

DGROUP DISCUSSION SUMMARY “URBAN SANITATION – PROFESSIONALIZATION OF SLUDGE EMPTYING SERVICES”



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INTRODUCTION

This is the summary of an email discussion held on the Urban Sanitation and Hygiene Dgroups platform from the Wednesday 21st of October till the 27th of November 2015. The discussion was moderated by SNV knowledge network, and involves 282 member from 40 different countries (mostly Asia and Africa).

Forty-one contributions by 33 people from 16 different countries were written over the course of the discussion. The discussion aims to bring together examples and perspectives of practitioners from the field with perspectives from people working at international level. It also aims to reflect together on new ideas and best practices in sanitation and hygiene. Needless to say, it is not intended as a conclusive document on the subject.

This is the fifth discussion in this series. Previous Dgroup discussions included: “Urban sanitation planning and finance” (2012), “Financing for urban sanitation infrastructure investment” (2014), “Urban Sanitation – Upgrading and emptying of on-site facilities” (2014), “Septage Transfer Stations (2015). The discussions are linked to the learning component of the urban Sustainable Sanitation and Hygiene for All programme in Nepal, Bhutan, Bangladesh and Indonesia. This summary will be an input for the regional workshop on “Urban Sanitation – Professionalization of sludge emptying services” in Manila, Philippines from Monday 30th of November till Thursday 3rd of December 2015.

TOPIC 1: TO SCHEDULE OR NOT TO SCHEDULE DESLUDGING, THAT’S THE QUESTION.

WHAT IS SCHEDULED DESLUDGING, AND WHAT’S THE MAIN DIFFERENCE BETWEEN SCHEDULED AND ON-DEMAND DESLUDGING?

I started the background by stating that scheduled desludging is **planned** emptying, usually with a **regular interval**. In contrast, “on demand” emptying only happens when there is a **request** by the owner of the pit or septic tank. Usually scheduled desludging services move from neighbourhood to neighbourhood, providing advance notice to owners about their turn.

The main difference, as indicated by Foort Bustra¹ and Freya Mills, both in Indonesia, is that in on-demand desludging the owner is expected to make the decision **whether and when to empty**. This assumes, as Ringisai Chikohomero from Zimbabwe puts it, “**an enlightened community**” regarding sanitation. And Reza Petwary from Bangladesh adds that it also assumes that the **owner knows when** it is timely to empty. Both these assumptions are hard to realise. Moreover, unless it is an emergency and sludge is coming upwards out of the toilet, there is very **little incentive** for owners to act. The pollution of the living environment is more a **collective problem** than a household problem.

In a system with scheduled desludging, the decision whether and when to empty lies with the local authorities or service providers. Lita Istiyanti from Indonesia, and Françoise Coulibaly from Mali, both state that the **main difference** is that scheduled desludging results in **a much higher uptake of the service** (demand). Ousmane Ibrahim from Mali adds that **another important difference** is that in on-demand emptying **transactions** happen only between the owner of the septic tank/pit and the emptier. This is hard to regulate. This is echoed by Brahima Traore from Mali as well.

¹ A nice video about scheduled desludging in Jakarta (by IUWASH) can be found here: <http://iuwash.or.id/US/de-sludging-jakarta/>

Of course in theory, on-demand desludging services could also be regulated for prices and safe disposal. Edmundo de Almeida from Mozambique writes that in the past there was a [Municipal Inspection Department](#) which would detect failing tanks and fine the owners. In Malaysia there is now a [regulated on-demand emptying system](#), in which the main service provider has a data base of all on-site facilities and sends reminders to the owners when it's time to empty. These can then use one of the service providers. Unfortunately uptake of the service has already dropped compared to the previous scheduled desludging model.

TO SCHEDULE OR NOT TO SCHEDULE DESLUDGING...

The vast majority of contributions advocate for scheduled desludging, in spite of the fact that there's still little experience in the countries. As Chiranjibi Tiwari from Kenya says, scheduled desludging has huge benefits, the question is not "whether or not", but "how". Foort and Ousmane write that [the decision whether and when to empty should not lie with the owners](#) (households) because benefits and costs are for the whole community. Sanitation is a public good. However, not everybody is in equally positive.

Simon Okoth from Kenya and Edmundo from Mozambique suggest that scheduled desludging will [only work under certain circumstances](#) as it requires a level of organisation that is rare in cities and towns. Edmundo says for example that it can only work in Beira, and Simon suggest that scheduled desludging should be [confined to cities with robust economies](#), no big inequalities and/or have subsidies for low-income people. This stands in contrast with Ringisai's view who feels that in Zimbabwe scheduled desludging is preferred because the required level of organisation will help.

Freya sees the benefits of scheduled desludging, but recommends [not overselling](#) it, as health benefits will only materialise over time and once households have upgraded their containment.

Erik Noerremark from Mozambique and Lawrence Kimaru from Kenya, strongly feel [that scheduled desludging is not the right way to go](#). Erik feels that it misses the point and that by ensuring the right type of storage capacity in pits, the need (and cost) for [emptying can be avoided](#). He provides detailed instructions of how to construct such pits. This option is only for areas with low ground water tables of course. Lawrence does not see scheduled desludging as a viable option because he feels that the current structure and stakeholders in the [sector are not ready](#) for this. He feels that the solution to emptying should focus on pricing and technology. Moreover he advocates for a formal recognition of lower tier emptiers to avoid illegality, and related illegal dumping.

WHAT DO YOU SEE AS ADVANTAGES AND DISADVANTAGES OF SCHEDULED DESLUDGING IN YOUR CONTEXT?

The main advantages of scheduled desludging are seen as:

- Ensures timely emptying
- Easier/ cheaper to monitor pricing, who operates etc., opportunity for reducing illegality
- Easier to introduce standard operating procedures (SOP) around safety, parking, spilling, disposal etc.
- More efficient use of human resources
- Efficiency and cost reductions, especially regarding fuel costs.
- Easier to introduce mobile transfer stations which can further contribute to efficiency
- Possibility to introduce scheduled payment
- Easier to introduce cross-subsidies
- Potential to link to upgrading of on-site facilities

- Creating greater awareness as more people use the service

The biggest disadvantage everybody sees is the [high level of organisation and coordination](#) that is required to ensure the service. Dave Robbins from the US says that the system is vulnerable, because coordination [tends to break down over time](#). Chiranjibi Tiwari and Stella Warue from Kenya both mention that even in their context, with well-established WSPs, who have the mandate, it is a challenge to make them respond. Moreover as Lita says scheduled desludging requires [investment](#) in terms of emptying devices, trucks, transfer stations, treatment facilities. Reza explains that it is also a challenge (in terms of time and resources) to ensure all the [preparations](#) and in particular to define the [right price for the service](#). This is also mentioned by Chiranjibi.

I would like to step out of my role of facilitator for a moment to make a small comment. I do see the challenges of introducing scheduled desludging, but I think that the argument about the required organisation is not fully correct. If we would aim to have a system of [safe on-demand desludging](#), that would require a high level of organisation as well.

Rosaline Yoni from Mali writes that the key issue will be for the local authority to create the pre-conditions for scheduled desludging, among other things [budget](#). Ringisai, Lita and Rosaline all also emphasize the [importance of an awareness campaign](#) and community mobilisation as part of scheduled desludging.

Several people, Lawrence, Stella, Simon, Freya, Reza among others, have [serious doubts](#) whether most local authorities have the capacity and commitment to provide proper and reliable services. And if that commitment fades, [who will hold them accountable](#)? People might be paying anyway if the payment is in instalments. This happened at some point in Dumaguete. The households kept paying for the service as part of the water bill, but there was no longer a scheduled service. Rather the service became on-demand. Households did not complain because the surcharge was very low and they seemed happy to avoid the hassle of emptying.

Another concern, as Lawrence and Chiranjibi say, due to the lack of competition, it could be that households pay [unnecessary high prices](#). Another argument against regular desludging is that not all households will need the same frequency of emptying due to different household size and different pit/septic tank sizes. Freya asks whether it is [fair to charge people](#) for a service that strictly speaking they do not need so often. Several others also mention the heterogeneity of the potential customers.

A particular question is whether scheduled desludging will [benefit the low-income communities](#). Chiranjibi explains that in Kenya emptying services are available on-demand for richer household, but that the challenge is in the low-income areas. Will the service provider be willing to adapt for the context of these communities? Erik mentions that [pit latrines](#) cannot be emptied by vacuum trucks because of the [thickness of the sludge and the amount of solid waste in the pit](#).

DO YOU FEEL THAT SCHEDULED EMPTYING AND COLLECTION SERVICES WILL CONTRIBUTE TO A CLEANER AND HEALTHIER LIVING ENVIRONMENT?

Many people say yes, scheduled desludging will contribute to a [cleaner living environment](#) because at least part of the pollutants are removed by emptying. However Freya questions this. She states that [environmental and health gains are unclear](#) as many people have leaking pits/ septic tanks anyway. This means that the living environment and/or groundwater are contaminated anyway. Dave agrees that only [when facilities are gradually upgraded](#) as well, the living environment will become safer.

Freya does feel that regular desludging in pilot areas [increases the city's service capacity to manage](#) on-demand serve as well. Simon and others agree that either way a [blended service](#) of scheduled and on-demand emptying is needed. Dave mentions that even highly professionalised services such as Maynilad Water, have an on-demand service for emergencies in addition to their scheduled service.

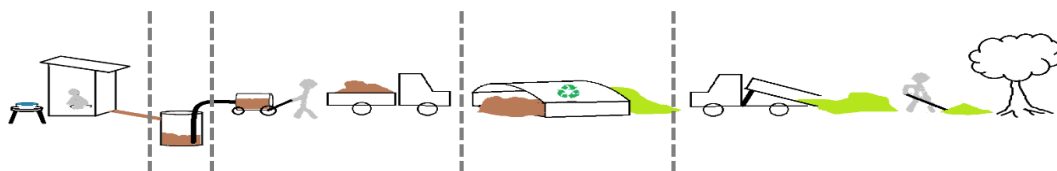
TOPIC 2: OPERATIONAL HEALTH AND SAFETY

MAIN HEALTH AND SAFETY RISKS IN SLUDGE EMPTYING AND TRANSPORT

First and foremost, the biggest risk as indicated by Reza Patwary from Bangladesh and Reinilde Eppinga from Kenya is that most [emptying happens illegally](#). In Nakuru, in Kenya, pit-emptying often happens during night time, because these are not legal services. In Bangladesh, some of the emptiers have registered jobs with the local authority, but the vast majority provides the service “illegally but tolerated”. The situation in Bangladesh is particularly complex, because emptiers belong to a specific social group, Dalits, which has [limited other employment opportunities](#).

Stories are horrific, such as [collapsing pit latrines](#) with people in it, some very deep pit latrines where [people suffer from heat and/or inhale poisonous gas](#), or the danger of [smoking a cigarette while opening the lid](#) of the tank. Reza Patwary and Rajeev Munankami from Bangladesh shared a number of links to news stories from [fatal incidents](#) related to emptying. Also Ousmane Ibrahim from Mali mentions these risks, and adds the risk of [explosions](#) due to the gas, the [risk of injury from sharps in the pit](#). However, Jamie Radford from the UK, quoting Steve Sugden's story on Bangalore, writes the pit emptiers themselves felt the biggest risk of their activity was [alcoholism](#). Osbert Atwijukye from Uganda finds that fatal accidents while pit emptying are normally linked to alcohol.

All contributors agree that by far [the biggest risks](#) are around manual emptying and [especially people entering the pit](#). In Kenya, Uganda, Bangladesh, and Mali, entering the pit is seen as practically [unavoidable](#), because consumers insist on having the more solid contents emptied. Though some technologies are being developed, this is not always adequate, especially when pits are very deep or haven't been emptied for a long time. In the case of [Indonesia and Bhutan](#), as explained by Freya Mills and Ugyen Rinzin respectively, [entering the pit is uncommon](#). Nevertheless there are still many safety issues- contamination related- [along the sanitation value chain](#). These contamination related safety issues will not be immediately be fatal, like the risks mentioned above, but do affect health and well-being of emptiers and the general population. A generic overview of risks below:



| User interface | Containment | Emptying | Transport | (Transfer stations) | Disposal | Treatment/re-use |
|----------------|---|---|---|--|--|------------------|
| | Seepage Overflowing containment Unlined/unstable pits | Collapsing pits Entering pits or falling into pits Inhaling poisonous gas Explosions Spilling while transferring to the truck or transport device | Spilling the whole way! Leaking valves | Leaking transfer stations Improper use/access | Disposal on-site or unsafe dumping elsewhere | |

| | | | | | | |
|--|--|--|---------------------|---------------------|---|--|
| | | <i>Use of Kerosene</i> <i>People working without shoes, or any gear</i> <i>Removing solid waste from the pit.</i> <i>Removing rags/ rubbish from hoses without bare hands</i> <i>Limited personal hygiene practice</i> | <i>An accident!</i> | <i>by community</i> | <i>Spraying when discharging from the hose</i> <i>Manual raking and cleaning screens</i> | |
|--|--|--|---------------------|---------------------|---|--|

A specific case shared by Reza is when a hose was disconnected after emptying, the [residual sludge in the hose spilled](#) over the front yard of the house. Cleaning was done with only water (not disinfectant).

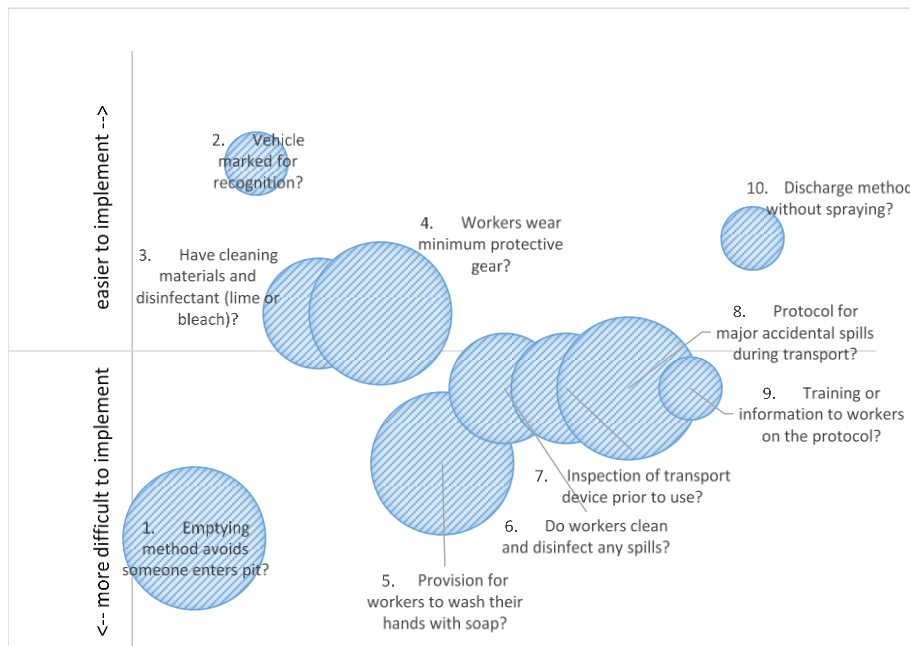
WHICH OF THE HEALTH& SAFETY ASPECTS CAN BE REALISTICALLY ACHIEVED IN OUR CONTEXT?

Rajeev mentions that there may be policies, regulations, guidelines etc. for safety, but this is obviously [ineffective without translation into practice](#) in the field. At the moment, it seems that we are dealing with a [generalised lack of awareness](#) on the part of emptiers themselves, the related government officials and their superiors, as well as the households. In some cases, Reza writes, the government could be avoiding responsibility by having households directly contract emptiers and not regulating this. Rajeev shares that during formative research it was found that consumers (households) are unaware and not concerned about health and safety issues of emptiers. Irfan Arianto from Indonesia and Gem Tshering from Bhutan mention that operators are [sometimes aware, but will not always practice](#). Overall it can be concluded that there is [no culture of safety around emptying and transport](#), as Reinilde points out. Rajeev suggests that a dedicated awareness campaign at different levels will be needed.

However, changing behaviours through awareness raising or regulation only is difficult. Therefore Jamie suggests that [a first priority should be to eliminate or reduce the risks](#), for example by introducing [new technologies which make certain emptying practices unnecessary](#). As Osbert says, the focus should be on [minimizing sludge contact and make emptying quicker](#). In Uganda the team has been promoting the Gulper, which pumps thicker sludge than a vacuum pump. This is proving to be a significant change in terms of not entering the pit. However, according to emptiers in Uganda, the limitations are that the Gulper only goes to 1.5m deep, is physically very tiring for the emptiers, takes a very long time to empty and cannot pump the solid waste in the pits. Both Jamie and Osbert suggest that the strategy is to try and solve this issue through [development of better emptying devices](#).

Ousmane points out that the [implementation of safety protocols](#) (protective gears as well as other measures such as cleaning up spills, better transport equipment etc.) [costs money](#). To make implementation of safety protocols realistic, there will have to be some cost sharing between emptiers and community, otherwise this will push poor people out of a job or just not happen. As Reza says, a [well-designed incentive system](#) should reduce the threat of unsafe behaviours, e.g. dumping, spilling, making risky behaviours more expensive than safe behaviours.

I asked you to indicate on [a check list](#), which practices would be [easier to implement and which would be non-negotiable \(should always been done\)](#). I have tried to consolidate the answers in the graph below. The bigger circles mean it's more important to implement (non-negotiable). The lower, the position, more difficult the implementation would be. While wearing personal protective gear is important, this is not the only safety measure that needs to be considered.



WHERE TO START? WHAT WOULD BE THE PROCESS TO INTRODUCE BETTER OPERATIONAL HEALTH AND SAFETY IN FSM?

While research to develop better, safer emptying devices is ongoing, some steps can already be taken to make progress towards better operational health and safety in FSM. A first measure towards better operational health and safety in FSM is clearly to [bring the service into legality](#). This is not straightforward, because emptiers themselves are usually wary of greater government oversight and possible related payments. This needs to be discussed and negotiated.

A second step, following Irfan's remark, is that any process should [start from a good understanding of actual practices](#) on the ground. For example, in the case of South Lampung, Indonesia, there are many things to improve, but workers always wash their equipment and their hands after the service. Similarly, Osbert cautions [against recommendations without information](#): he suggest that nose masks, when re-used, can become a source of infection instead of a means of protection.

Reinilde mentions that in Nakuru, Kenya, they are working on [Occupational Health& Safety Standards](#) as a guidance for both Public Health and the pit-emptier association. Also teams in teams, Bangladesh and Indonesia, have started to develop [Standard Operational Procedures](#). Information and awareness should come well before inspections and penalties. It seems important that [all stakeholders](#), government, emptiers, utilities and customers are informed and involved in some way, to contribute to a culture of safety. Specific information and training for emptiers will also be needed. Freya adds to this the [provision](#) of washing facilities, disinfectant and equipment, as well as maintenance of emptying equipment, to emptiers.

Once there is greater acceptance, [self-monitoring and certification](#) can be considered to enforce continuous use of safety measures.

TOPIC 3: THE ROLE OF SMART ENFORCEMENT²

ENFORCEMENT OF WHOSE BEHAVIOUR?

Enforcement seems a huge, almost insurmountable challenge in many countries, but at the same time, something that we need to tackle rather than ignore for “too difficult”. Professionalising emptying services will require a lot of people to change their behaviour, and even if there are norms& standards, there are many reasons for people not to comply, such as:

- Ignorance (people don’t know about the norms& standards or how to comply)
- Economic reasons (someone makes money or saves money by non-compliance)
- Lack of enforcement (people think that they will not get caught)

As Nadira Khawaja from Nepal said in her mail: “The issue of enforcement is [lamented by everyone](#) (users, service providers and regulators and [those who comply with standards as well as those who don’t comply](#)) and is also often used as an excuse for maintaining the status quo (i.e. that all other issues would be [automatically solved](#) only if standards were enforced)”. She points to the fact that very often the lack of enforcement is de-personalised, as if it’s simply the context, nobody’s fault and thus also nobody can fix it. She shows that this is just untrue, because compliance with standards is the [result of human decisions and can be improved](#).

The implicit focus in this discussion has been [how local governments can move forward](#), improving environmental health in their city or town. However, in some contexts, the municipality or city itself is the biggest offender, not providing services, or dumping in the wrong places. Of course that then becomes an excuse for everybody else to do the same...

For the sake of the discussion below we have assumed that there is certain political willingness of local governments to improve environmental health, and we [focus on the compliance of users](#) (households, institutions, commercial users), [and service providers](#) (manual emptiers, owners of vacutugs, tanks etc.) with norms& standards.

WHAT PARTS OF THE SANITATION VALUE CHAIN CARRY MOST RISKS IN TERMS OF NON-COMPLIANCE?

Obviously no municipality/city (or other regulator) has the resources to supervise and control everybody. Therefore municipalities need to be clever about where to focus efforts. [Smart enforcement](#) would be to focus on areas with [the most effect](#). That can be activities that cause most harm and/or stakeholders who will influence many people.

[Smart enforcement](#) is also about using [a combination](#) of internal motivators (information, awareness raising), as well as external motivators which can be positive (incentives for good behaviour) or negative (penalties for bad behaviour), as and when appropriate. Finally, smart enforcement is to use [timely](#) and [proportionate](#) measures for enforcement.

The majority of contributors, considers that the [most risk for non-compliance](#) is [containment](#) that is the quality of construction of pits and septic tanks. While there are building codes in Nepal and Bangladesh for example, it’s [hard to make inspection effective](#). Meena Shrestha from Nepal mentions that for house construction a construction permit is needed before hand (on the basis of drawings) and a completion certificate after the construction is completed. However, it seems that not always municipalities monitor the site before issuing the completion certificate. Nadira Khawaja

² Part of the introduction to this topic was based on briefing paper 6, by Rob White and Diane Heckenberg, School of Sociology and Social Work University of Tasmania, July 2012.

from Nepal mentions the [difficulties of inspection due to the mere number of households](#), and that many households construct soakage pits instead of approved septic tanks. This is not always due to ignorance. Gem Tshering from Bhutan writes that [without enforcement](#) of an emptying schedule, [building owners are tempted](#) to let their septic tanks overflow or even to make a hole in the wall so that it never fills up.

Aftab Opel from Laos explains that enforcement of building standards of septic tanks in Bangladesh is more challenging than in Laos. Building codes are in place in both countries. However, in Laos the approval for buildings as well as WASH are [under the same ministry](#) (Ministry of Public Works and Transportation), whereas in Bangladesh there is a [disconnect](#) because building codes fall under the Ministry of Housing, but they are not responsible for WASH. Reuben Sipuma from Zambia mentions a similar challenge in his country: onsite sanitation falls under different Ministries: Local government and housing, and Ministry of Health. Moreover, political figures tend to avoid unpopular decisions such as enforcing standards, and rather give away toilets.

Chiranjibi Tiwari writing from Kenya, points out that the added challenge is that standards for containment can [only be enforced at the time of construction](#). Aftab points out that standards can only be enforced if there is also an emptying service, it is thus a chicken and eggs issue.

Nadira and Chiranjibi are of the opinion that the regulation of emptying and transport is relatively easy compared to regulating containment. Nadira calls it a case of “[smart economics](#)”, as long as the incentives are right, the sanitation value chain will function properly. Joanne Chong from Australia suggests the same. She says that monitoring is hard and implementing penalties as well, but a “carrot” approach by [getting the right incentives in place](#) could do the trick. Chiranjibi writes that standards for emptying and transport are easily enforced, because those failing can be [punished by revoking their licence to operate](#).

Safe disposal is often limited by the lack of treatment/ disposal facilities within a reasonable distance. Sanjay Singh from India finds that the biggest challenge is safe disposal, not only due to the lack of treatment plants, but also because in his context local governments are [less interested in on-site sanitation](#) and faecal sludge management. Another risk is the [failure of operators to provide PPE](#) to their workers.

Aftab and Nadira feel that emptiers can only be held accountable for safe disposal if governments [create the facilities for disposal](#), such as treatment plants/ dumping sites, or even [financial compensation](#) when treatment plants are very far away. She provides the example of Surkhet municipality where an on-demand emptying system is in place. The municipality contracts the service out to private sector but these dump the sludge haphazardly or spread it on rice fields, because this is closer by than the current dumping site in the forest. The municipality and the agriculture office are now piloting a process of on-farm treatment to allow for safe re-use in farm fields. It is expected that this will [create incentives for safe disposal](#).

Chiranjibi and Er Abid Hussain from Nepal point out that the [practice of re-use and EcoSan](#) models require [relatively stronger enforcement](#) due to the health risks related to improper re-use. This is echoed by Bimal Tandukar writing from Cambodia for the case of agricultural use of sludge from rural toilets in this country.

WHY IS IT SO DIFFICULT TO ENFORCE GOOD NORMS & STANDARDS IN URBAN SANITATION? (BARRIERS)

Eddy Perez from the US mentions that enforcement is a critical and necessary part of safe faecal sludge management, but that in his experience unfortunately it’s very rare to happen effectively. One of the barriers is the [capacity of public servants to enforce](#). In his example of Jamaica,

sanitarians need better training and empowerment to be able to address illegal discharge by households into drains or even the ocean. The big difference with sanitarians in the US, is **not only the training** though, but also the fact that US sanitarians have the authority to shut down construction (of a house) in case sanitation doesn't comply with standards. Having this **big stick as an ultimate consequence of non-compliant behaviour**, works as a deterrent and provides credibility to other (softer) enforcement activities.

Chiranjibi Tiwari from Kenya writes that Water and Sewerage Companies (WSP, these are public companies) are mandated to ensure both water and sanitation services in their jurisdiction. However, the regulation of these WSP's has focussed on coverage targets, less on safety standards, collection, disposal and treatment. The regulating entity simply does not have the **capacity to monitor those aspects**.

Reuben also mentioned the **capacity and expertise limitations** of the local government to do proper monitoring. The problem is more in the capacity than in the lack of standards he says. Janina Murta from Australia agrees that there cannot be enforcement without information about compliance, and **gathering that information continuously is costly**. In the case of rural Cambodia, Bimal suggests that **monitoring** of sludge management could **build on the commune level structures** and their practice of ODF sanitation monitoring.

POSSIBLE STARTING POINTS AND PROCESS FOR WORKING ON SMART ENFORCEMENT

Some of the contributions suggested participatory, voluntary processes of gradually bringing emptiers into compliance with standards:

- Sanjay writes about the importance of **first bringing emptiers together and understanding their issues** in terms of pricing, disposal etc., improving communication with government, and then gradually through a **hand holding process** move towards greater compliance with standards. Er Abid Hussain also suggests **technical support** to the entrepreneur to **gradually come into compliance** with standards.
- Joanne provides an example from the tyre industry in Australia where the industry itself got organised and agreed on implementing quality standards among themselves. This form of **"voluntary" compliance systems** is an option when top-down systems are too difficult to implement. However, it was not a quick& easy fix. **It took several years of co-design** to set it up and also the threat of more heavy regulation by government, to get the industry to agree on this.
- Chiranjibi Tiwari is of this same line of thought: i) developing the standards in a participatory way, ii) legalising those standards with clearly defined roles and responsibilities of each actors, iii) communicating the norms and standards through effective channels, and iv) creating incentives (carrots/sticks) for consumers as well as service providers for the proper adoption. Janina further suggests that the emphasis should be on the carrots, in particular "name & praise" could create the right momentum.

However, there is a **certain urgency in getting emptiers to comply** with norms and standards, and going through a process of several years may be too much. There is an urgency to address the unhealthy environment where people are living, and proper FSM is part of that. The specific challenge in sanitation is that **we need the vast majority to comply with norms and standards**, in order to realise the benefits for all. That is not only for reducing open defecation, but also for sludge emptying services: one service provider who dumps the sludge inappropriately, affects health of the living environment even if all other service providers bring sludge to the treatment plant.

Moreover, there is always the question whether voluntary or participatory compliance systems will work in the end, in particular if there is no “big stick” in sight. For these reasons, some other contributors are less optimistic about voluntary compliance systems and encouragement only:

- Nadira suggests that –after getting the incentives right “[smart economics](#)”- there should be system of competition and licences for emptiers, and that in the case of no compliance, [licences should be revoked](#).
- Similarly, Reuben points to the importance of building [capacities](#) and awareness of politicians, local authorities and staff at all levels to both [understand the negative consequences of non-compliance](#), as well as measures to enforce. An important aspect in this is also the collaboration among ministries;
- Janina mentions that [some form of monitoring will always be needed](#). A nice example is from Mozambique where [citizens can report](#) on issues with waste collection in their neighbourhoods using their mobile phones. While this type of monitoring cannot replace field inspections, it helps to get a greater inspection coverage a relatively low cost. Similarly, Bimal feels that the engagement of the [lowest levels of government](#) can bring down the burden of monitoring. He agrees with Nadira in getting incentives right first.

Finally, I would like to add that as long as sludge management is generally [not seen as important by the general public](#), and there are no (strong) [social norms](#) against abusive behaviour, it will be very hard to enforce compliance standards. As I said in the introduction of this topic, at the moment, [the enforcement pyramid for faecal sludge management is inverted](#), like the figure on the right (the size of each segment reflects the % of the population). This means that nobody really cares and many people feel it’s OK not to comply.

