Adapting Planning Tools to the Peri-Urban Setting
A Combination of Existing Tools

Planning Challenge

The world is rapidly urbanizing with now over 50% of the global population living in cities (UN-Habitat, 2006). Much of this growth is occuring in the urban fringe, the informal settlements and slums of the developing world. To manage this growth is a major challenge, especially for poor countries with a weak institutional framework (Tannerfeldt & Ljung, 2006). The high densities and unplanned characteristics of these urban fringes and slums rapidly lead to unsafe environmental conditions and high rates of exposure to excreta and solid waste. Managing the sanitation crisis in these areas is critical for meeting global goals for poverty eradication and improved health.

The main objective of a sanitation system is to protect and promote human health by ensuring a clean environment and breaking the cycle of disease. Achieving this in a sustainable fashion means creating a system that is economically viable, socially acceptable, and technically and institutionally appropriate, and also protects the environment and the natural resources (SuSanA, 2008). Improving the sanitary conditions of in peri-urban areas requires selecting appropriate solutions and securing their implementation, and in other words it requires planning. There are a number of tools that have been created to aid engineers, policy makers, program directors and municipal staff in developing and designing appropraite sanitation programmes and infastructure. However, most of these tools have been constructed within traditional contexts of rural or urban development, while the pressing problems of peri-urban settings often lay in the grey-zone between these areas.

Rather than inventing a new planning tool, this paper suggests that peri-urban planners should shortcut the road to sanitation improvements by learning from existing tools and creatively combining them to better meet the sanitation needs of the peri-urban environment.

Peri-Urban Context

'Peri-urban' is used to describe settlements situated between urban and rural areas. These settlements are usually outside formal urban boundaries and jurisdiction and are common in fast urbanizing cities, especially in developing countries. Spatially, peri-urban areas are growing much more rapidly than formal urban districts. In many cities, the peri-urban sections are already bigger than the formal areas (Hogrewe et al., 1993). Peri-urban areas in most developing countries are characterized by fast population growth, a mixture of planned and un-planned settlements, inadequate service infrastructures, insecure land tenure, social tension, environmental and health problems. These create great problems for planners, service providers and social workers assigned to work in these areas. In addition, these areas often fall into a responsibility gap between rural and urban authorities, leaving them in a grey zone of unclear legalities, regulations, and general lifestyles. This confusion leads to poor policy design and implementation, and inaccurate policy/programme evaluation (Iaquinta and Drescher, 2000).

When planning for the peri-urban context, it is very important to understand the local context and particular challenges facing these areas. Housing is un-zoned and construction occurs without building permits or respecting building regulations. These housing structures are usually not connected to basic public services (such as water provision) and there is often a lack of capacity and resources to control this unplanned development. In these conditions, the provision of sanitation, waste disposal and drainage facilities becomes challenging and residents resort to their own means of waste disposal such as open defecation, "flying" toilets, hand-dug pit latrines, or unregulated septic systems. The result is unsanitary conditions and a favourable environment for the spread of waterborne disease.

Since many peri-urban areas are outside formal boundaries and juris-

---

Box 1: Consensus in Stockholm

An expert level workshop was held in Stockholm in 2008, with the purpose of identifying strengths and weaknesses of different planning and intervention methods applied to peri- and semi-urban settings, and to find ways of improving existing approaches. The virtues of combining urban and rural approaches came out strongly during discussions. The consensus was that a combination of approaches may be a useful strategy for achieving more sustainable service delivery through necessary behaviour change, household demand creation, and greater incorporation of semi- and peri-urban settlements into the larger urban service infrastructure (SEI, 2008). (Photo: Peter Morgan)

diction, people settle on marginal plots without permission or security of tenure. Without land rights to the plots they occupy, these people are unwilling to invest in improving them. Therefore, the housing structures they put up are temporary, unimproved and can easily be dismantled in case of future eviction or voluntary displacement.

Another challenge is the variable population of a peri-urban area. Peri-urban areas are home to millions of people, a majority of whom originate from the rural areas and are unfamiliar with improved sanitation or prefer their habits of open-defecation. The economic opportunities offered by cities are strong drivers for rural-urban migration. Many of these rural migrants find it difficult to fit themselves in the urban centres and therefore settle in the urban fringes, often as a temporary solution. There are massive seasonal population variations in the poor slums of big cities as people move in search of jobs or due to political reasons (including the use of urban poor as vote bank). The result is a regular influx and outflux of people, especially in peri-urban slums, which make it difficult to determine the exact number of inhabitants to be reached in a sanitation campaign.

Peri-urban areas are made up of people with different origins, ethnic backgrounds, cultures, religions, social norms, hygiene behaviours, habits, and preferences. Many are still open defecators or practice unhygienic waste disposal methods, while others are aspiring to affluent lifestyles. The heterogeneous and fluctuating environment makes planning and service provision very complex, not only for providing permanent sanitation infrastructure (a cultural appropriate and acceptable toilet), but for training the users and maintenance worker in proper utilisation and hygiene practices. It is difficult to set up training programs for lasting behaviour change within a changing population. Training and awareness-raising efforts need to be continuous and on-going to reach new community members.

There can also be higher security problems related to sanitation practices in peri-urban areas, since the lack of enforced legal structure makes them favourable places for illegal activities. Perpetual open defecators, including those who avoid poorly managed and maintained public and private toilet facilities for reasons of smell and poor hygienic conditions, may fall prey to molestation and attack when they leave their homes at night, whether to use public latrines or for open defecation. This is particularly inconvenient and dangerous for women and young girls.

However, despite the challenges, peri-urban areas also represent opportunities. Decentralization processes are slowly increasing government capacity and mandates in these areas and there is growing recognition of the role of the informal sector in urban economics (Tannerfeldt and Ljung, 2006). These areas are therefore also opportunities for new planning techniques for service provision, innovative approaches to improved sanitation and the potential for linking sanitation to jobs and markets through the proximity to both urban centres and agricultural areas in need of fertilizing waste.

Typical Planning Tools

Achieving sustainable results in sanitation requires a process-oriented approach to planning where multiple viewpoints and technologies are considered over an extended process of dialogue and decision-making. Urban planning today is generally seen as a strategic process of defining needs and deciding between possible options, preferably in a participatory way. Urban sanitation planning tools and guidelines, such as Sanitation 21 (IWA, 2006) and HCES (Eawag, 2005), are often designed to work within a formalized administrative network with defined roles and procedures that give structure to subsequent actions. These tools are aimed at collective action for household service provision. The entry point for action is through existing authorities and leadership structures.
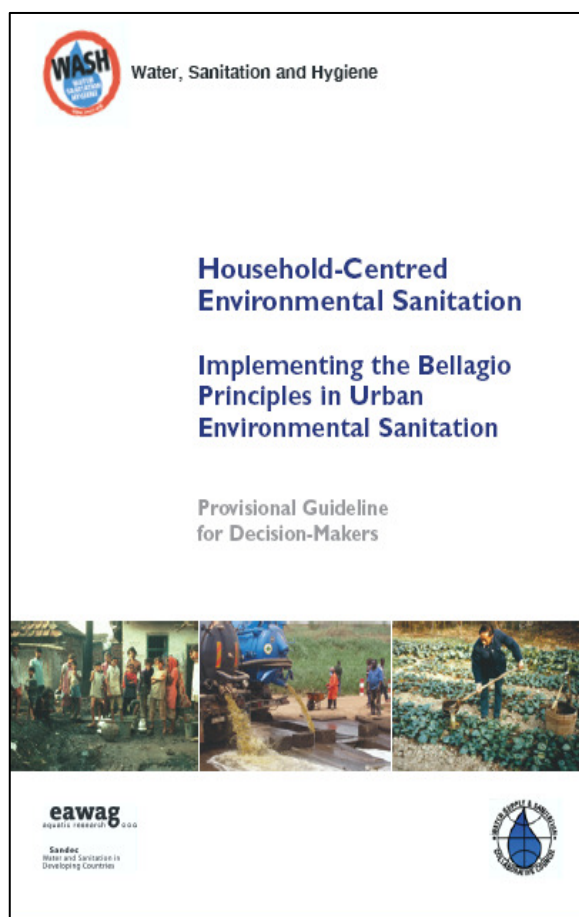
In contrast, rural sanitation tools are often designed to work directly at the household level, using individuals as entry points. The origin of many of these tools is often based in Participatory Rural Appraisal (PRA) and SARAR techniques (Selener et al., 1999; Srinivasan, 1990), which seek to stimulate individuals to identify and solve their own problems. Tools like PHAST (Participatory Hygiene and Sanitation Transformation) aim to overcome community resistance to change by creating a space for dialogue and raising awareness of the consequences of poor sanitation. While the hygiene message in these tools often targets individual behaviour change, they have also been effectively used for community mobilisation, such as the SARAR work in Latin America and community-led total sanitation (CLTS) in Southeast Asia. In the absence of strong administrative units, rural tools focus on individuals and community action as the drivers of sanitation improvements.

This Factsheet presents one rural and one urban planning tool in more depth, in order to show how particular strengths and weaknesses of each approach can be adapted to better serve the peri-urban context.

An Urban Tool

Household-Centred Environmental Sanitation (HCES) is an example of a tool aimed at the urban context. The ten step HCES process follows a project cycle framework, from project identification, pre-planning and preparation, to implementation and monitoring. The process is built on a participatory needs assessment process with local stakeholders and

WASH — Water, Sanitation and Hygiene

Household-Centred Environmental Sanitation

Implementing the Bellagio Principles in Urban Environmental Sanitation

Provisional Guideline for Decision-Makers

eawag
aquatic research
Sandec
Water and Sanitation in Developing Countries

emphasises a range of options within different zones of the city. The final steps include the development of an implementation program, complete with methods for monitoring and evaluation.

The HCES approach is derived from the Bellagio Principles (Box 2), and attempts to place the household at the centre of problem solving for environmental services. HCES also emphasizes that the successful application of this planning approach is dependent on the preconditions of an enabling environment which includes government support, a legal framework, institutional arrangements, effective training and communication, credit and other financial arrangements, and a system for information and knowledge management.

Box 2: Bellagio Principles for Sustainable Sanitation

1. *Place human dignity, quality of life and environmental security at the centre of any approach*
2. *Decision-making should involve all stakeholders*
3. *Waste should be considered a resource*
4. *Sanitation solutions should be solved as close to the source as practically possible.*

(adapted from Eawag, 2005)

While the HCES approach embraces participation approaches and the community opinions, it still relies on a strong central authority to run the resulting sanitation program and service delivery. While this strengthens its institutional sustainability, it may not do enough to stimulate the necessary on-the-ground user commitment and behaviour changes necessary to ensure the system is working and is sustainable in the short and long term.

A Rural Tool

Community-Led Total Sanitation (CLTS) is a popular tool to motivate change for improved sanitation in rural contexts of Asia and Africa. CLTS was initiated in Bangladesh in 1999 as an innovative methodology for eliminating open defecation by focusing on behavior change instead of merely constructing toilets (Kar, 2005).

CLTS uses a participatory approach to empower local communities to stop open defecation and promote

Mapping Open Defecation in Kalyani (Photo: Dr. Goswani & Dr. Bakshi)

the building and use of latrines through community action instead of subsidies. The program uses PRA tools to help community members analyze their own sanitation practices and the potential for spread of fecal-oral diseases within the village. The CLTS approach works through the creation of a sense of shame within the community, which triggers collective action to improve the sanitation situation. The idea is to use peer-pressure through public recognition of the problem to induce behavior change.

CLTS is a powerful motivator of behaviour change within a community and has attracted interest because of the quick results that communities show after triggering. However, it has been criticized for lacking a link to sustained service provision and to governing authorities. While CLTS has been successfully applied in urban slums of Kalyani Municipality near Kolkata, India, lack of community cohesion was often a problem (SEI, 2008). These experiences also showed the importance of political support and commitment to results. The experiences of CLTS indicate that within a peri-urban context that is governed by environmental policies and regulations, community action can be limited when it is not linked to the regulating bodies and those agencies with a mandate for sanitation service provision.

Recommendations

Peri-urban areas are complex and the problems facing them are heterogeneous and interlinked, but this

does not mean that they are impossible to solve. Solutions will require a planning approach to sanitation that is more inclusive, participatory, comprehensive and multidisciplinary. Planning will need to recognize the mixture of rural and urban characteristics within the peri-urban area and draw on established strengths within these respective fields. Peri-urban sanitation plans should utilise behaviour change and community mobilization techniques from PRA and SARAR, such as e.g. CLTS uses, at the same time as establishing an institutional framework that supports the Bellagio principles, like HCES.

It should also be recognized that providing sanitation services in peri-urban areas which are neither entirely urban nor entirely rural require an integrated planning process and a variety of technologies that meet the needs of the poor, rich and middle income groups. For this to work, a specific enabling environment needs to be put in place, e.g. government support, political will and support at all levels, legal framework, institutional arrangements, required skills, credit and other financial arrangements, information and knowledge management. Here some of the experiences with HCES can provide insights and inspiration for the way forward.

The merit of CLTS in rural areas is that it is good at raising awareness and instilling positive behavioural change. As such it can be an appropriate entry point for the open defecators and the new comers to peri-urban areas from the rural areas

through a community led and community owned process. The software focus of CLTS and other participatory approaches, i.e. on people rather than structures, motivates people to do something to improve the situation. It is important to note that many people already have some knowledge of the importance of sanitation, however tools like CLTS increases knowledge that can be converted to practice. The results of the Kalyani case shows that CTLS can motivate slum dwellers to build their own toilets and even to start other community development initiatives, such as repairing tube wells and cleaning roads and drainage ditches. However, without linkages to more permanent institutional structures, CLTS initiated actions risk being unsustainable in the shifting environment of peri-urban areas over the long term.

By comparing the strengths and weaknesses of these two tools, it becomes clear that they can complement each other – one tool covering the weaknesses of the other. The combination of CLTS and HCES could assist in overcoming the complexities of the peri-urban area. Every city is different and has its own challenges to face. But there are also similarities across peri-urban areas and lessons can be learned from other ex-

periences around the world. It is important that local planners and sanitation experts understand the local context and respect the perceptions and life-situation of the inhabitants that they are trying to serve. Only then can they select the right combination of tools to help them on the

road to sustainable sanitation. Will it require more rural tools and PRA methods, or a stronger capacity building approach to the local institutions? In either case, there are existing tools that can help.

Box 3: Consultant Recommendation

Some consultants are already recommending a combination of existing planning tools. For example the Three Town Project in northern Ghana, proposed a combination of the IWA Sanitation 21 framework, PRA tools and social marketing (Kvarnstrom & McConville, 2007). It was envisaged that the sanitation project should be implemented in four phases, as follows:

(i)   Strategic project planning
(ii)   Initial advocacy and social marketing
(iii)   Capacity development, demonstration and mid-term evaluation
(iv)   Scaling-up throughout the three towns & final evaluation

The strategic planning phase would be completed with the help of an LFA management tool. The participatory aspects of the project would use PRA activities and tools to solicit the involvement of individuals, groups, and institution with interest in the sanitation project. A number of social marketing campaigns would then be undertaken in order to stress the need for communal responsibility and to encourage citizens to evaluate their immediate environment in order to identify and take action in areas of poor sanitation and hygiene. The campaign would involve an adapted CLTS approach, PHAST, and other PRA tools. Although managing a number of tools and different approaches to sanitation planning and implementation will be a challenge, it is believed that this kind of merged approach, where more traditional sanitation planning is coupled with participatory approaches, is one key to achieve the implementation of more sustainable sanitation systems in the future.

References

Eawag: Swiss Federal Institute of Aquatic Science and Technology. (2005). Household-Centred Environmental Sanitation: Implementing the Bellagio Principles in Urban Environmental Sanitation. Duebendorf, Switzerland: Eawag.

Hogrewe, W., Joyce, S. and Perez, E. (1993). The Unique Challenges of Improving Peri-Urban Sanitation. WASH Technical Report No. 86. p. 69.

Iaquinta, D. and Drescher, A. (2000). Defining Peri-Urban: Understanding Rural-Urban Linkages and their Connection to Institutional Contexts. Presented at the Tenth World Congress, IRSA, Rio, August 1, 2000.

International Water Association (IWA). (2006). *Sanitation 21: Simple Approaches to Complex Sanitation, a Draft Framework for Analysis*. London: International Water Association.

Kar, K. (2005). *Practical Guide to Triggering Community-Led Total Sanitation (CLTS).* Institute of Development Studies, University of Sussex, Brighton, UK.

Kvarnström, E. and McConville, J. (2007). "Sanitation Planning - A Tool to Achieve Sustainable Sanitation?" Proceedings of Water Supply and Sanitation for All (ed. Wilderer et al.), conference held in Berching, Germany, Sept 26 - 28, 2007.

Selener, D., Endara, N., and Carvajal, J. (1999). *Participatory Rural Appraisal and Planning.* International Institute for Rural Reconstruction (IIRR).

Srinivasan L. Tools *for Community Participation: A Manual for Training Trainers in Participatory Techniques.* PROWWESS/UNDP, New York, 1990.

Stockholm Environment Institute (SEI). (2008). 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.

Sustainable Sanitation Alliance (SuSanA). (2008). Towards more sustainable sanitation solutions. Visions Document 1.2. (http://www.susana.org/lang-en/intro/156-intro/267-vision-document)

Tannerfeldt, G. and Ljung, P. (2006). More Urban Less Poor: An Introduction to Urban Development and Management. EARTHSCAN, UK. p. 190.

UN-Habitat. (2006). State of the World's Cities 2006/7, UN-Habitat Nairobi.

Factsheet Production Date: February 2010