

Proceedings from SEI/EcoSanRes2 Workshop:

**Planning and Implementation of Sustainable Sanitation
in Peri/Semi-Urban Settings
– A Need for Development of Existing Tools?**

Stockholm, 25-26 August, 2008



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Summary of Workshop Discussion and Conclusions

The main purpose of the workshop was to identify strengths and weaknesses of different planning and intervention methods applied to peri- and semi-urban settings, and to find ways of improving existing approaches. Several approaches were presented, including Community-Led Total Sanitation (CLTS), Household Centred Environmental Sanitation (HCES), SARAR/PHAST and the Sanitation 21 Framework for planning.

The virtues of combining approaches came out very strongly during discussions. The CLTS approach focuses on the ignition of action within the community, especially at the level of self-provision of basic sanitation and behaviour change in order to achieve an ‘open-defecation-free community’ and to enable the community to enter the ‘sanitation ladder.’¹ Can this initial triggering of behaviour change and investment, be scaled up through a HCES

approach? The HCES focuses more on how to plan and invest in more comprehensive infrastructure and institutions to maintain hygienic behaviours – i.e. to climb upward on the sanitation ladder.

The combination of approaches may be a useful strategy for achieving the necessary behaviour change and household investment, as well as the greater recognition and incorporation of semi- and peri-urban settlements into the larger urban service infrastructure.

The interest of the workshop was in ‘participatory’ approaches to sanitation development on the urban fringe. Understanding of the local context and the involvement of local communities was seen as utterly important.

The workshop also focused on behavioural change in the area of hygiene and sanitation. While the appropriate launching of projects and programmes is crucial, it was also recognised that behaviour change takes time. Further, when behaviour change is the prime goal, it may even be counter-productive to specify quantitative goals such as ‘number of toilets constructed’ – which risk detracting attention from the social objectives. The main challenge is to ensure entire communities use improved sanitation and continue to do so also in the future.

The issue of subsidies was also discussed at several instances. Hardware subsidies at the household level, i.e. financial discounts or payments aimed at assisting in the construction and installa-

¹ The ‘sanitation ladder’ was widely referred to during the workshop. It is a way of ordering different sanitation systems or technologies, typically according to their cost of (initial) investment, thus addressing the concept of incremental, situation-specific improvement-steps. The options higher up on the sanitation ladder are commonly only available to wealthier households and tend to require more of centralised management, rather than the household’s own labour. Variant sanitation ladders, with different steps and technologies can be found in the literature. The way that the sanitation ladder has been used by many workshop participants was to have communities develop their own sanitation ladders according to cost as well as desirability of different options. This way, the sanitation ladder can serve as a tool for long-term planning and visualisation of cost/technology choices or aspirations that are available and relevant for the community.

tion of toilet structures, were by many participants seen as an obstacle for households to freely develop their demand for basic sanitary solutions.² It has often been found that subsidised toilet structures end up being used for purposes such as storage rather than defecation. Whereas some agencies have determined not to use household-level hardware subsidies, others will continue to use at least partial subsidies in order to influence or help stimulate demand.³ A major challenge also lies in how to design subsidy schemes, particularly for assisting communities to move upward on the sanitation ladder, or become integrated into formalised larger-scale infrastructure systems. Moreover, ‘software subsidies’ or development or government funding for training, awareness-raising and other personnel-intensive activities were generally seen as necessary.

In order to make further development towards more comprehensive and sustainable sanitation solutions possible, the integration into existing institutional structures of municipal or even national services and infrastructure provision is paramount. Longer-term programmes

were seen as more effective for this purpose, rather than one-off project.

Further, institutional integration as well as individual investment would be made lots easier if communities were legal and recognised. Part of the challenge relates to legalisation and formalisation of peri- or semi-urban settlements. There is a need for politicians to be sensitised and to make the appropriate decisions, but also for utilities and municipal service agencies to better address ‘software’ issues.⁴ Generally, technical and institutional issues must be better integrated.⁵

The water and sanitation sector generally faces difficulties with adequate budgeting and costing of different solutions. Such difficulties are notorious in the area of ‘software,’ where budgets for training and monitoring are poorly or not at all developed. There is a screaming need to cost necessary and sufficient inputs and human-power into social development, i.e. the software side of sanitation.⁶ The

² In CLTS experiences in Kolkata, the fact that neighbouring settlements had received hardware subsidies made participating residents reticent to invest their own funds into their own basic sanitation.

³ Subsidies would nonetheless be necessary if the purpose is to pilot specific solutions, e.g. ecological sanitation, for which there may not be sufficient initial demand. There were different opinions, however, regarding whether ‘ecological’ or any particular systems were to be ‘introduced’ at the first instance of overcoming open defecation. There is also a value in the community experimenting and learning for themselves.

⁴ Though this is a problematic area, there are also success stories. The PHAST approach adopted in Zimbabwe during the 1980s and 1990s included issues behavioral change into national curricula, and this integration was also found to stimulate actual behavioral change and action on the ground.

⁵ Greywater management is an area which is institutionally complex, and tends to be overlooked. This issue was of special concern to many workshop participants.

⁶ Within Sustainable Sanitation Alliance (SuSanA), several groups are working on software issues, though not necessarily the specifics of costing. The working group trying to cost different technologies has software costing implicit in the hardware costing exercise, but can not be expected to tackle the specific exercise of costing of the software for participatory sanitation development projects and programmes. Potentially, however, the WASH programme is addressing issues of this nature (?).

workshop was tempted to task somebody to develop budgets for software part of sanitation development. Any takers?

Also, still, there is a great need to talk officially about sanitation. It is still a taboo, which needs to be (tactfully and gently) broken. The sanitation sector still needs to develop messages behind which it can unite, in order not to appear as competing factions that further their own approaches only.

Some software costing may also have been done by WSP (?). Moreover, The Austrian Development Cooperation, in their aim to achieve sustainable infrastructures, are said to invest the same proportion of funding in software and hardware.

Outline of Workshop Presentations and Discussions

The workshop on methods for Planning and Implementation of Sustainable Sanitation in Peri/Semi-Urban Settings was a two-day endeavour held at the Piperska Muren Conference Centre in Stockholm, Sweden, on 25-26 August, 2008.

This outline summarises what was presented and discussed in each of the sessions, and refers to the annexed PowerPoint presentations as well as additional reports or web-pages for additional information.

Day 1

The first day of the workshop was dedicated to introductions and a range of presentations on the different approaches and their applications in the field.

Welcome, Introductions and Objectives of the Workshop

Gunilla Brattberg, Programme Director of the EcoSanRes Phase II at the Stockholm Environment Institute (SEI), welcomed the participants, introduced SEI and the EcoSanRes Programme. SEI's mission includes introducing change towards sustainable development by providing integrative knowledge that bridges science and policy in the field of environment and development. In line with that, the EcoSanRes programme is a *Pro-Poor Capacity Development Programme* in the area of *Sustainable Sanitation*. It is supported by the Swedish International Development Co-operation Agency (Sida). Gunilla

Brattberg also emphasised the increasing urbanisation, the accompanying problems and needs for solutions, and the need for solutions to be - sustainable. ([See slides.](#)) (For further information about SEI and EcoSanRes, turn to www.sei.se and www.ecosanres.org.)

Madeleine Fogde, Capacity Development Manager of the EcoSanRes II Programme, gave an overview of the programme, which would run according to the preliminary itinerary, with the exception of the background overview to be provided by UN-Habitat, which was inhibited by urgent matters.

In order for workshop participants to get to get a bit more personal and feel at ease when discussing sanitation issues, each participant was to tell about a childhood memory of toilets and sanitation. The memories shared in plenary ranged from the drudgeries of emptying full pits and fears of visiting school toilets, to those of the enjoyment of defecating with a good view or, for some, to visit the comparably luxurious school toilet.

Elisabeth Kvarnström, Node Development Manager of the EcoSanRes II Programme, provided definitions for some basic concepts and the objectives of the workshop. Within the area of sanitation, she explained, EcoSanRes focuses in particular on the users and the management of human excreta, and to some extent on greywater. In this work, *sustainable sanitation* is defined as “systems [that] protect and promote human health, minimise environmental degradation and depletion of the

resource base, are technically and institutionally appropriate, socially acceptable and economically viable in the long term.” And *ecological sanitation* refers to systems that “safely recycle plant nutrients in human excreta to crop production in such a way that the use of non-renewable resources is minimised.”

Elisabeth also stressed the importance of planning in the field of sanitation – as one way of managing the human element of sanitation, as opposed to the common focus on technical issues. The objectives of the workshop were reiterated, and included the bringing together some of the ‘orgs and ‘high-minders’ in sanitation for the:

- Identification of strengths and weaknesses for different planning and intervention methods for a peri-urban setting with a sustainability focus
- Identification and understanding of different socio-political factors and conditions that seriously inhibits or enhances collective-active participation of peri-urban slum communities in achieving the ‘public good’
- Suggestions of improvements in approaches for peri-urban settings
- Way forwards towards sustainability
- How do we share this knowledge?

[\(See slide presentation.\)](#)

Behavioural Change for Sustainable Actions and Investments

Therese Dooley from UNICEF gave background information on the sanitation challenge and a call for behavioural change in the area of sanitation.

First, the rapid ongoing urbanisation is a “radar moment” for changing towards sustainable behaviours. Especially when people move from rural to urban areas, there is a major change in their lives and great impetus for new behaviour. Sanitation is also more important in urban area, since the more densely populated an area is, the greater the risk for disease transition. Bluntly put: in the urban area you cannot get away from the shit of your neighbour.

Sanitation is the foundation of public health, with the potential to reduce poverty and to boost economic growth and gains from education. Good sanitation and hygiene reduces gender inequality, and builds people’s pride of their home and community

In the current situation, some two and a half billion people lack sanitation. Most of them are found in Southern and Eastern Asia. However, the countries that are not on track towards meeting the Millennium Development Goals (MDGs) are generally found in Sub-Saharan Africa. There are pockets of success though, such as the “quiet revolution” led by health extension workers in Southern Ethiopia, supporting behaviour change towards eliminating open defecation. In Southeast Asia, there are more records of success, such as in Malaysia and Thailand, where concerted programmes delivered over thirty years have achieved near universal sanitation coverage – well ahead of the economic boom. Also, community led total sanitation (CLTS) in Bangladesh and other countries have achieved numerous “open-defecation-free” villages.

Still, rural sanitation generally lags behind more than urban sanitation: The practice of open defecation is six times more common in rural than urban areas. More than four fifths of those practicing open defecation live in 13 countries – the vast majority in India.

The health implications of poor sanitation include over 5000 children per day dying of diarrheal disease, and more than half of the hospital beds in Sub-Saharan Africa occupied by patients with preventable diarrheal disease.

That sanitation interventions improve health has been shown in numerous studies. One success story is derived from Salvador da Bahia in Brazil, where a city-wide sanitation intervention was started in 1997 improved sewerage coverage from 26% of households to 80% in 2004. It resulted in an overall reduction of 22% of diarrheal prevalence, showing that also “urban sanitation is a highly effective health measure that can no longer be ignored.”⁷

Sanitation coverage in the world nevertheless remains segregated. It is also a gender issue, with girls’ schooling being particularly affected by poor sanitation.

Major challenges include the stigma – a problem to be hidden away – and the daunting scale of the problem. The world needs to get past the shame and embarrassment and start talking about sanitation, like it did about AIDS in the 1980s.

⁷ Barreto *et al.* (2007). Effect of city-wide sanitation programme on reduction in rate of childhood diarrhoea in northeast Brazil: assessment by two cohort studies. *The Lancet*, 370(9599), 1622–1628. (p. 1622).

We also need to move from the focus on the individual to the community. Also, how can community processes be sustained as effective systems of monitoring and follow-up?

UNICEF works with a range of participatory approaches to community based sanitation,⁸ encapsulated under the acronym CATS (Community Approaches for Total Sanitation). The idea of the community-based approaches is that they are collective, community-managed and work towards enhancing dignity and pride. There is also the aspiration to be modern, which is a great inspiration for improving sanitation. There is also a need for social marketing of the message that using a flush toilet is not the only way to be modern. However, the technology choice should be secondary and based on actual demand. People should be allowed to ‘climb the sanitation ladder’ in the manner they choose. It is important not to undermine community choices.

In sum, improved sanitation is achievable by focusing on community approaches and the breaking of taboos.

[\(See slides from this presentation.\)](#)

Questions and comments to the presentation included

- How a CATS approach can be integrated into larger government programmes – including programmes with hardware subsidies (as is the case in India).
- That in order for people to make informed choices, they must know the options and the costs. How can

⁸ Including CLTS, TSA, TS, PHAST, PHE and others.

planners use the sanitation ladder in this regard? How much are UNICEF demonstration sites actually replicated? This should be where ‘social marketing’ comes in, e.g. that there are several different toilets at a community health centre to inspire demand from community.

- ‘Sustainable’ solutions are not much marketed. On TV, only the very top (i.e. flush toilets) of the sanitation ladder is shown.

Therese Dooley clarified that UNICEF’s CATS approach included no hardware subsidy at the household level, with the exception of child-headed households. In the case of India, UNICEF contributes only a small fraction of the total (water and?) sanitation budget, though it was later also stated that these 3% have an enormous impact on the policy choices made by the Government of India.

On the issue of demonstration sites, UNICEF has about ten different toilet technologies which can be constructed at schools or other sites that are suitable for demonstration purposes.

The Sanitation 21 Framework

Darren Saywell from the International Water Association (IWA) presented the *Sanitation 21 Framework* – a simplified representation of a complex planning process. It is meant to be a guide and decision support for planners and system designers. This tool for decision support aims to bridge between technical and institutional planning, where we currently find a great mismatch between institutional realities and technical proposals. There is a further strife to keep the household in focus while dealing

with what stakeholders from each domain want from the sanitation system and also to serve as a ‘reality check’ when assessing technologies.

(See PowerPoint presentation.)

As the Sanitation 21 Framework is under development, IWA appreciates comments on the draft document: *Sanitation 21. Simple Approaches to Complex Sanitation. A Draft Framework for Analysis*, which is downloadable from <http://www.iwahq.org/uploads/iwa%20hq/website%20files/task%20forces/sanitation%2021/Sanitation21v2.pdf>. Further information about *Sanitation 21* is also available from http://www.iwahq.org/templates/ld_templates/layout_633184.aspx?ObjectId=639578.

Questions and comments were raised regarding how to integrate this into existing institutions, and to what extent other important actors such as architects and housing developers would be included. Darren Saywell responded that next year there will be a programme that will integrate the whole planning process, including the mentioned stakeholders. The idea is to consult with more actors on good sanitation planning and engage other organisations to endorse the principles contained in the Sanitation 21 Framework.

Urban Sanitation Systems – Building On the Household Centred Environmental Sanitation Approach (HCES)

Roland Schertenleib from the Swiss Federal Institute of Aquatic Science and Technology (Eawag) and W+S Consult presented the Household Centred Envi-

ronmental Sanitation Approach (HCES), which has been developed as a response to the recognition that conventional approaches to sanitation planning are unsuitable, is an outcome of the working group of the Water Supply & Sanitation Collaborative Council (WSSCC). It builds on the Bellagio Principles for Sustainable Sanitation.⁹

A defining feature is that the household is at the centre. However, to solve all problems *as close to the household as possible* need not imply that all problems are to be solved at that level. Many issues need to be addressed at more aggregate levels. The HCES involves multiple actors and multiple sectors. The approach should also be comprehensive, i.e. deal with *all* waste streams, and consider these as a resource.

The essence of the HCES is the planning process, which is to be *both* bottom-up and top-down. Further, the community needs to make informed choices. A challenge in this regard is that sanitation may not always be the highest priority. All the steps in the process should be iterative, and there are feedbacks. Further, down the line when priorities and plans have been outlined, there must be assurance of the existence of a budget for implementation.

The approach has been validated in Costa Rica, Burkina Faso, Kenya, Tanzania, Nepal and Laos.

[\(See slide presentation.\)](#)

⁹ The Bellagio Principles for Sustainable Sanitation were endorsed by the members of the Water Supply and Sanitation Collaborative Council during its 5th Global Forum in November 2000.

The discussion brought out challenges of making the system operational within a decentralised or bottom-up approach. Also the challenge of getting the community to be represented is a challenge in itself – an area in which the launching workshop of the approach will be crucial. Moreover, there is a need to ensure that one community does not simply dump its waste on another community. This highlights the importance of going also beyond the community and ensuring that potentially national levels are involved as well.

The report *Household-Centred Environmental Sanitation. Implementing the Bellagio Principles in Urban Environmental Sanitation. Provisional Guideline for Decision-Makers* can be downloaded from <http://www.wsscc.org/pdf/publication/hces.pdf> or http://www.eawag.ch/organisation/abteilungen/sandec/publikationen/publications_sesp/hces_guidelines where it is available also in French and Spanish. Background documentation can be accessed from http://www.eawag.ch/organisation/abteilungen/sandec/publikationen/publications_sesp/hces_background.

Managing Greywater from Dense Settlements, or: Greywater – the Invisible Problem...

Jay Bhagwan from the South African Water Research Commission presented the problematic area of greywater management, which, when poorly managed leads has health as well as structural impacts (erosion). Greywater creates its own path and leads to polluted, saturated soils. Many pictures of wastewater and solid waste accumulation were shown,

including individual responses such as wearing rubber boots when washing or collecting water and having to step into pools of greywater. This highlighted that many people tended to adapt to the problematic situations rather than to take (community) action to address the problems.

Greywater issues need much further attention, and Jay Bhagwan brought up the institutional fragmentation and discussed to what extent the lack of attention can be attributed to ignorance or neglect at community as well as authority levels. Most attention tends to be given to ‘taps and toilets’ and the issue of technology, but more needs to be directed at behaviour change, and the issue of drainage. Further, guidelines exist but are ignored.

The scale of the greywater management question is huge. As the return flow from households is at the level of 80-90%, it is estimated that in South Africa there are over 600 000 cubic meters of greywater generated per day – the size of a medium-size dam. In terms of water quality, greywater contains high counts of faecal coliforms and a great variation of other pollutants.’

[\(See slide presentation.\)](#)

The discussion focused on what behavioural change would be required to make the waste streams more manageable. Technical options for addressing greywater problems were also discussed, including potential options developed by Sandec. Moreover, the erosion and soil stability problems resulting from poor greywater management can be huge, and even contribute to landslides.

The definition on greywater, and whether it includes kitchen wastes was discussed.

Community Led Total Sanitation Potentials and Challenges for Application in Urban Areas

After lunch, Kamal Kar introduced the CLTS and what we have learned about ‘local empowerment and collective behaviour change at the urban community level.’ The session was initiated by the workshop participants being asked to stand up and tell their closest neighbour when they last defecated in the open – like the 2.6 billion people with nowhere to go has to do on a daily basis.

Whereas the traditional top-down approach to sanitation is heavy on subsidies, standards and prescriptions, they are weak on community needs, CLTS aims for the opposite.

CLTS is a collective process – the ignition of an action to stop open defecation. It is initiated by outsiders, but these outsiders are not there to prescribe solutions or ask them to stop. Instead, insiders will initiate the actions when they realise that they are ‘eating each others’ shit.’ In the process of mapping out where the shit is in the village and calculating the amount of shit generated on a daily basis, people become very concerned. ‘Natural leaders’ emerge from within the community, who will lead the further collective initiatives (often after considerable training) as well as set examples in constructing toilets.

The idea is to involve the whole community, and to form positive pressure for

everyone to have or construct and use latrines. Further, not only sanitation per se is involved, but the engagement in improving water posts, cleaning of drains, as well as to maintain streets and paths free from solid waste. There is supposed to be local innovation and also the use of the private sector in supplying necessary material such as latrine hardware. There are no subsidies from the outside involved.

Local diversity and variation are main elements of the CLTS which has been spearheaded by Plan International and UNICEF. It is now applied in a great range of geographic contexts, though mostly in rural areas. The urban application in Kalyani Municipality (part of the Kolkata Metropolis) is thus fairly unique. It managed to get all 52 slums in the Municipality cleaned up and declared 'open defecation free' in a short time.

A question is – 'Do we have time to allow communities to gradually move up the 'sanitation ladder'? This is a process which needs to take time.

Some lessons learned include that CLTS requires there to be political will – slight encouragement from elected representatives can make a big difference in uniting urban communities. The issue of unauthorised slums, however, is a major problem, as is the rapid pace of rural-urban migration, and the deplorable situation of the 'urban poor.' With the lack of legal status, people may be averse in investing in their own sanitation solutions, and the authorities may be as averse in providing services. However, the lure of (token) free toilets was found to detrimental for community

empowerment. A high price is instead paid by poor health and living in filth.

Many things have been learned through the various CLTS processes around the world, for full lists and pictures; see the [full presentation](#) (containing also pictures that did not show properly at the workshop).

Further information, including the *Handbook on Community-led Total Sanitation* by Kamal Kar with Robert Chambers, IDS and Plan International, can be downloaded from http://www.livelihoods.org/hot_topics/CLTS.html.

In the discussion, issues of technology choice and directions were brought up. It was questioned to what extent a pour-flush toilet should be positioned at the top of the sanitation ladder, and responded that this is of course entirely open. It is up to the community to improve their sanitation further and with what type of technologies.

At the initial stages, the community is also to be able to elaborate and learn from their own mistakes. For example, there is no prescription regarding minimum distances between hand pumps and latrines. Communities, with time, however, do notice that too short distance is a problem.

On the issue of whether it is worthwhile to introduce the concept of seeing waste also as a resource at the beginning of the CLTS triggering, Kamal Kar suggested that it is better to wait with such guidance until the later improvement stages. Thus: "let the community be triggered first and when they start searching for solutions, maybe then is time to intro-

duce ecosan. But let communities learn and make mistakes on their own.” Kamal Kar also added that several communities have chosen to go for ecosan approaches by themselves.

The issue of heterogeneous or diverse communities was brought up. Lack of community cohesion is indeed a problem for successful CLTS applications. This problem is typically greater in urban areas or settlements with many migrants.

SARAR/PHAST: A Participatory Approach for Building Human Capacity and Empowering Communities

The SARAR/PHAST approach for working with communities was described by Ron Sawyer from SARAR Transformación S.C., based in Mexico. First, he reflected on some of the basics of sanitation:

- We all eat – We all shit
- Sanitation behaviour is learned at a very early age, but tends not to be discussed. It is simply not talked about.
- When children start school, the toilet experience is often traumatic – often associated with shame, disgust, ridicule and abuse.
- Sanitation behaviour and toilets are deeply ingrained in specific cultural and personal settings.¹⁰ Thus, sanitation behaviour can be difficult to change.

¹⁰ Also, on wording, what should qualify as a ‘conventional’ sanitation approach? Are these flush technologies? Or isn’t open defecation indeed a conventional approach to sanitation?

Talking about toilets does make a difference! It raises awareness and stimulates attitude change. Also, once the taboo is broken, most people are fascinated by the subject. Talking about toilets can then provide the basis for sharing and testing ideas on workable alternative practices.

The PHAST is a specific structured application of the SARAR participatory and household or community based methodology. SARAR stands for Self-esteem, Associative strengths, Resourcefulness, Action planning, and Responsibility. This participatory methodology was developed during the 1970s and 1980s by Dr Lyra Srinivasan and colleagues for a variety of development purposes. It has been applied and developed by various initiatives, including the PROWESS (Promotion of the Role of Women in Water and Environmental Sanitation Services) of UNDP, which during the 1980s adapted the approach to the water and sanitation sector.

PROWESS eventually became part of the UNDP/World Bank’s Water and Sanitation Programme (WSP). In the early 1990s WSP joined hands with WHO to adapt the SARAR methodology more specifically for sanitation and hygiene behaviour change. This was labelled the PHAST initiative, which stands for Participatory Hygiene and Sanitation Transformation. SARAR/PHAST has been tested and adopted in many countries, in Africa and elsewhere, greatly supported by UNICEF collaboration.

Initially, there tends to be resistance to change among communities. Various diagnostic tools, including participatory

water and nutrient mapping exercises, are used to discuss, raise awareness about problems and how the system works, and eventually to build capacity to institute sanitation behaviour change. There tends to be many doubts about the capacity for change, including doubts about the capacity of the community itself as well as outsiders coming to instil change.

The sanitation ladder is also used as a tool to order different sanitation systems according to their desirability. Then the community can evaluate different options and how they fit in their specific context (at the present time).

Further, when working with poor people towards the MDGs, equity and justice is as important as other results. In this context, it is important to stimulate relations between peers, as many poor have become accustomed to being looked down upon or treated as inferior.

Thus, the approach must be truly participatory and facilitators must be careful not to turn authoritative. With true participation, these methods are ‘sticky’ and leave a lasting impact.

The SARAR/PHAST tools have been applied in many places all around the world. Examples were shown from applications in the context of developing ecological sanitation in Kyrgyzstan as well as Mozambique.

See the [PowerPoint presentation](#).

In the discussion it was asked to what extent the PHAST and CLTS approaches can be brought together. Ron Sawyer found them to be complementary, and

could very well be used together. Both draw on SARAR and PRA tools. A question mark would be what happens when the community does not ‘trigger’ in the CLTS approach. Are there psychological fall-backs?

The PHAST approach was also seen as taking long time, and there is the question of whether it can be made to work quicker. External evaluations made different assessment in this area: In Zimbabwe, where the approach was institutionalised and brought into national curricula, PHAST was found to have turned into ‘a way of life,’ while other evaluators found the process to have been too slow in Tanzania. Evaluations in Uganda have listed pros as well as cons.¹¹

A difference compared to CLTS, which has a clear beginning and an end result, is that the end of a PHAST process is specific to each context. This also makes PHAST initiatives more difficult to evaluate. Ron Sawyer emphasised that the SARAR process is deliberately open-ended. There is no set structure, so it is also important to invest well into the software and commit to a long-term process.

Further information and a *PHAST step-by-step guide: A participatory approach for the control of diarrhoeal diseases* is available from WHO’s web-site: http://www.who.int/water_sanitation_health/hygiene/envsan/phastep/en/index.html.

¹¹ CREPA in West Africa has integrated participatory SARAR approaches into their projects and now all their staff are trained in them.

Case Study: Urban Community Led Total Sanitation (CLTS) - Kalyani Municipality, Kolkata (India)

Shibani Goswami and Kasturi Bakshi from Kalyani Municipality presented the urban application of CLTS in Kalyani Municipality, Kolkata. The Kolkata Metropolis incorporates three municipal corporations and 38 municipalities. It has over 12 million inhabitants, of which about one third is estimated to live in slums.

The Kolkata Urban Services for the Poor (KUSP) Programme, funded by DFID since 2003/4, spends almost a third of its budget on infrastructure, with the highest priority given to household toilet construction. Late 2005 it was conceived to incorporate also the concept of CLTS, as the lack of community participation, especially in accessing health care services, had been observed. CLTS thus became an entry point to communities. The objective of the CLTS exercise was to test the approach of 'self mobilisation' in an urban slum and to empower the local community.

Kalyani Municipality was chosen mainly as there was political will,¹² with the Chairman and Chief Health Officer showing keen interest in CLTS. The Municipality has some 100 000 residents and counts with 52 slums. The slum dwellers are often migrants from

neighbouring states and from Bangladesh, with many living from wage labour, hawking and working as maids and servants.

Before the CLTS initiative, over 35 million rupees had been spent for household toilet construction. These toilets, handed over to households for free, suffered from low usage or usage for other purposes than defecation, as well as poor maintenance. Even toilet owners would practice open defecation, which was rampant in the community.

When initiating the CLTS it was made clear that increasing the number of toilets was not the goal per se, but the goal was to create an open-defecation-free environment. The important thing was the behavioural change, and not the technology. Also, municipal councillors, local NGOs, CBOs and community leaders were all sensitised and informed about the goals of the CLTS exercise.

There was also a unanimous decision taken at the level of the Board of Councillors, choosing to support the CLTS initially in five slums, and to stop subsidies for the construction of toilets.

Thereafter the CLTS was launched; with its range of PRA tools such as transect walks as well as more specific CLTS methods like defecation area mapping and faecal-oral contamination analysis. Crowds, primarily of women, gathered during the mapping exercises.

Most people appeared fully aware of the consequences of open defecation, though they were not aware of the concept of a

¹² The CLTS had been tried in the Kolkata metropolis, but the government system proved difficult to work through. In Kalyani, success in the rural parts helped achieve political will for the whole municipality. Also, governments are often found to work with hardware subsidies, and this has been found to be a stumbling block in the CLTS experience.

sanitary toilet,¹³ that it can be constructed at an affordable cost. Further, people were not aware of the need for everyone to use sanitary toilets in order for there to be health effects and reduced household medical expenses.

The first piloting, however, failed, primarily due to high expectations for subsidies. However, in the other four pilot areas, the CLTS ‘clicked.’ ‘Natural leaders’ emerged to take on the process, and eventually all five slum settlements could be declared ‘open defecation free,’ with a large number of toilets constructed, tube wells repaired, and drains cleaned.

After the pilot, CLTS spread to many more of the 52 slums of Kalyani. (44 slums declared ‘open defecation free’ within two years.)

The process was further monitored at the Municipality level of, with coloured cards were used to mark the sanitation status in the slums of each of the Wards – along with the photograph of the Ward Councillor. A decline in the number of gastro-intestinal disorders (especially diarrhoea and worm infestation) has also been noticed.

Lessons learned in the process include that subsidies, and its associated politics, are hurdles for community self mobilisation. Other challenges include the issue of political will, the approach of ‘doing for the poor’ and the lack of flexibility of designs, project approaches (log frames) and expenditures when

working with donors. In relation to communities, there was initial resistance in the more ‘tribal’ areas and those with less social cohesion or lack of legal status. At times, local leaders would act as gate-keepers.

Apparently, the previous lack of toilets and open defecation is not only caused by poverty, as when constructing toilets, people were making much more expensive toilets than expected.

The CLTS team, however, holds a firm belief in that “people can do it – just empower them!” and that this can be achieved by a very flexible approach.

[\(See the presentation.\)](#)

Questions related to the role of gate-keepers and who could be difficult to convince of the need for CLTS. Were donors inflexible? How about planners, engineers and regulators? Again the role of sensitization of all stakeholders was emphasised, and also that first comes behaviour change, and thereafter technologies can follow.

The financing and process of spreading CLTS from the initially five pilot areas to another 44 communities was raised. It was found that the CLTS approach was less expensive than scaling up a large subsidized program. Here, the role of the natural leaders that took over in motivating change in the other slums was emphasised. While the natural leaders did get some encouragement, it was not much money.

What about stigmatization of those families that did not have toilets during the monitoring and mapping processes?

¹³ For a sanitary toilet, the role of the water seal to prevent excreta to be visible, smell or be exposed to insects and generally to reduce the faecal-oral route of disease transmission.

Here, yes, people did feel bad – and not everyone can build toilets in one day. However, the exercise needs to be made a community initiative, and it sometimes happened that communities built toilet for people who could not do it by themselves.

In any case, the CLTS resulted much more cost effective than the previous subsidy programme.

Political will is crucial for the success of CLTS. However, interest is generated among other ministries and municipalities.

Sustainable Sanitation in the eThekweni Municipality

Teddy Gounden, from the eThekweni Municipality – the new (or original Zulu) name for greater Durban or the Unicity area of Durban – in South Africa, presented experiences from working with different types of toilet technologies, the challenges of operation and maintenance and how they have gone about community education in the area of sustainable sanitation.

The current sanitation services of the area includes some 420,000 urban households with waterborne sewerage, and 30,000 with septic/conservancy tanks. In the rural part, some 60,000 households have urine diverting toilets: There is a backlog of some 26,000 unserved rural households and some 240,000 households in peri-urban areas without toilets. Some 60,000 households here have VIP toilets. In peri-urban areas, there are also ablution blocks for community access to washing facilities.

In the rural areas there have been UD toilets throughout, as waterborne sewerage would be too costly due to topographical conditions, and the cost for desludging the conventional VIPs is high. Water and Sanitation services are delivered as a package. At the time, however, no reuse of excreta is done or advocated. The urine is led to a soak-away pit and the faeces are buried onsite.

Education and capacity building is given great effort in the project. All households have been visited, and educational leaflets have been developed. The PHAST approach has been used in focus group discussions with the community. Special focus is put on reaching women, which is seen as key for successful implementation. Women also compose the majority of the project teams.

The education is also there to ensure consistency in use and toilet maintenance. That all households do receive training was also monitored specifically, and local facilitators pay several visits while training individual households. As a follow-up, there is also a street theatre that focus on emptying procedures and health and hygiene education.

In order to ensure proper operation and maintenance there is also a system with caretakers to assist and provide advice for the UD toilets. This service should evolve into a small-scale independent contractor service, which is to provide emptying services, hardware supply as well as general operation and maintenance services.

The programme has been rather centralised in order to achieve cost savings and ensure high quality. The model also

needs to be instituted and accepted at the community level. Monitoring continues in order to ensure rapid responses when there are problems with the toilet functioning. The whole programme got great impetus and increased acceptance after a visit by the President and the Minister of Water Affairs.

Another initiative in the eThekweni Municipality is the installation of ablution blocks in dense informal settlements. These blocks provide toilet, washing and greywater disposal facilities. The high residential densities make household toilets difficult to fit.

Depending on topography and proximity to sewers, either water-borne or urine diverting toilets solutions were installed. There is one ablution block per 100 households, with the idea that walking distance should not be more than 100-150 meters.

The showers and toilets are separate for male and female users. There are also supplies, such as paper and cleaning material, provided for. And – important for the maintenance – there is a caretaker for each block, who is paid by the community. Proper lighting was also found to be important, in order to provide safe conditions for night-time use by women and children.

Another initiative described is a programme for pit emptying in urban and peri-urban areas. Many VIPs were installed in the 80's and 90's. These are now full and need to be emptied. As part of free basic sanitation services, one pit emptying every five years should be provided. Thus, all pits in one area are to be emptied at the same time.

The emptying is however proving to be a challenge. Many pits are susceptible to collapse and are constructed in poorly accessible locations. Also, the contents is very mixed – including plastic bags – which makes mechanical suction difficult, and manual excavation must be resorted to. A research project, however, helped find different alternatives for the servicing of the 60,000 VIPs.

[\(View the slide presentation.\)](#)

In the discussion it was asked why households in the rural areas were not informed about possibilities for reuse of products from UD toilets. The reasons were that the regulatory bodies had concerns and were really anxious for this program to work. In particular, the health department was concerned. Thus, the first priority became to get acceptance for the toilets. Later steps will include education and the potential for reuse.

What about training for pit emptier to avoid health risks? In this area, the occupation health department was involved and all workers had inoculations before and after. It was, in any case, a major concern.

Regarding the use of PHAST, it was clarified that it was applied by the Mvula Trust (which has educational programmes for ecological sanitation), and used mostly in focus groups within the community. The Mvula Trust also carried out the household visits, i.e. they were the eyes and ears within the communities for the municipality.¹⁴

¹⁴ This approach also seems to be emulated by other South African municipalities, e.g. Durban, whose representatives have been impressed by

Integrated Micro-system of Water and Ecological Sanitation for Peri-urban and Rural areas in Peru

Assisted by Jenny Aragundy Ochoa from EcoSanLac, Juan Carlos Calizaya from CENCA presented the ECODESS (Ecology and Development with Sustainable Sanitation) system – a management model with an ecological approach, including community management units, ecosan technologies and small-scale enterprises for waste products. The main experience shared was that from the peri-urban area of Nieveria, a peri-urban area of Lima.

The intervention modality includes the coordination with institutions working in the field – and a key point is to maintain good contacts with local government officials. Also, the design and location of the Dry Ecological Toilet is to be carried out in a participative manner. There is also educational material for the community.

The project started in 2004, and since 2007, it applies the concept of “Productive Eco-sanitation” which includes the production of supplies such as drying material, spares and accessories, as well as the collection of treated excreta from households. There are mainly two products, drying material composed of recycled material and a soil and lime mixture. The drying material is in turn used as an additive by the same households using dry toilets, and its sale generates revenues for the product. The payment for the drying material, is inclusive of the excreta collection, so it thus forms

part of a more comprehensive service package. The material costs \$2 and lasts for ten days. And people are buying it.

The treated wastes have also been tested and found to show very low counts of coliforms or any pathogen. None of the products are used as soil conditioners or fertilizers. The lime mix is alkaline and increases electrical conductivity, which mineralises faecal matter, and can thus not be used as compost. The separated urine is presently connected to the Greywater disposal system. If people wish to use it, however, they are free to do so.

[\(See the presentation.\)](#)

The discussion focused on the reuse products, e.g. what is down with the urine, its fertilizing affects, and treatment level in the products.

There was also a question related to the legality of EcoSan latrines in Peru – in Bolivia latrines do not count as coverage. The response was that it is important to recognize that these EcoSan latrines are not just latrines that will fill-up (and thus not count as coverage), they are part of a system of reuse and it will last.

A report in Spanish on the lessons learned from this experience is available from: <http://www.energyandenvironment.undp.org/undp/indexAction.cfm?module=Library&action=GetFile&DocumentAttachmentID=2316>

the approach in introducing UD toilets in eThekwin.

Ecological Sanitation in the Philippines

Dan Lapid from the Center for Advanced Philippine Studies presented the experience of introducing ecological sanitation in the Philippines, under the ISSUE Programme 2004-2006. The present experience was actually the second attempt at introducing ecological sanitation. The first attempt failed since it had been donor driven and had not sufficiently motivated community involvement. This second time, much more time was given to ensure that households were informed, interested and involved.

The introduction of Ecosan enjoyed high-level political support early on, as the mayor of the San Fernando City expressed interest in the concept. The need for Ecosan is based in the prevalent lack of toilets as well as water scarcity.

Information and sensitization around Ecosan started during 2004, first at the city level, and then at 'barangay'¹⁵ and eventually household levels. PRA techniques were used to assess the sanitation situation in the barangay, and raise the self-awareness of the sanitation situation in the community. Further, this time around, much more time and energy was invested into the social preparation.

In 2005, the Ecosan programme was formally launched, by the Mayor herself, who was very supportive. She also decided to move municipal budget from traditional pour-flush initiatives into Ecosan.

The first 20 urine diversion toilet bowls were constructed locally using fibre glass materials. In order for people to see for themselves, the programme started with demonstration toilets in selected 'pilot' households. The demonstration toilets were fully subsidised. Thereafter, interested households could apply for Ecosan toilets on a cost-sharing basis. Here, government paid for the base of the toilet, and the household would cater for the superstructure.

As many people in the area are "washers," i.e. use water for anal cleansing, a wash basin or a drain was installed beside the toilet. Faeces are initially stored for some 5-7 months in the sub-structure of the toilet structure, and the dry faeces are thereafter collected by local government workers – as in a bucket system. The faeces are thereafter stored further and then disposed of, but not applied as fertilisers. The Ecosan toilet in the Botanical Garden, however, has its excreta applied as fertiliser there. In rural areas, excreta are not collected, and people apply their excreta on their own farms.

All in all, some 145 toilets have been constructed on a cost sharing basis within the programme. There are also three Ecosan school toilets and one in the Botanical Garden. There have been experiments with grey water management, using water plants that grow in the hand and anal cleansing water, and also some application in urban agriculture.

For the promotion of the Ecosan concept, the Philippine Ecosan Network was formed in 2005. It has organised several meetings, and pushes for Ecosan to be institutionalised as one of many possible

¹⁵ The barangay is the smallest government unit in the Philippines.

sanitation technologies. At present, you cannot get a building permit with Ecosan installations cannot be approved, as it does not appear on the ‘checklist’ of the building regulations.

Ecosan has been included in the Clean Water Act of 2005, however, which provides for Local Governments that opt for Ecosan solutions to be exempt from wastewater charges for several years. There is also an Ecosan Bill, which has been drafted, but not yet filed in Congress.

In any case, many local governments are pursuing Ecosan strategies, and the San Fernando experience has been instrumental in spreading the concept.

[\(See the presentation.\)](#)

There were questions about how toilets are cleaned – in particular when/if people have diarrhoea or loose stools. Regarding the bowl, it tends to be wide enough not to get soiled. It is anyhow of high-glazed porcelain. For the rest of the structure, it is important to have tiles or materials that are easy to clean.

The cost of a toilet is about US\$15-20, plus an additional US\$ 12 for the wash bowl. Then, the material, e.g. tiles, determines the cost of the rest of the toilet structure.

There is not cost of faecal collection in the urban area as it forms part of the municipal service of solid

It is not clear how many toilets are subsidised and how many are not. A number of Ecosan toilets are self-constructed

outside of the purview of the programme.

Further information about this experience and ecological sanitation in the Philippines is available through the websites www.caps.ph and www.ecosan.ph. The process of introducing Ecosan in the Philippines has also been described in Waterlines, Volume 26, Number 2, October 2007, pp. 15-17 (Practical Action Publishing).

Planning for Ecological Sanitation – Ouagadougou Project

Amah Klutse of CREPA presented their experience from promoting ecological sanitation – and facing ‘urban realities’ – in relation to the *planning for ecological sanitation in low-income countries* and the EU-sponsored Ouagadougou project in particular. Ecological sanitation is applied in ten of the seventeen CREPA member countries.

CREPA generally has much more experience of this in rural areas. The urban is a big challenge with its great diversity in terms of backgrounds and cultures.

The specific focus of the project is to ‘close the loop,’ and to reach about 300,000 people to understand the concept of ecological sanitation. Also, the aim was to construct some 1000 toilets, and to support initiatives of private sector in the provision of the necessary infrastructure. Further awareness raising and lobbying for including the concept of ecological sanitation in legislative texts was also aimed for.

A major challenge for instituting ecological sanitation in the urban area proved to be space. It is not easy to find space for collecting, storing and reusing faeces and urine. Also, in relation to the fostering of private sector initiatives; how to motivate communities to take over the service provision was another challenge. Or simply: “How to create business in sanitation?”

The HCES approach to participatory planning was used in order to involve the target groups as well as the authorities. Songs and performances were used to communicate issues of sanitation and the project planning process. There were also a range of dialogues and meetings at various levels, to anchor the project and to collect data about the situation. An Orientation Committee, able to take decisions, was formed. The process also had an official launch, which is important to generate commitment.

Thereafter, construction could start. This phase included the training of masons, and a local contractor, for the construction of public Ecosan toilets. There are various toilet models of different material and cost for household construction.

At the end of 2007, there were some 350 household toilets and several toilets at institutions, for demonstration purposes.

There was also training provided for farmers and vegetable traders. It was found that by calling the treated urine by the name of ‘liquid fertilizer’ in the local language helped to increase the acceptability of the crops.

Remaining challenges for the upcoming third year of implementation relates to

the further promotion of partnerships between the municipality and the private sector, and to address the economic sustainability of the reuse system.

There are also issues to be resolved regarding different approaches of the CREPA programme and the National Office of Water and Sanitation (ONEA) regarding cost and subsidy levels and technical approaches.

[\(See the presentation.\)](#)

Questions to the presenter related to the sustainability of the system, costs, quality and how to intervene strategically.

An important part of ‘strategic intervention’ is to “do what you preach.” Several CREPA staff have urine diverting toilets at their homes, and the organisation wants to motivate also other staff as well as ministry officials to install these at their houses. Also, at the installation in the Ouaga prison has the full cycle of toilets and a garden for application. But, there are also Ecosan toilets in the city halls.

On the issue of solar heating to accelerate sanitation of faecal material, it was explained that the back of the latrines (the collection area) is covered with a metal sheet that is exposed to the sun. Collected faeces are also stored so as to take advantage of solar heat.

In order to control risks, there is a committee to manage products and test the quality as well as the presence of pathogens.

The subsidy provided through the programme is at present a flat subsidy so

households can choose how much they want to spend on the toilet. Subsidies range from 20% to 50% of the total cost of the toilet.

Further information about CREPA and its programmes is available (in French) from: <http://www.reseaucrepa.org/>

Wrap Up of Day 1

In the wrapping up of the first day, Elisabeth Kvarnström summarised some of the experiences of the first day:

- Participants had gotten to know each other quite a lot better by the “sharing of sanitation traumas”
- The presentations have covered methods for planning and, above all, behaviour change. How can these methods be merged or integrated in order to meet the needs in peri-urban areas? What can the ‘technical’ sector learn from the ‘behavioural sciences’ – and vice versa? This is something to discuss tomorrow!
- The case studies showed quite different approaches with regard to (hardware) subsidies: From no subsidy in the Kolkata case, to full subsidy in Durban, and partial subsidy in CREPA’s example. Is it possible to “scale-up” with subsidies?
- A common theme throughout the presentations was the “institutional approach” and the attention given to capacity development and awareness-raising
- It may also be important not get too carried away with any one type of system or technology, such as a single focus on EcoSan.

Day 2

The second day of the workshop had fewer presentations and more discussions, both in plenary and in smaller groups.

Conceptualization of Day 1

Helmut Jung from the consulting and knowledge development company Hydrophil provided a summary of lessons and conclusions to be drawn from the previous day's deliberations.

We now possess a lot of knowledge about the planning tools – and we know enough about them. Now, it is time for us to act. Planning tools such as HCES, CLTS, PHAST and others have to be adopted specifically and in large scale.

- What do we really need to go to scale?

Major issues are: enabling environment, complex peri-urban context (different even from urban setting), community driven processes (can't be top-down), political will, scale, financing, etc...

There is always the delicate issue of subsidies. First, we should be careful the way we use the word subsidies. However, subsidies can be used as incentives to steer development. EU and Western world heavily subsidized their own sanitation systems – why do we claim that Kenya should not? Subsidies are tools, or instruments, and they have a role in some places. But they need to be used appropriately.

Furthermore, we also have to ask ourselves the question:

- Are we (donors and experts) part of the solution or part of the problem?

We always take about the project approach – it is comfortable for engineers/donors/etc. but not for the public/beneficiaries. What happens when the project is done? They are uncertain about the benefits lasting.

- Projects have a start and an end, but for the people in informal settlements, there is no start or end: Shit happens every day!
- Projects therefore become a bottleneck for real development.

In water supply you get something – in sanitation you get rid of something. Is the project approach really the right one?

There is also a huge range of pilot projects – but no one knows what we are piloting.

- This is a weak point in sanitation: We never get beyond the pilot scale!

We also tell people to change their behaviour, without knowing their reality and perceptions, which don't always match with the 'facts' that we can measure and observe.

- We force people to change their behaviour based on OUR perceptions – maybe we should be the ones changing our behaviour and accept the leadership of the local partners

Sanitation is a complex issue, and most people have no idea of what happens to their shit!

- Need sanitation systems really be so complex – or can we simplify?

A systems approach to water and sanitation requires a holistic picture, including in-depth information on the socio-cultural component (education, health, economy, gender, households, land use, regulation/administration, politics, etc.). This is very complex. But complex here does not mean that the system is difficult, but that it is interlinked – every component or function of the system depends on another. Thus the system cannot work if any of these components or functions is missing. Water, health, economics all contribute to the complexity of the sanitation sector.

Much is being said about capacity. There is great need for competent people to take the leading position and transform knowledge into practice. (For example, you can read a book about playing the piano, but that does not mean that you can play the piano.)

There are realities in the informal areas, and problems with upgrading of these. How is 'demand' defined, with everyone having different backgrounds, perspectives, and expectations?

A common reality for people in informal areas is that slum lords, after upgrading, charge higher rates and thus make poorer slum dwellers having to leave the areas. The poorest are replaced by other people who can afford to pay the high rates set by the slum lords.

- We talk about the urban and the peri-urban – we always talk about these areas – but seldom about the people.

Where are the people in our discussions?

The planning guidelines and engineering standards do not include people!

At the end, some concluding ideas for the way forward were presented:

- Instead of isolated project, sanitation needs harmonization and alignment with local demand definition
- Sanitation needs a legal setting combined with financial support and mechanisms (pull – push) and governance
- The enabling environment has to be created or developed and not claimed
- Instruments for planning, implementation and operation have to be integrated on all institutional levels
- The community as a key player has to be supported in all directions
- As every where else in the world social development needs ownership, dialogue, trial and error, social values and time!!!

[\(See slide presentation.\)](#)

Following this conceptualisation, the participants got into groups and discussed different approaches to planning and implementing sustainable sanitation in peri-urban areas. One group concentrated on the HCES approach and two groups discussed CLTS.

Questions for the discussion included the

- Identification of strengths and weaknesses of different planning and intervention methods for a peri-urban setting with a sustainability focus
- Identification and understanding of different socio-political factors and conditions that inhibit or enhance collective action and participation of peri-urban slum communities in achieving ‘public goods’

Highlights from Group Discussion of HCES (Household Centred Environmental Sanitation)

- HCES is a planning approach that starts at household level, but involves all stakeholders
- It is a multi-sectoral approach, and thus goes well beyond sanitation issues only. Tries to build on synergies
- It has great potential for improving both micro and macro level planning
- HCES is thus necessary because of problems related to fragmented planning
- HCES is not enough by itself – it needs something more to be able to integrate stakeholders into an enabling environment!

- Could be combined with CLTS – a combination that could be termed CLASS – Community Led Action for Sustainable Sanitation
- Stakeholders include service providers!
- Emphasis that people are buying a service
- Informal settlements need a governance structure to initiate the procedures

Further development of HCES:

- Further guidance on how to use the tool.
- How do we identify the critical points?
- How do we involve all the stakeholders?
- How to analyze the enabling environment and perhaps how to create it?
- CLTS or HCES? Which empowers, or might disempower, people?

The ensuing discussion featured a number of issues:

- There is a problem with projects that just come into community and expect to do something
- CLTS can be a good entry point because it gives confidence – the community can do it!
- A Word of caution: When trying to mix CLTS with other approaches, things may become confusing
- It is important that different approaches do not compete – but rather complement each other
- CLTS is a very localized tool – it needs to be linked to the macro level if we are really to achieve sustainable sanitation

- Many approaches that claim to be CLTS and are actually not! For example, the total sanitation program in India is not CLTS
- Everything has its strengths and weaknesses – the importance of meetings like this is to get a better understanding of things with which we do not have sufficient experience
- CLTS is still very new – do we know yet if villages will stay open defecation free? Will they start to move up the ladder?
- Maybe HCES has the strength of helping to start moving up the ladder. How do we bring in the strengths from different approaches?

Highlights from Group Discussions of CLTS (Community-Led Total Sanitation)

The main points of group 1 discussing CLTS were:

What worked well?

- The community triggering, with open defecation mapping, faecal route analysis and making community members interact among themselves. Further, CLTS is not targeted to any specific audience, but tackle the community as a whole.
- It finds natural leaders, who are good facilitators (but not necessarily formal leaders)
- Clear and agreed action plans that are agreed by the community.
- Separate facilities for adults/children.
- Social pressure – based on the public good.
- Women's participation.
- Important to involve village leaders well before the triggering phase - and

also other political leaders and institutions.

Application in peri-urban areas:

- Difficulty in bringing in the whole community: Slum dwellers are often transient residents and may have less willingness or motivation to put work into the area. Often less coherence with neighbours.
- Women's participation may be difficult.
- How to reach teenagers?
- How to reach minority groups or dysfunctional families?
- It is a process and it needs time
- Outsiders' timing may not be the same as communities' timing – Communities must be allowed to work on their time
- "Subsidy contamination" – or the expectation of subsidies
- There is a need to create political will
- High density! Need to find out 'real' needs and 'felt' needs
- Maybe ODF is not the right entry point. In certain cultures/contexts – could be solid waste instead?

Further development:

- Context is important!
 - Needs to be community led and owned
 - It has to be total (100% coverage, safe confinement – but also include other waste streams)
 - Can we use also use solid waste and other pressing environmental sanitation issues as entry points to triggering?

Building community goals and social pressure – empowerment them, but:

- Can shaming also apply to the middle class? Or the government? Or corrupt officials?
- If they don't have understanding of all other levels on the sanitation ladders it can be a problem – need to support communities with technical knowledge of options, maybe subsidies.
- People should be aware and demand their rights!
- People need to be supported to move up the sanitation ladder to more sustainable systems
- After triggering - then link into HCES for taking further action!
- (open question) How to ensure that it stays demand and people driven and does not become didactic (i.e. too much top-down lecturing)?
- In India, decentralisation and health-workers are there to an extent to support questions coming up during a CLTS process. India has terrific outreach and natural leaders – they have role model of Ghandi? Who is the Ghandi of Africa that can inspire new leaders?
- Choice of technology and sustainability of these technological components at long term is not a concern – post triggering takes care of that.

The main points of group 2 discussing CLTS were:

- CLTS makes the step from supply and hardware driven approaches towards demand and people driven ones
- Behaviour change is achieved fast (and a low cost), e.g. because toilets do become a status symbol; incentives for ODF-villages (other than subsidies)
- Shame-started but pride-driven (the vision of what the people can achieve themselves – makes them do it, increases their self confidence and later proud of it)
- Critical point: once ODF is declared the danger is there that the impression arises that “the job is done”. The follow-up with “operation and maintenance” and bringing up people on the sanitation ladder (that they have developed for themselves) might not take place.
- CLTS needs to be included in government policies and strategies

Note:

- some people know the problem but do not want to use their existing toilets (because e.g. the find toilets claustrophobic, have the habit to smoke during defecation, think they will never be able to defecate in a closed room)
- some people want to change their habit – but do not have a toilet

The plenary discussion after CLTS group presentations brought forward a number of points:

- The peri-urban context – needs institutional responsibility too, how to we trigger them to act? There is a need for an integrated approach in the peri-urban areas. There is a general need to work within existing planning system.
- Rural CLTS is totally different from urban CLTS applications.
- CLTS is not only for communities. It is also national. We should integrate CLTS in a larger system – this will

involve allocating money to different things. Politicians can only become interested in CLTS when it becomes part of government policy and strategy.

- Corrupt municipalities...how to get past this corruption and get these people involved? What is the donor/expert responsibility for this situation?
- Importance of dialogue with government, and to differentiate between bureaucrats and politicians
- Donors do not dictate to governments – they work with governments, but they will still fund if the government makes their own decisions. How to get government officials to decide between which tool they are using? Experts may not see the competition between the tools, but not so for the people who are trying to pick up and use a tool!¹⁶
- In Ethiopia there is a national movement to organize the natural leaders and get time involved in triggering other groups. Can work through the system. But CLTS is just the start – there must be something else to push the communities up the ladder. Need to think about what is next.
- A real match can be made between CLTS and HCES. In a way, HCES has become a top-down approach even though it was not meant to be. CLTS is an important step for building confidence, but it can not do the long term maintenance of the system. How to make sure that it is sustainable, choosing the right technology, the right financing, etc? That

is where the HCES can come in. CLTS can give pressure to politicians to improve. Strong/powerful tool can be when we combine these. The weaknesses of HCES are the strengths of CLTS!

- Planning process involves allocating money – where does this money allocation come in? Where can govt come in and spend the collective money?
- Subsidy issue: the toilet components will not initially be found in the market – so at the household level subsidy may not be out of place... May need subsidies initially to get the system in place – as was done in the Western world. Later, subsidies can disappear.
- CLTS does not require subsidy, but it does need money for capacity so that the ladder can be grown. How do we grow the support mechanism for the community so that ODF becomes sustainable and they can move up the ladder? What incentives do we create for people to access improved sanitation – drop the word subsidy and think what else it could be! Mapping incentives.
- Need for public financing mechanisms – differentiate this from subsidies.
- Call for suggestions on what to do in slums where there is a serious threat of eviction – requires influencing politicians. Formalization of informal settlements – if they are organized and they have a voice it is a step towards formalizing settlements.

Discussions on Possible Improvements and the Way Forward Towards Sustainability

The afternoon discussions centred on different questions where participants

¹⁶ The government of Burkina Faso does not promote CLTS. The tools that are presently being used by this government are SARAR and HCES.

chose between four different groups, depending on the topic of main interest:

- How to influence politicians
- How to integrate CLTS and HCES
- Support mechanisms for integrated development
- Validation, dissemination and quality control

After the discussions, each group reported back to the plenary:

How to Influence Politicians...

This group brainstormed on how to influence politicians in order to improve the conditions of sanitation within the peri-urban setting. Elections are part of this reality. Issues raised included:

- Politicians do not understand the severity of the sanitation situation, so reliable information needs to be given to them
- Communities have proven their capability political interference can even be a barrier
- Organize people and committees for mobilizing demand!
- How much does community pressure actually influence actions of politicians? Or is the vote bank?
- Can we target the younger generation of politicians? Sensitize them and give them better information?
- Build consensus!
- CLTS can avoid some of the corruption issues around public funds – at least as a starting point?
- Who is playing the politics?
- Windows of opportunity for influencing the politicians? Ensuring a budget...

This group also managed to put together a [PowerPoint presentation](#) on their deliberations

– beautifully illustrated by Srikantaiah Vishwanath of the Rainwater Club/Arghyam Trust in Bangalore.

From the discussion:

- Did you discuss politicians at different levels? Yes, they will have different zones of influence. Different levels were touched on in our discussion and different strategies for touching different levels. i.e. central level – involve media, educate young MPs. Regional – coordinate with national...
- Start with demonstration projects to share good knowledge – but what about badly managed projects? And their influence? We should talk also about failed projects – we can learn more from failures. How to learn from failures? They need to be reported and institutions should take them seriously.
- Participation of community is important – we need to find our areas of agreement and then present a solid face as a sector
- Outreach to media – they can place an important role – and breaking the taboo with sensitivity – while not overdoing it – faeces is something very dangerous, and there are reasons for the taboos. Thus – “break the taboo with sensitivity!”
- Political advocacy requires that the sector speaks with one voice, with consistent messages: “We need should not be selling different approaches” – “We need to sell sanitation!”

Development and integration of CLTS into HCES, and the

complexity of the peri-urban setting...

HCES was designed for the urban setting. It is participatory, with all stakeholders involved from the beginning. The community decides on the system based on knowledge of O&M, costs, etc. – informed choice. This group structured its discussion on the steps used in the HCES process. The first step is the launching workshop: an agreement is made on the planning process to be used.

- Question is who is launching it? The experts? The municipalities? Need to know the key people first, must be invited into the community. Ideally, the local government should ask for the experts/consultants for support in convening the workshop. (There is a catch22 in starting the process.)
- How to set up a system where we don't need an outside consultant? How should national or decentralized system be set up to support the municipalities?
- How to deal with power and control issues in the process? Example from CREPA – the mayor says it is his responsibility to invite participants, but need to make sure that there are no power plays or people be left out at this point. Can we give criteria for these workshops so that all the stakeholders will be invited without the experts trampling on the toes on the government?
- Example from Philippines: Municipal leaders brainstorm during a workshop and then validate their choices with the other stakeholder groups in a series of workshops. It is hard to bring all stakeholders voices

out in a single workshop – need good moderation and to draw out the voice of all groups. Can be done in different ways depending on the context (multiple workshops, group work, etc.)

- Enabling environment = political will, funding, etc...
- It is key to make sure that money is available for implementing – the planning process is long, how to guarantee funding at the end of it?

Following assessments of the context, the stakeholders need to discuss the options – options workshop. This is perhaps the key step, but it also a limiting step because knowledge of options is very low. It will therefore not be a linear process, but require feedback loops/multi-step process.

- Options are often dictated by legal aspects, i.e. what is permitted by building standards – in turn often inappropriately imported from other countries.
- There will be negotiation since what people want may not be what they can afford. The choice is not a single choice, but rather a series of steps they could make towards sustainable sanitation – i.e. 'climbing the sanitation ladder'
- Let people build the sanitation ladder themselves. Then add criteria to it and have then redo it (throw in things like food security, energy, etc.) and will see the ladder change

Issues from the discussion:

- How to sell HCES to municipalities? Where is initiation? We decided that it should be advisors to the authori-

ties that should know about it. Requires more dissemination of this practice so that demand comes from municipality.

- This process takes time – people get impatient...

Support mechanisms for integrated development – or what incentives are needed to trigger change, move up the sanitation ladder, and handle also greywater?...

This group discussion was initiated by the many different views of the role of subsidies, and how to label these. One may speak of “incentives mapping” and see subsidies as instruments for change rather than budget allocations.

The central question was: Which support mechanisms are needed to achieve fully functional sanitation system? That is, how can a community ‘climb the sanitation ladder’ and actually develop more comprehensive environmental services, including sustainable sanitation.

A functional sanitation system needs to be broadly defined, and inclusive of issues such as greywater, which is often left unattended.

- In the long run, peri-urban areas need to become integrated into the system of urban services
 - Thus, ‘triggering’ needs to be followed by an integrated development programme and the insertion into existing institutional structures.
- Investments in peri-urban communities can be financed through a variety

of means, ranging from taxes and credit schemes to income-generating activities or cooperative membership participation...

- One important means for getting people in informal areas to become ‘full citizens’ can be to pay taxes. However, it is important to also get the benefits...
- There are also localised systems, such as cooperatives, where members not only organise environmental services, but also benefit from a common health and funeral insurance (example known by Ron Sawyer, comprising about 100,000 persons in Montero, Bolivia)
- Venture capital – especially if doing nutrient reuse, and linking to the food production chain.¹⁷
- How do we prioritize (or let community prioritize) where investments are made?
- Need to integrate with existing institutional structures! (Informal areas often have schools, but not water and sanitation services – how come integrated in some regards but not in others?)

The discussion brought forward certain issues that:

- The integrated development programme, insertion into existing institutional structure and extension of regular urban services all speak

¹⁷ One idea (that Linus Dagerskog is very eager to test) is how much money people would require in order to actually produce and deliver EcoSan fertilisers. A donor could act as venture capitalist, and stimulate the supply of organic fertilisers by way of paying for the safe fertiliser product. This may be a way to find out at what fertiliser price level, EcoSan fertilisers are profitable.

- for a ‘programme’ rather than ‘project’ approach
- A lot boils down to negotiations between communities and government planning priorities.
- We may need to adopt an ‘impact model’ – which is not uncommon in the health sector – where strategies are evaluated in terms of where they can have the most impact for each dollar. We need this type of evidence based means - not just for advocacy, but also for policy prioritisation.
- Although investing in sanitation is very worthwhile, we should not give the impression that one will ‘make’ money (except where ‘productive sanitation’ would really function...)

Validation and dissemination: How do we know that empowerment takes place? Quality Control!

The final group looked at the quality control in the application of the different methods (focussing on CLTS and HCES):

How is the process monitored when put in place?

- The approaches need to be institutionalized and integrated into a national plan – as a way of going to scale

Key issues to be included in quality control are:

- **training** – in accordance with the ‘training pyramid’ (training of trainers)
- **indicators** – for ~~outputs~~ outcomes (such as an ODF environment) and processes!

- **monitoring** support – for monitoring also to be done by those involved/affected
- **mentoring**
- **networking**
- **retraining**
- **budget/costs** – nothing will happen without a budget!

Suggestions/issues from the discussion:

- What about certification of ‘quality processes’? There are established certifications for health inspectors for example – can we do something similar? It could be integrated into established trainings/curriculum so that people who are already going through national programs will also receive this training.
- Regarding indicators: Important to monitor impacts and outcomes, rather than outputs of a programme/project.
Output monitoring could typically be ‘number of toilets constructed’ but the **outcome** that we are looking for may be an open defecation free community. (This is the outcome that CLTS is oriented towards.)
- One thing that needs to be done is the **budgeting of software**. We need to be able to say how much money we need for monitoring and training!

Final comments and reflections

Roland Schertenleib, the facilitator of the second day, summed up the day by providing some personal comments and reflections:

He found that the workshop had been very useful, in particular for showing that:

- CLTS and HCES (and PHAST) can be combined in an intelligent way – so that one may overcome the inherent weaknesses of both approaches
 - CLTS is very good for motivating communities and triggering the first step on the sanitation ladder, and also to inspire confidence into the community
 - The next step is to move up the ladder, and HCES is a good option here
 - Developing the sanitation ladder locally – as done in PHAST – is a constructive way to discuss options

Kamal Kar found that, since the CLTS experience until now has mostly been in rural areas, the lessons learned in this workshop will be a good step forward for bringing CLTS into the peri-urban, and institutionalising the process into the urban setting. Here we need to negotiate

with municipalities and service providers. Also, the process needs to be fine-tuned into the context of different countries.

A final question related to the places where open defecation is not happening so much, but where the sanitary conditions are still very bad. What are the opportunities for using the CLTS approach to trigger action in these areas?

Srikantaiah Vishwanath stated that, as he is now involved in an integrated urban water project, which is now in the planning phase, he will ensure to apply the approaches:

- CLTS – at the initial ‘now’ stage for triggering action and concern, and
- HCES for the longer term development in a ‘five year perspective’

Rory Villaluna also suggested to bring forward messages from this workshop into the upcoming WASH coalition discussions and regional sustainable sanitation training courses. Several other forums were identified for the continued discussions, learning and spreading the word about the very broad benefits of investing in sanitation.

Workshop Invitation

Planning and Implementation of Sustainable Sanitation in Peri/Semi-Urban Settings – A Need for Development of Existing Tools?

Concept note

Globally urban population growth is accelerating with over a million newborns and migrants added to urban areas every week (UNFPA 2007). By 2050 6 billion people, or 2/3 of humanity, will be living in towns and cities. Most of this growth will take place in informal settlements and slums in the developing world. Currently thirty percent of all urban dwellers lives in slums and this proportion is predicted to rise towards fifty percent within the coming decade (State of World Population 2007). Rapidly growing and densifying, illegal unplanned settlements are characterised by unsafe environmental conditions, with high rates of exposure to excreta, sewage and solid wastes.

Resources and space for bathrooms and toilets hardly exists. Public and shared facilities are inadequate both in number and quality- maintenance of such facilities is usually appalling. Existing sewerage networks barely serve the developed centres of the cities and rarely reach to the slums and unplanned areas while there is usually limited or no provision for management of sludge from on-site systems. Sanitation is usually under-funded, authorities understaffed and there are limited funds for expansion of services. Conventional reticulated systems are usually unsuitable due to high operational costs (and to a lesser extent high capital costs) and few cities have shown sufficient vision to develop appropriate sludge management systems for on-site toilets. Dumping of pit wastes and open defecation are therefore common place.

The true magnitude of the urban water and sanitation crisis is many times disguised in official statistics. For example, in Kenya, official statistics indicate that 96 per cent of urban residents have access to “improved” sanitation. In reality a majority of the slum dwellers are forced to relieve themselves in open or by using flying toilet and throwing the packages into open areas.

The lack of sanitation is not only causing a tremendous health risk to the urban dwellers but is also affecting economies. The highest death rate for children under five are confined to the slum areas in the cities. The Asian Development Bank report warns that non treatment of sewage and lack of sanitation in Indonesia could lead to 45 trillion rupees in losses each year, the equivalent of 2.2% of the national GDP.(WSP 2008)

To improve the unhealthy environment for the millions of slum dwellers strong political commitment at national level and further strengthening of governance at local level will be crucial. However investments alone will not make the change happen. New investment must be coupled with capacity development to ensure that long term operation and maintenance is secured. To achieve sustained improvements in access to sanitation primary barriers such physical infrastructures need to be addressed together with change in hygiene practises. This would not be possible without enhancing true local community participation and empowerment. Interactive participation or self mobilization of the poor in actions for improved sanitation will not only ensure collective understanding of the real needs of the community from their perceptions and jointly addressing those, rather than providing things in a supply-driven mode by the government. This would also ensure the sense of belongingness and ownership by the community.

It is proven that poor households have a potential to plan and make responsible investments and to change behaviour and hygiene practises. However, one of the main challenges remains which is to guarantee that these valuable investments and changes in behaviour are sustained over time on a household level.

In a peri-urban area or in a slum settlement within the city boundaries, the sanitation situation is much more complex than in less dense and rural areas for several reasons including:

- Risk of lower community cohesion;
- Limited space for on-site services;
- Uncertain land tenure rights with implications both on household level and government level when it comes to willingness to invest in sanitation;
- High levels of tenancy, and the fact that investment in sanitation might hike rents for the tenants;
- Affordable toilet options might not have a regulatory or legally accepted status;
- Sanitation plans for the city might not embrace affordable solutions or taking into account the specificities of peri-urban areas; and
- Challenge of pit emptying and logistics of excreta handling chain to minimize disease exposure
- Less simple to employ interactive, participatory approaches

Crucially solutions that work at the household and community level need to be dovetailed with the overall city system (either by means of a sludge management system or reticulated network) to ensure that the whole sanitation management chain is addressed. Without this linkage communities will not be able to solve the problem in its entirety. The need to create this link between the local and the city level is one of the greatest challenges to achieving sustained urban sanitation.

It is pertinent and high time to highlight the sanitation situation in the burgeoning slum areas and analyse existing methods and discuss how to address, involve slum-dwellers to

improve their own environment and how to maintain the improvement and for more lasting results.

For this reason SEI /EcoSanRes 2 is inviting you to participate in a workshop where different methods for sanitation interventions are discussed from a sustainability perspective.

Sustainable Sanitation systems protect and promote human health and achieve an optimum outcome by balancing;

- prevention of environment degradation
- protection of the resource base
- technical and institutional viability
- social acceptability including individual and community preferences and
- long term economical viability

The workshop will take place at SEI /Stockholm on Aug 25 –26August, 2008

Expected outcomes of workshop

- Identification of strengths/weaknesses for different planning and intervention methods for a peri-urban setting with a sustainability focus
- Identification and understanding of different socio-political factors and conditions that seriously inhibits or enhances collective-active participation of peri-urban slum communities in achieving the ‘public good’
- Suggestions of improvements in approaches for peri-urban settings
- Way forwards towards sustainability
- How do we share this knowledge?

Participating Organizations

Aquamor , CAPS, CREPA Burkina, CREPA HQ, Cuenca , EcoSanLac, eThekweni Municipality, GTZ, Hydrofil, IWA, Kalyani Municipality, PLAN, RRAS-CA, SANDEC EAWAG, Streams of Knowledge, Sumaj Huasi , KTH, KUSP of Kolkata Metropolitan Development Authority, Sida, SIWI, Stockholm Waterhouse, SEI, UN – Habitat, UNICEF, WRC, WASTE, WSP Latin America

Workshop Programme

**SEI /EcoSanRes 2 Workshop:
Planning and Implementation of Sustainable Sanitation in Peri/Semi-Urban
Settings – A Need for Development of Existing Tools?**

Date: August 25 – 26 2008

Venue: Piperska muren
Greve Pipers rum
Sheelegatan 14, Stockholm
Tel. 08 54553830

Preliminary Workshop Agenda

Day 1.

Time	Activities	
08.30	Registration with coffee	
09:00	Welcome remarks	SEI Gunilla Brattberg
09.10	Introductions around the table	
10.10	Brief introduction of sustainable sanitation and the objectives with the Workshop	SEI Madeleine Fogde Elisabeth Kvarnström
10.20	Urban growth and the sanitation challenge	UN-Habitat Roshan Raj Shrestha
10.40	Call for behavioural change for sustainable actions/investments	UNICEF Therese Dooley
11.00	Open session for questions/clarifications	
11.15	- Refreshment Break -	
	Planning and technology	
11.30	Sanitation 21: linking the city to the community	IWA Darren Saywell
11.50	Urban Sanitation systems – building on HCES	Sandec/ EAWAG

*Planning and Implementation of Sustainable Sanitation in Peri/Semi-Urban Settings
– A Need for Development of Existing Tools?*

		Roland Schertenleib
12.10	Managing rewater from dense settlements	WRC Jay Bhagwan
12.30	Open session for questions/clarifications	
12.45	- Lunch -	
	Community level processes	
14.00	CLTS: what can we learn about whole-community motivation and behaviour change for application in urban areas?	Kamal Kar
14. 20	PHAST: More tools for working with communities	Ron Sawyer
15.00	Open session for questions/clarifications	
	Case Studies	
15.15	India Kalyani Municipality	Dr. Shantanu Jha, and Dr. Kasturi Bakshi , Kalyani Municipality
15.35	South Africa eThekweni Municipality	Teddy Gounden , eThekweni Municipality
15.55	Open session for questions/clarifications	
16.15	- Refreshment Break -	
16.45	Peru Lima /Cenca	Juan Carlos Cenca Marco Quiroga WSP
17.05	Philippines CAPS Philippines	Dan Lapid, CAPS
17.25	Burkina Faso Ouagadougou /CREPA	Amah Klutse, CREPA
17.45	Open session for questions/clarifications	
18.00	Wrap –up of the day	
19.00	- Dinner	

Day 2.

Time	Activities	
08.30	- <i>Coffee</i> -	
09:00	Conceptualization of Day 1	Helmut Jung
09.45	Discussion 1: Identification of strengths/weaknesses for different planning and intervention methods for a peri-urban setting with a sustainability focus Identification and understanding of different socio-political factors and conditions that seriously inhibits or enhances collective-active participation of peri-urban slum communities in achieving the 'public good'	Small groups, group presentations plenary
12.30?	Wrap-up – conclusions, recommendations and next steps	Roland Schertenleib
13.00	Lunch?	
14.00	Discussion 2 – Possible improvements Way forward towards sustainability	Small groups then plenary
15.30	- <i>Refreshments</i> -	
16.00	Next steps How to share our knowledge	Roland Schertenleib
16.30	Wrap-up – conclusions, recommendations and next steps	Madeleine Fogde Elisabeth Kvarnstrom
17.00	Closing of Workshop	Gunilla Brattberg
19.00	- <i>Dinner</i> -	

List of Participants

The following group attended the workshop. An [annex](#) with further address details is also attached to this report.

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Acronyms and Abbreviations

CAPS	Center for Advanced Philippine Studies
CATS	Community Approaches for Total Sanitation
CBO	Community based organisation
CENCA	<i>CENCA – Instituto de Desarrollo Urbano</i> – The Urban Development Institute
CLTS	Community-Led Total Sanitation
CREPA	Centre Régional pour l'Eau Potable et l'Assainissement à faible coût (Regional Centre for Low Cost Water and Sanitation)
DFID	Department for International Development (UK)
EU	European Union
Eawag	Swiss Federal Institute of Aquatic Science and Technology
ECODESS	Ecology and Development with Sustainable Sanitation (Lima, Peru)
Ecosan	Ecological sanitation
EcoSanLAC	Saneamiento Ecológico en Latinoamérica y Caribe (network for Ecological Sanitation in Latin America & the Caribbean)
EcoSanRes2	Ecological Sanitation Research. (Phase II of Sida-funded sanitation research and capacity development programme, hosted at the SEI.)
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
HCES	Household Centred Environmental Sanitation
ISSUE	Integrated Support for Sustainable Urban Environment
IWA	International Water Association
KTH	Kungliga Tekniska Högskolan (Royal Technical High School), Stockholm
KUSP	Kolkata Urban Services for the Poor (funded by DFID)
MDG	Millennium Development Goal

NGO	Non-governmental organisation
ODF	Open defecation free
PEN	Philippine Ecosan Network
PHAST	Participatory Hygiene and Sanitation Transformation
PHE	Protection of the Human Environment
PRA	Participatory Rural Appraisal
PROWESS	Promotion of the Role of Women in Water and Environmental Sanitation Services.
Sandec	Department of Water and Sanitation in Developing Countries (at Eawag)
SanRes	Sanitation Research (Sida-funded sanitation research programme 1992-2001)
SARAR	Self-esteem, Associative strengths, Resourcefulness, Action planning, Responsibility
SEI	Stockholm Environment Institute
Sida	Swedish International Development Cooperation Agency
SIWI	Stockholm International Water Institute
SuSanA	Sustainable Sanitation Alliance
TS	Total Sanitation
TSA	Total Sanitation Approach
UD	Urine diversion
UESS	Urban Environmental Sanitation Services
UK	United Kingdom
UN–Habitat	The United Nations Human Settlements Programme
UNDP	United Nations Development Programme
UNICEF	United Nations Children’s Fund
VIP	Ventilated Improved Pit latrine
WASH	Water, Sanitation and Hygiene
WASTE	WASTE advisers on urban environment and development (Netherlands)
WHO	World Health Organization
WRC	South African Water Research Commission
WSP	Water and Sanitation Program (of the World Bank)
WSSCC	Water Supply & Sanitation Collaborative Council

Acknowledgements

This workshop was initiated and organised by Madeleine Fogde and Elisabeth Kvarnström. Kamal Kar, Ron Sawyer, Barbara Evans, Roland Schertenleib, Helmut Jung and Marianne Kjellén provided advice and support to the workshop planning process.

The first day of the workshop was facilitated by Madeleine Fogde, and the second day by Roland Schertenleib. The technical appliances were managed by Ian Caldwell.

Jennifer McConville and Nelson Ekane took notes during the workshop. The proceedings were compiled by Marianne Kjellén.

Great thanks are due to all participants, contributing their time and energy, and the presenters, who provided great experience and insight in an accessible manner.

Exquisite food and functional facilities were provided by Piperska Muren.

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