



A Creative Design for Better Hygiene



It was designed by Mona Mitjhab who studied Industrial Design at Magdeburg-Stendal University of Applied Sciences from 2007 to 2011. During a five month internship at the German Society for International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit, GIZ), she gained the opportunity to collaborate on a project for the improvement of the sanitation infrastructure in Bangladesh. A mobile sanitation system was sought that takes the special social and cultural requirements of the population into account. "In Bangladesh, toilets are a rarity. Many people have a mobile phone, yet nature's call is answered without any private sphere at all," reports

Mitjhab. "Open defecation in public spaces, on pathways or at the roadside is the rule rather than the exception. This means that when it rains, dirt and faeces enter waterways which are frequently public sources of water," explains the Industrial Designer.

So that a sanitation solution works under such conditions and is accepted by the local people, it is necessary for it to satisfy a range of different conditions. It should be useable in private households, transportable during monsoons, easy to clean, affordable, inexpensive to maintain and be possible to produce on location. Mona Mitjhab needed less than 18 months from the idea to the start of production of a functional prototype. Field research, the first drawings, obtaining approvals, searching for the suitable materials through to the production of the prototypes through to surveys on the acceptance of the mobile toilet among the slum dwellers - with the multilingual team at GIZ and with the advice from professors and lecturers from Magdeburg-Stendal University of Applied Sciences, Mona Mijthab researched into an environmentally friendly and practical solution. The by that time self-employed designer presented the results as part of her final year project in July 2011. Magdeburg company Modell- und Formenbau Sachsen-Anhalt then produced the moulds which were exported to Bangladesh.

It requires a huge amount of creativity and a tremendous level of motivation to develop an affordable solution for extreme conditions. With MoSan (Mobile Sanitation), an environmentally valuable product has been created which makes human faeces usable for agriculture or as biogas, and at the same time, makes the daily life of the poorest sections of the population more dignified and safer.

The mobile separation toilet is now set to be made from local raw materials on location, the faeces collected and sold as fertiliser and returned to the ecological cycle. "We want to build 20-30 prototypes in Bangladesh and to distribute them to selected families. This means we can test whether the product is functional and will be accepted in the cultural context and if the sanitation cycle, meaning the daily collection service, the transport and the use is realistic," explains Mona Mitjhab. Local model makers in Bangladesh have been contracted with the production of the prototypes.

Mona Mijthab – who is now in Germany again – is using the current delays in production to develop new ideas together with Dr. Elisabeth von Münch, Leader of the 'Sustainable supply of sanitation - ecosan' and her team at the GIZ head office in Eschborn. In this sense the separable toilet is set to be extended at the technical level. Discussion surrounding cooperation with an American start-up company is also underway. This company has developed a form of solar technology that destroys dangerous germs in the faeces with the application of heat. "Other regions in the world are also affected by poor sanitation conditions. Our separable toilet offers varied use and can be transferred to other cultures. Projects in urban slums in Uganda and Kenya are currently under discussion," explains Mona Mijthab. The young designer is confident that her mobile toilets will soon be as successful in the slums of the developing countries as the mobile phone is right now.

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