Making sanitation enterprises viable?

This meeting looked at the viability for sanitation entrepreneurs to create viable enterprises from one of the world’s most abundant waste products: shit. Whilst many sanitation enterprises are based on the processing and use of urine/excreta as a resource, this meeting focused primarily on efficient means of collecting, containing and disposing of the waste. The morning session began with an introduction to sanitation markets, whilst the afternoon looked specifically at ‘Pit Emptying’ and ‘Shared sanitation and household markets’.

The key points of each session are summarised below, with full presentations available on the website\(^1\).

**Sanitation Markets**

**Sophie Tremolet (LHSTM)**

Sophie Tremolet opened with the keynote focusing on sanitation markets on a more macro scale; examining why sanitation should be invested in. She assessed the need to allocate public funds to sanitation, based on the significant impact it can have on effectiveness and leveraging. She also highlighted the need for further research to:

- Measure benefits and compare with costs;
- Investigate scaling up of small enterprises;
- Provide more effective financing mechanisms; and,
- Better organise the market structure.

**Pro poor markets for urban sanitation in Jakarta, Indonesia**

**Michelle Kooy (ODI)**

Michelle Kooy spoke about pro-poor markets for urban sanitation in Jakarta, Indonesia, where a pilot project funded by Mercy Corps is being conducted. The project focused on the installation of an onsite decentralised septic tank and bio-filter systems with soak pits.

The project looked at both demand and supply. The demand side focused on the need for peer groups to implement CLTS and to provide a technical model which meets government’s effluent quality. The supply side of the project focused on research and development as well as the operation and maintenance needed for project implementation. The key barriers to the project (for both systems) were the costs involved - particularly regarding the transport and disposal of the waste while it was still liquid.

**Comparing ecological with conventional sanitation systems using financial and economic analysis**

**Jonathan Parkinson (IWA)**

This talk highlighted the lack of consistent mathematical approaches to derive and compare data regarding the financial and economical viability of sanitation systems, and attempted to rectify this through presentation of a standardised method.

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\(^1\) [http://iwawaterwiki.org/xwiki/bin/view/SanCop/Pastmeetings](http://iwawaterwiki.org/xwiki/bin/view/SanCop/Pastmeetings)
To do this it was necessary to ‘monetarize’ the costs and benefits of the systems. This is understandably difficult to quantify, and while Jonathans work made great leaps in this area, it was suggested that benefits of time and health were lacking from his analysis. As a result, NPV was found to be negative in all but one of the analysed cases. It was also suggested that quantifying cost of sanitation systems needs to take place over time to take operation and maintenance of the systems into account.

Overall the morning’s discussions highlighted the challenges in the market potential of sanitation systems including the problem of subsidies, affordability and assessing the returns on sanitation projects. These are crucial in order to make a project viable. The suggestion of mobile credit or the use of fixed subsidises allowing people to choose the level of services they want or can afford offered interesting suggestions for improvement. The afternoon session moved into more specific discussions on sanitation markets.

SANITATION MARKET 1 – PIT EMPTYING

Faecal sludge emptiers in Freetown, Sierra Leone

Georges Mikhael (WEDC)

Sanitation Market 1 was pit emptying, which began with Georges Mikhael from WEDC discussing his experiences with faecal sludge emptiers in Freetown, Sierra Leone, as part of an MSc project conducted with GOAL. Georges contrasted the mechanical and manual markets of the city in terms of problems, costs and barriers for expansion. Both systems were found to be viable but each faced a unique set of challenges. The wage for manual emptiers was found to be quite substantial and thus alternative approaches to lure employees away from the dangers of the job were discussed.

Screening of WASTE/Africa Initiative film

This film looked at three sanitation entrepreneurs in Nairobi; community based manual emptier, a private manual emptier and a self employed mechanical emptier. The film aim was produced with an aim to create a ‘visual market place’ for these initiatives. Each of the cases presented were liquid under analysis, however their lack of book keeping and key infrastructure had previously proven to be a barrier in obtaining loans. Sanitation was certainly found to be a profitable business, but creating a ‘bankable’ proposal for investment was found to be difficult.

The discussion that followed asked the participants where they would invest money in pit emptying enterprises. Should manual emptying be encouraged or should all money go toward mechanical emptiers? The fundamental problem found, was that even if these enterprises were invested in, a major problem remains in that most of the waste collected still ends up in a water source. Therefore it was questioned if providing a dumping site for the existing emptiers should be more of a priority. Is this where the public sector should step in to aid their sanitation entrepreneurs?

2Available here: http://www.youtube.com/watch?v=bOOjQp6KgVI&playnext=1&list=PL37459FD45841A221&index=31
SANITATION MARKET 2 SHARED SANITATION AND HOUSEHOLD MARKETS
Community Ablution Blocks vs Landlord-led solutions in Kenya – learning from Practical Action Projects³

Lucy Stevens (Practical Action)
In this presentation Lucy contrasted community ablution blocks with stand alone cluster blocks in Kenya. In serving a lot of customers, the pay as you go ablution blocks were found as good places for community investment and provided opportunities for demos; however, they also were found to be expensive, require approx 55m² of space and failed to provide much opportunity for employment. Women were also found not to use these systems as much as men.

This was contrasted with the stand alone cluster blocks, a new approach to sanitation provision from PA. These blocks required a landlord to give up one room in a block of 15/20 and dedicate this to provision of basic sanitation, in return for a 10% elevation in rent. Convincing landlords to install these toilets and consequently finding tenants willing to pay extra proved the major obstacle with this model, however if one evaluates the average number of times people used the PAYG toilets, this model actually resulted in a saving. These blocks are a recent installation of PA’s and have thus far been found to be very successful; however questions remain how the project will evolve over time (in terms of operation and maintenance) and the group as a whole were interested in an update in a years time.

Learning activity based on shared sanitation markets in slums

Adrien Mazeau (WEDC)⁴
Adrien presented the group with a range of shared sanitation options, and asked us as implementers to look at the comparative advantages in terms of accessibility, user affordability, health, operation and maintenance, space/land issues and potential as a viable business. The wide range of ratings for each option was testament to the difficulties faced in choosing a shared sanitation option and no option was found to be a favourite. The group did however believe without objection that public/shared toilets are a must, and are usable in the right situation.

The group then discussed how they would invest $1,000,000 dollars in sanitation. Contributions were also received via Twitter. Suggestions were as follows:

- Use it to unlock other funding
- Commercialise sanitation – popstar/footballer
- Improve emptying methods – research
- Attempt to trigger behaviour change
- Campaign the government
- Prizes for community sanitation blocks
- Implement more full scale pilot projects
- Encourage more hygiene promotion
- FSM infrastructure / software
- Supply chain management

³ More information here: http://www.practicalaction.org.uk/access-to-services/project_IA35000046K
⁴ More information here: http://wedd.lboro.ac.uk/phd_research/
It seems, as a group, we would not be very unified in our investment strategies.

Overall the day highlighted some important points with regard to creating and sustaining a viable sanitation enterprise.

- How can we quantify the costs and benefits to determine which enterprises are viable?
- Whilst some enterprises are viable, are there moral reasons which should stop us from encouraging their expansion (e.g. waste dumped in rivers, men forced to retrieve waste from latrine pits by hand)?
- How can the effective financing mechanisms be provided?
- How can small successful enterprises be scaled up?