed to be easy and hygienic to use, it’s also simple and extremely cost efficient to produce. This means it’s suitable for those with the weakest purchasing power. The Peepoo offers a sanitation choice that benefits both the individual and society.

“IT’S DIGITAL”
The Peepoo is personal as in personal computer; mobile as in mobile phone; and micro as in Microsoft. User-friendly and advanced, yet simple and cheap, the Peepoo instantly offers high status.

The Peepoo can be used whenever and wherever it’s needed. It can be used now; there is no need to wait for public or political action. Never used by someone else, always available and always clean, it allows the user total privacy.

The Peepoo can work as an everyday toilet or as a complementary one at night. It can be used at work or at school. Thanks to the low cost, it can be used regularly at home or only when called for.

SOFT APPROACH
The Peepoo moves away from fixed and hard structures to a soft approach to sanitation and excreta management. Soft approach means opening up for different local services systems to establish themselves. After use, the Peepoo offers value as fertiliser, which enables collecting and disposal systems to arise – informally or formally, privately or publicly, on a small scale or large-scale. They can evolve over time, slowly or quickly, according to local circumstances.

The design of the Peepoo offers a clean and hygienic way of excreta management, helping to cut the stigma normally connected with this service. The Peepoo thus has the capacity to work as a development strategy on different levels.

INDEPENDENTLY SUSTAINABLE
Thanks to its self-sanitising function, a discarded Peepoo does not contaminate the environment, even if no waste management services are available or not yet fully developed. As a single unit, the Peepoo is independently sustainable. Every user contributes to society.

The Peepoo offers a sanitation solution adapted to user needs without endangering the environment.
The Peepoo

**THE PEEPOO IS A PERSONAL TOILET THAT IS:**
- Single-use
- Self-sanitising
- Bio-degradable
- Fertiliser after use.

**EASY TO USE**

The Peepoo is in the form of a slim, elongated bag. Inside the bag is a thin gauze which unfolds when opening, forming a wide funnel.

The Peepoo is designed to be used once – sitting, squatting or standing. It is normally used by placing the bag in a small bucket or a cut plastic bottle. If used only with one’s hand, the thin gauze prevents all contact with the excrement. After use, the Peepoo is closed by a simple knot.

The Peepoo is a toilet which is not fixed to a particular place. It’s simple to carry since it is small and weighs less than 10 grams.

The Peepoo is odour-free for at least 12-24 hours* after use, and therefore can be stored in the immediate environment. The Peepoo is one of the few sanitation solutions requiring no water. The only water needed is for washing one’s hands after use. This means that the traditional link between water and sanitation has been cut.

A used Peepoo is clean to handle. It becomes waste that neither smells nor is dirty to take care of and collect.

* Depending on temperature and humidity.
MICRO-TREATMENT PLANT
The inside of the Peepoo is coated with a thin film of urea, a non-hazardous chemical that is found, for example, in toothpaste or body lotion under the name of carbamide. Urea is the most common fertiliser in the world. When the urea comes into contact with faeces or urine, an enzymatic breakdown into ammonia and carbonate takes place, driven by enzymes which naturally occur in faeces.

As the urea is broken down, the PH-value of the material increases and hygienisation begins. Disease-producing pathogens which may be found in faeces are rendered inactivate within 2-4 weeks, depending on the surrounding temperature.

Untreated faeces, by comparison, are not hygienised until after 2-3 years. The urea treatment is the simplest and most efficient treatment available. And when the Peepoo disintegrates in the soil, the ammonia acts as a harmless fertiliser taken up by the plants.

WASTE TO VALUE
The Peepoo is made of a high-performance degradable bio-plastic which meets EU standard EN 13432. This means the plastic not only disintegrates, but also that molecules are broken down into carbon dioxide, water and bio-mass. The bio-plastic is made up of a mixture of aromatic co-polymesters and polylactic acid (PLA), with small additives of wax and lime.

When properly sanitised, the human faeces and urine are rich in nutrients which can be used to increase crop yields. Furthermore, if mixed with the soil, faeces increase the organic matter content and improve the water-holding capacity.

The used Peepoo offers a safe and rational nutrient for rural and urban farming. Since fertilisers are expensive and scarce in less developed countries, economic systems can develop around the collection and distribution of used Peepoos. Consequently, the used bags represent a local resource instead of a contaminant.
Voices from users

Following various tests made in 2006-2008 to validate the sanitation process, bio-plastic composition and ergonomic performance, Peepoo has conducted two feasibility studies during spring 2009 in cooperation with GTZ.

One study was conducted in the Silanga Village slum in Kibera (278 participants, 3,354 Peepoos used over 28 days) to investigate socio-cultural expectations, economic viability, and the suitability of the collection system. Kibera is one of the informal settlements around Nairobi, the capital of Kenya, and is regarded as the largest slum area in Africa. No reliable information is available, but the population is estimated to be about 1-1.5 million. Statistically there is one toilet for every 500 inhabitants, but in reality the majority do not have any access to sanitation whatsoever.

Another feasibility study was conducted in three slums in Mymensingh (100 participants, 738 Peepoos used over ten days) to gauge the socio-cultural acceptability of the Peepoo in the Muslim community with water-washing practices. Mymensingh Pourashava is situated north of Dhaka, the capital of Bangladesh, alongside the Brahmaputra River, and has a slum population of 145 thousand. The total number of slum dwellers in Bangladesh is estimated to be more than 30 million.

Both studies found a very high level of user acceptance with a multitude of perceived benefits. It was especially noted during the interviews that the privacy factor (i.e. the ability to use the Peepoo wherever and whenever) and the lack of smell was of high importance.

In Silanga, 90% of users felt that the Peepoo was safe and clean to handle. More than 85% could consider using the Peepoo every day. Similarly, almost all of the Mymensingh participants (87%), felt that the Peepoo was better than their normal sanitation practices. A majority of the users understood the value of the fertiliser, and felt confident to buy and eat food that had been produced using Peepoos. Many of them indicated they would use the fertiliser themselves.

For a full account, the impact assessment reports can be downloaded from the Peepoople or GTZ homepages.

"It is nice having them because sometimes when you go to the latrine they have overflowed and you feel uncomfortable."  
Annastaciah, 26 years Kibera
“It is beautiful, clean and free from bad smell.”

Taijul Islam, 27 years Mymensingh
The Peepoo is the ideal system, the ideal product for the biggest problem facing the world.

Prof. Eric O. Odada, member of UNSGAB
United Nations Secretary-General’s Advisory Board on Water and Sanitation
Peepoople was formed to develop, produce and distribute the Peepoo. The mission of Peepoople is that all people who so desire shall have access to dignified and hygienic sanitation. The company was founded in 2006 and is based in Stockholm, Sweden.

The Peepoo concept was initiated by Anders Wilhelmson in 2005. The research has been conducted in cooperation with SLU Swedish University of Agricultural Science and KTH Royal Institute of Technology. The Peepoo is scheduled to be ready for production during 2010. Please note that the Peepoo enclosed in this brochure is for demonstration purposes only and should not be used.

For more information please contact:
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