

Sanitation for Peri-Urban Communities

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“By following a demand-responsive approach it is possible to tackle the sanitation backlog in our peri-urban areas in ways which are sustainable.”

Introduction

With the demarcation of the new municipalities in 2001, officials in what were previously well served, formally set out, urban areas have had to contend with a range of different settlement types, many without adequate sanitation. These include:

- Formally set out sites where households have tenure.
- Tribal lands where chiefs allocate sites.
- Tenants on private land.
- Households on government land but with no formal layout and no title to the land.
- Informal settlements on private or public land where households stay for free and have no agreements with the owners of the land.

Coupled with the diverse institutional arrangements, these settlements possess any number of characteristics which make service provision difficult:

- Settlements are often on marginal land that may be prone to flooding, are rocky or on steep gradients.
- Settlements are often far from existing outfall sewers and treatment works, making the provision of waterborne sewage expensive.
- Municipalities are already burdened with debt from existing households, and are unable to extend services to new settlements.
- Ability to pay for services in many settlements is generally low owing to poverty and high unemployment.
- High population densities and limited plot sizes lead to concerns of ground and surface water pollution because of the concentration of pits and the inability to dispose of greywater.
- Perceptions in communities are that anything less than water-borne sewage is an inferior level of service. (This is particularly true where settlements are situated close to urban areas with full water-borne sanitation services, or such services are heavily subsidised.)

A general lack of specific policies for sanitation provision are features in most municipalities, resulting in an increase in sanitation-related problems over time.

The Current Situation

Urban policies are generally standardised to deliver waterborne sanitation, and there is often reluctance by Councils to implement dry on-site sanitation systems (e.g. ventilated improved pit latrines [VIPs]); they are perceived as inferior and / or potentially damaging to groundwater. This may result in the implementation of “temporary” communal toilets

(e.g. chemical toilets) which are below the national minimum level of service, while municipalities wait for grant funding for waterborne sewage.

Where waterborne sewage is implemented, households are often unable to afford their service bills. If municipalities do not have other resources to cross subsidise, then the service fails, polluting the environment – something which is unacceptable in terms of the *White Paper on Basic Household Sanitation* (2001). On site sanitation may be more sustainable, and might enable households to enjoy improved facilities soon.

On-site sanitation is often implemented through a “top-down one-size fits all” approach. The option perceived appropriate by “experts” may not necessarily have buy in from communities – particularly where they are not consulted. This can lead to dissatisfied households who reject facilities.

An Alternative Approach

The *White Paper* details policy for implementing sanitation, and recommends key principles to create long-term health improvements and sustainable sanitation facilities. The principles include:

- Sanitation improvements need to be demand-responsive (i.e. households themselves must make informed decisions on their own sanitation needs).
- Community members must have a full appreciation of appropriate hygiene practices associated with maintaining good health.
- Communities should fully participate in projects – in decision-making, as well as implementation. This allows communities to take ownership of projects and improves the likelihood of facilities being maintained by households.
- Sanitation improvements must be financially and environmentally sustainable.

Technology Choice

Each settlement needs to be considered individually, with due consideration of any local technical limitations and institutional arrangements. Householders need to understand how different technical options work, what they will cost to run, and what resources are available to them (e.g. subsidies, grants, materials, builder support and so on.)

With on-site sanitation the issue of pit emptying is critical, and must not be overlooked in planning. It is generally not practical for municipalities or households to de-sludge pits. The alternative option with VIPs is to seal the pit and relocate the toilet. This may be possible in rural areas, but with small stands in peri-urban areas only one relocation may be practical. In these cases composting options such as urine diversion could be considered. However, this has implications around regular handling of the faeces (unlike a VIP, where emptying can be at 10 year intervals).

Another often-overlooked issue is security – particularly for women. It is known that even where households have outside flush toilets, women often do not use them at night for fear of being attacked. People rather use chamber pots and empty them down toilets

in the morning. When all options are put in the correct context, options such as urine diversion, which can be placed inside houses, might be attractive. However, it must be up to householders to decide.

Winterveldt Community Sanitation Project – a case study

Winterveldt falls within the North West Province, but under the Tshwane Metro Council in Gauteng. It is a community of 25 000 households, living in a combination of rural and peri-urban settlements. The settlements are divided into over 1 600 plots. The majority of plot owners rent out properties to tenants. The methodology of this project is to follow a demand-responsive approach – demand is created through the promotion of hygiene and sanitation in community workshops. Some specific project achievements are:

Matching high expectations with practical considerations

There were high expectations initially for waterborne sewage. However, by involving ward councillors from an early stage, the project gained legitimacy. Councillors rapidly became advocates of dry sanitation. This is now accepted by the community, based on an understanding of capital and maintenance cost considerations, and the low number of house water connections (which precludes waterborne sewage).

Developing local businesses

Winterveldt has potential for the development of viable small and medium and micro enterprises (SMMEs) owing to high construction rates during the project, and the possibility of continuous work post-project in terms of maintenance and toilet improvements. The project has commenced with the training of SMMEs, and aims to continue to mentor them during the life of the project.

Resolving ownership of facilities

Initially the committee felt that tenants would be reluctant to contribute to construction of improved facilities owing to lack of land tenure, and that plot owners might take the opportunity to add to the value of their land by using subsidies to build communal toilets for tenants. This has been successfully addressed by approaching individual plot owners to explain the importance of ownership, and by targeting the subsidies at households. It has now been agreed that the householders, and not the landowners, own and are responsible for maintenance of their facilities.

Conclusion

Peri-urban settlements present more challenges than their rural counterparts. To overcome these, municipalities and communities must realise the opportunities and constraints that face them. They must develop appropriate policy, and ensure equitable allocation of resources. Once this is in place, and following a demand-responsive approach, it is possible to tackle the sanitation backlog in our peri-urban areas in ways which are sustainable.

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Resources available from The Mvula Trust and Rand Water:

- *Position Paper on Sustainable Sanitation*, Richard Holden (paper presented at the Appropriate Technology Conference, 21-23 November 2001)
- *The Use of Dry Sanitation in the Urban Environment*, Richard Holden, September 2001
- *Evaluation of On-Site Sanitation from a Socio-Economic Perspective*, WRC Report No. KV 114/98, Bernhardt Dunstan and Assoc., 1998
- *Investigating Water and Sanitation in Informal Settlements in Gauteng*, Rand Water / CASE, July 1998

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