Faecal attraction

Blog

"People come here with their families to have a picnic because they think it is a park. If I hadn't told them that it's a disposal ground on top of an old garbage dump, they would never have guessed!" says Md Forkan Sarder, caretaker of the Faecal Sludge Treatment Plant in Khulna, Bangladesh. The plant is owned by the Khulna City Corporation and its operations are supported by SNV. "I take them around, and explain how the treatment is done. They are surprised that there is no foul stench, you only smell the flowers." Indeed, the area surrounding the plant is fresh and green, birds are singing and everywhere you look there are fiery red flowers.

No one really wants to discuss faeces. Let alone how it is treated. In Bangladesh, this disaste runs so deep that the faecal sludge from septic tanks is collected unseen by cleaners in the shadow of the night. This is not a small issue because there is no sewage system in Bangladesh, except for a small area in its capital Dhaka.

The city of Khulna has a population of one and a half million inhabitants, of which not a single household is connected to a sewage system. Furthermore, the city is expanding rapidly in an unplanned manner and constructing a sewage system would cost a fortune, and the city authorities have more immediate issues to solve. They need to provide drinking water, end open defecation and the collect huge piles of garbage people produce on a daily basis.

Now that progress has been made in these areas, focus is slowly shifting towards faecal sludge. But over time, people have taken matters into their own hands, installing underground septic tanks to get rid of their faeces. They sporadically call for cleaners to descend into their tanks and scoop out the waste manually, bucket by bucket. Often, these septic tanks are left uncleaned and quietly overflow, letting the problem seep inside the city's ground water. Either way, the sludge usually ends up in drains not far from people's houses.

"This dreadful offloading is like a ticking time bomb that can explode any time, especially in the slum areas where the drainage is in poor condition", says Rajeev Munankami, SNV WASH's team leader in Bangladesh. This is an environmental and health hazard for the community and do realise even a few drops of sludge can contaminate whole waterways.

"One day I had an accident when I went to clean a septic tank. As soon as I removed the slab from the tank, methane gas was released from the tank and lit up because of the gas lamp I was carrying. I burnt my hand, back and chest," says one cleaner

Many fast-growing cities like Khulna are dumping untreated human waste. Poor sanitation is a leading cause of diseases like diarrhoea, typhoid and cholera. According to the World Health Organisation, over 525,000 children worldwide die because of diarrhoea alone. Due to these diseases, economic losses are profound, and surely higher than investing in decent sanitation. In Bangladesh alone, the economic loss of poor sanitation is US$14 billion annually, which amounts to 6.4% of their GDP.

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Scaling up existing sanitation

The problem is huge. To address the lack of Faecal Sludge Management (FSM) SNV started a learning project, Demonstration of pro-poor market-based solutions for faecal sludge management in urban centres of Southern Bangladesh in three cities, including Khulna. The programme is funded by the Bill and Melinda Gates Foundation and United Kingdom's Department of International Development (DFID).

To prevent high investments in sewage systems, we work our way from the bottom up, taking existing sanitation facilities as a starting point. Big cities in the developing world are chaotic, it's not like designing your perfect suburbia. Entering a Bangladeshi slum means that you must squeeze yourself into narrow alleyways where bad odours will lead you to the public toilets that are used by 25 families or more. During the monsoon season rising waters will lift up its contents, spilling it out onto the tight alleyways and into the houses.

How are you going to stay healthy? And how will you ever build a citywide sewage system? The answer is - there isn't one single sewage solution. The only way to get the job done is by starting with what people have built themselves over the years. Basically, we improve existing sanitation by ensuring safe containment, transport and treatment of faecal sludge. This starts with a careful assessment of the entire sanitation service chain (or so called shit flow from consumer demand for sanitation services, to capture, empnying and transport, to ultimately treatment and disposal of reuse). We are determined to remove all horbeds of disease and contamination, because only by focusing on the entire picture we can sustainably benefit the poor.

Working with city authorities

Growing these safe solutions to realise citywide coverage should be done by involving the city authorities, because they are the ones responsible for proper sanitation, and therefore need to be on board all the way. Ultimately, they are the ones who will organise regular collection.

"It took us a long time to gain the confidence and buy-in of the city authorities and elected councils," says Rajeev. They saw sewers as the ultimate solution and did not realise the urgency of closing the sanitation loop. To gain much needed government support, we started our project with a knowledge exchange between scientists and city officials to discuss the impact of this unseen problem. Rajeev continues, "We wanted to show them the potential of FSM in a tangible way - by setting up the plant, because the biggest hurdle in FSM is the treatment of sludge. It is sometimes collected and contained, but seldom released properly." Here, at the edge of the city, we have literally built the capacity to change that.

Bringing about change

Based on the practical knowledge we gathered, we have successfully advocated for changes at policy level; a nationwide Institutional and Regulatory Framework for FSM has been introduced; the national water supply and sanitation strategy of 2014 has a separate FSM related strategy and the Government is actively supporting the manual cleaners for the safe empnying of pits.

There are operational achievements as well. We are introducing mechanical emptying services for septic tanks, using a hose to transfer the sludge into a small vehicle (vacu-tug) or truck that can transport the collected sludge safely to the treatment plant. As mechanisation of the process would mean that traditional cleaners need to invest in equipment, seed capital has been developed to help them with that. Apart from this, we are working on a Geographic Information System (GIS) to support FSM services. This online database will map all roads, drainage systems, houses, septic tanks, pits etc. to provide easy and accessible data for the planning of cleaning services. Put differently, we will know when tanks have been emptied and when it is time to empty them again.

Despite these promising steps, this is just the beginning. Although we are now able to process 15% of Khulna's faecal sludge, the full capacity of the plant has yet to be realised. In order to establish regular emptying services without losing money, residents must be willing to pay for it. Fortunately, our first market surveys show positive outcomes. Demonstrating the economic potential of sludge management will not only convince city authorities that accelerating the scale of professional sludge management is doable, it is also likely to attract expertise and investments from the private sector.

Creating full consumer demand for proper desludging is tough though, since unlike other waste, sludge has always been taken out of people's backyard unseen. But we are ready for this challenge. We have developed an action oriented communication campaign on behalf of the city authorities. The message focuses on one clear imperative for its residents; 'empty your septic tank once every year.' We want everybody to know this rule, and make it easy for them to act on it; desludging is a one-stop service that is just a phone-call away. Consumers who use the service once, will be reminded every year thereafter, based on the household database (GIS). If the demand is there, we will start replicating our solution with a view to tackling the remaining 85% of Khulna's sludge that still flows untreated.

More than just the flowers

Let's go back to the plant and have another look at the fiery red flowers that draw in curious onlookers. Are they just meant to give a nice appearance to a dirty business? No, these flowers are an essential means to decompose the sludge, turning it into soil that can be readily used as fertiliser. Very soon it will be the health benefits rather than the flowers attracting people to our faecal sludge management.

Expert

Karin Bokhove

Head of Marketing Communications