

A community-based approach for the operation and maintenance of shared basic water and sanitation services in informal settlements within the municipal jurisdiction of the City of Cape Town

Harry Ballard

Department of Public Management
Cape Peninsula University of Technology

Cindy Iling

Department of Public Management
Cape Peninsula University of Technology

ABSTRACT

This article adopted a participatory action research (PAR) approach to investigate whether there are local community-based opportunities for procurement of some operation and maintenance tasks for the recently refurbished public ablution blocks in an informal settlement within the City of Cape Town. 'Public ablution blocks' is a sanitation technology option, which is available for the provision of shared basic sanitation services that is provided to informal settlements within the City of Cape Town. The research was divided into three stages. The first two stages served as building blocks for the third stage of the research. The objectives of the initial stages were to obtain an improved understanding of "local knowledge" at community level, and to obtain an understanding of operation and maintenance activities in informal settlements that are currently being undertaken by City of Cape Town. The outcomes of this stage were to initiate contacts and to develop relationships with key

stakeholders for their participation in focus group discussions for the third stage where they then identified opportunities and made recommendations to the City of Cape Town.

INTRODUCTION AND BACKGROUND

The introduction and background of the study includes the following aspects, which contextualise the community-based approach for operation and maintenance of shared basic water and sanitation services in informal settlements:

- Policies guiding provision of basic sanitation services to informal settlements in the City of Cape Town;
- Importance of operation and maintenance for sustainable sanitation service provision;
- Local economic development, poverty alleviation and job creation strategies; and
- Development theory behind provision of services in South Africa.

Policies that guide provision of basic sanitation services to informal settlements in the City of Cape Town

In South Africa, access to basic water and sanitation services and access to a safe environment are considered to be basic human rights in terms of Sections 24 and 27, of the *Constitution of the Republic of South Africa Act, 1996*. Local government is also responsible for ensuring provision of services and promotion of a safe and healthy environment.

The White Paper on Water Supply and Sanitation Policy (DWAF 2001) defines the minimum acceptable basic level of sanitation as:

- Appropriate health and hygiene awareness and behaviour;
- A system for disposing human excreta, waste water and refuse, which is acceptable and affordable to the users, safe, hygienic and easily acceptable and which does not have an unacceptable impact on the environment; and
- A toilet facility for each household.

Municipalities are required in terms of Section 73 of the Municipal Systems Act, 2000 to prioritise delivery of basic services to communities that are in greatest need in order to ensure that everyone has access to at least a basic level of

municipal service. Communities that live in informal settlements and who face great health risks owing to inadequate sanitation should, therefore, receive highest priority in the delivery of basic municipal services.

Anna Tibaijuka, Chief of the UN Slum Programme, stated that: "... there are two cities within one city – one part of the urban population that has all the benefits of urban living and the other part, the slums and squatter settlements where the poor often live under worse conditions than their rural relatives" (UN-HABITAT 2006).

In the South African context this can be illustrated in Cape Town where in 2006 100% of residents who live in formal housing had access to basic sanitation services, whilst only 36.5% of residents in informal settlements had access to basic sanitation services. The City of Cape Town (2006:7) has defined the basic level of sanitation service as toilets shared at less than five households per toilet.

According to the Informal Settlements Master Plan of 2007, until 2014, there are approximately 280 000 households in a total of 206 informal settlements in Cape Town. In order for the City of Cape Town to address the housing backlog effectively, the City should deliver approximately 20 000 houses per annum. The current rates of delivery are approximately 8 000 houses per annum (Sokupa & Hendricks 2007). Until such time as the Provincial Department of Housing provides full waterborne sanitation services through the City's housing programme, residents of informal settlements, in the short to medium term, will have access to a shared toilet, which will most likely be shared by more than five households (an emergency level of sanitation service), as the City of Cape Town has extended its deadline for all residents to have access to a basic sanitation service, from 2010 to 2012 (City of Cape Town 2007). The Directorate of Integrated Human Settlements Services of the Housing Department has stated that the City of Cape Town will not be able to meet the 2014 deadline to upgrade to a minimum basic level of service to all informal settlements (Sokupa & Hendricks 2007). Access to an emergency level of water and sanitation service will, therefore, remain a reality for households in most informal settlements for at least the next six years, and probably longer.

The challenge to provide basic municipal services to slum areas is not unique to the City of Cape Town, but is a growing problem in several cities throughout sub-Saharan Africa. Recent research, which was conducted by UN-HABITAT, has shown that the global slum population is growing: "... 37 percent, of Africans live in cities, and by the year 2030, it is expected to rise by 53 percent", which sub-Saharan Africa has the largest proportion of urban residents living in slums "... 72 percent of urban African citizens....of which 40 percent are under 19 years" (Tibaijuka 2007).

Importance of operation and maintenance for sustainable sanitation service provision

According to Solanes and Jouravlev (2006:20), one of the main reasons for loss of credibility of local government is their inability to meet demands for basic needs of the population that they are meant to serve. The authors attribute this to the inability of municipalities to generate and implement appropriate service delivery policies (Solanes & Jouravlev 2006:9). Where policies have been established, inefficient administrative and management practices render them redundant. One of the key findings from the 2006 United Nations World Water Development Report (UNWDR2) was that in several countries the “water crisis” was more of an institutional crisis than a shortage of water. The report attributed the water crisis to: “... mismanagement, corruption, lack of appropriate institutions, bureaucratic inertia and a shortage of investment in both human capacity and physical infrastructure” (UN-Water 2006:46).

In order for a municipality to ensure sustainable service delivery once infrastructure, which provides the service has been constructed, routine operation and maintenance activities should take place. Operation is the delivery of a particular service and is dependent on both users and providers that use the facilities and equipment with care. Maintenance refers to activities that ensure that the infrastructure remains in a serviceable condition (World Health Organisation 2000:1). Brikke (2000:42) includes preventative maintenance, corrective maintenance and crisis maintenance as components of maintenance. Operation and maintenance (O&M) can be defined as tasks and activities that should take place to ensure that the service is provided as per the design criteria for at least the duration of the expected design life of the infrastructure.

Subramanian *et al.* (1997:3) state that inadequate operation and maintenance of the physical infrastructure are indicators of unsustainable service provision. Sohail *et al.* (2005:48) also strongly advocate that “... operation and maintenance should be viewed as critical to the sustainability of systems”.

In South Africa, calls for proper operation and maintenance have been raised in various Department of Water Affairs and Forestry (DWAF) reports as an ongoing concern for the last few years according to the DWAF Sustainability Audit of 2005. The DWAF Sustainability Audit of 2005 further concluded that a major barrier to sustainable sanitation service delivery was inadequate operation and maintenance. A lack of distinction between responsibilities of household, community and municipality, as well as ineffective planning, monitoring, evaluations and interventions were identified as further core problems (CWSS 2007). Subsequently, the 2006/2007 DWAF Annual Report raised concern that municipalities did not pay sufficient attention to the operation and maintenance of services and, in particular, the potential for the “creation of moving targets,

since people who are currently serviced would be left without services when the infrastructure breaks down" (DWAF 2007b;3). The concern over the lack of operations and maintenance (O&M) was again highlighted in the Masibambane II evaluation of 2007, which noted that unless adequate provision for O&M of the infrastructure is made, those who have been served will soon rejoin the backlog queue (DWAF 2007c:15).

Generally, local municipalities in developing countries have a poor track record for provision of sustainable sanitation service delivery and, in particular, the operation and maintenance of communal sanitation facilities in slum areas. Sohail *et al.* (2005) identified lack of public sector resources, poor management, inefficiency and unaccountability as reasons for poor servicing of public infrastructure, when investigating sustainability of urban infrastructure in India, Sri Lanka and Pakistan. These are examples of the "water crisis", which was raised in the United Nations World Water Development Report in 2006 (UN-Water 2006). Sohail *et al.* (2005) found isolated examples of successfully managed facilities. The lack of evidence of a systematic and programme-based approach to O&M indicated that when operation and maintenance was addressed, it was done in an *ad hoc* manner and reaction to a crisis rather than a routine, preventative approach.

Sohail *et al.* (2005:43) identified the following indicators of poor O&M:

- Overlapping of responsibility, duplication of functions and lack of coordination between different government agencies;
- Full capacity of community was not exploited due to underestimation of skills and inadequate training; and
- Lack of resources for O&M.

Sohail *et al.* (2005:39) state that traditional approaches adopted by local municipalities and utilities have not delivered the required level of sanitation services to slum areas, and that alternative service provision arrangements should be considered. It is questionable whether merely changing service delivery arrangements will improve sustainability of services that are provided, unless other constraints, which affect sustainability of services that are provided, are also addressed.

A co-ordinated and systematic approach is proposed by Sohail *et al.* (2005) to ensure that adequate provision is made for operation and maintenance and is an approach, which identifies and quantifies tasks that should be done. Provision should also be made for monitoring and evaluation, as well as appropriate mechanisms, which allow for public participation and communication.

A World Bank and Water and Sanitation Programme – South Asia Report on the Mumbai Slum Sanitation Programme (WSP 2006) recommended that provision of sanitation services to slums cannot be seen as separate "add-on"

services that are linked to existing sanitation services surrounding slum areas, but rather that service provision to slums should be regarded as an integral part of total services that are provided to the entire city. The inclusion of service delivery to slums, as part of the overall service delivery of a municipality, implies a more equitable allocation of planning and resources than would otherwise occur if service delivery to slums is considered a secondary and separate “add-on” service delivery.

Provision of sustainable services to shared sanitation facilities in slum areas requires municipalities to adopt an integrated approach for both planning and implementation of operation and maintenance, so that it can be accommodated within existing institutional arrangements that govern provision of water and sanitation services.

Local economic development, poverty alleviation and job creation strategies

In addition to the provision of municipal services, the Constitution (Section 152(1)(b)) identifies promotion of local economic development as one of the core responsibilities of local government. Municipalities are responsible for promoting job creation and the local economy through development of local policies and procedures, which are conducive to local economic development. The White Paper on Local Government (Section B, Chap 3.2.1) states that targeted municipal procurement policies and adoption of labour-intensive construction methods for provision of municipal services are examples of some measures that municipalities can take to promote local economic development. These can be directly applied to provision of services.

The primary focus of municipalities in promoting the local economy is provision of infrastructure and provision of quality and reliable municipal services. In terms of the White Paper on Local Government, dated March 1998, “...local government is not directly responsible for creating jobs. Rather it is responsible for taking active steps to ensure the overall economic and social conditions of the locality are conducive to the creation of employment opportunities”.

Mogale (2003:240) notes that although there is extensive awareness of local economic development, the understanding and application of national policies into tangible projects to reduce poverty, varies across municipalities. A similar concern is voiced by Theron (2005a:141) who notes that sustainable service delivery will fail where there is a lack of political will and capacity, at a local government sphere, to convert development plans into tangible and targeted projects that are aligned with the objectives and vision of their Integrated Development Plans (IDPs).

Mogale (2003:241) further argues that the only way to effectively link poverty reduction strategies and the extension of service delivery is to establish partnerships between local government, civil society, the private sector and national government, which are built on democratic principles, meaningful participation and transparency.

The Expanded Public Works Programme (EPWP) programme is a vehicle through which Government maximizes job creation and skills development opportunities for provision of municipal infrastructure projects through use of labour intensive construction methods, Small, Micro, Medium, Enterprises (SMMEs) and small contractors, skills development opportunities, and targeted employment for the unemployed, and so on.

The Sanitation Job Creation programme, which was developed by the Department of Public Works and the DWAF, established sanitation infrastructure and service delivery with job creation and skills development specifically targeted at the youth, the disabled and women. Operation Gijima was launched in 2006 by the DWAF as an accelerated sanitation delivery programme to assist municipalities to reach 2010 sanitation services delivery targets, whilst at the same time, building skills and creating jobs in rural areas.

Claasen *et al.* (2007) criticise the EPWP programme for lack of an exit strategy after construction of the infrastructure. Similar criticism can be made for the Sanitation Job Creation programme. A recent analysis of several projects from the national Sanitation Job Creation Programme (DWAF 2007) showed that emphasis of case studies, which were reviewed was on delivery of sanitation infrastructure, and that job creation and skills development were associated with construction of the facilities. Learners received training (accredited and non-accredited) in the manufacturing of blocks, slabs and pedestals, in painting, roofing, health and safety, pipe-laying for water reticulation, concrete work and brick masonry, as well as training to be builder assistants, builders, contractors and quality assessors. In terms of an exit strategy, the sanitation job creation programme will have equipped SMMEs, small contractors and cooperatives with necessary skills and experience to be able to construct other municipal infrastructure. However it is questionable whether the Sanitation Job Creation programme allocated sufficient resources for longer-term sustainability of services, in terms of skills development and job creation opportunities beyond the construction period.

One of the major differences between the South African Sanitation Job Creation programme and the Bolivian Programme of Rural Basic Sanitation (PROSABAR) programme, was that in Bolivia people were trained to construct the infrastructure, as well as in operation and maintenance; and operators were employed to maintain the infrastructure post-construction. (DWAF 2007).

Development theory behind provision of services in South Africa

Public participation, social learning, empowerment and sustainability are key components of the people-centred development approach that currently guides delivery of municipal services in South Africa (Davids 2005). The approach focuses on municipalities "...working with communities to find sustainable ways of meeting their basic needs and improving the quality of their lives" (White Paper on Local Government: Section B, Chap 1). Apparent in programmes such as the RDP and the IDP, is an approach that is driven by formulating linkages between development, service delivery and local citizen participation (Mogale 2003:219). Integrated development planning is a process whereby municipalities manifest these linkages into development plans for the short, medium and long term (White Paper on Local Government: Section B, Chap 3.1). The process requires an integrated approach to ensure participation from across departments within a particular municipality, as well as with beneficiary communities.

The White Paper on Local Government (Section B, Chap 3.1.1) advocates that municipalities should adopt an approach that enables them to gain a better understanding of local dynamics within a particular community so that these, in turn, can be accommodated into the overall vision and development strategies for the area. According to Theron (2005a:138), a municipality's ability to identify and meet the needs of local communities cannot be driven by a "paternalistic, top-down, [and] prescriptive" approach or one that has been defined by social scientists or professionals (Theron & Wetmore 2005:155). An integrated approach to development planning is required. Theron and Wetmore (2005) state that this is achieved through role-players having an improved understanding of the local situation as it is created by their own social reality. They have an ability to identify it, and through conscientisation, they have an ability to initiate change of the situation. This process is one of the key principles of developmental local government. The authors (Theron & Wetmore 2005) reiterate that the resource are integral to defining the reality in this process and, hence, there is a need for the formation of linkages between the broader community and municipalities, as recommended in the White Paper on Local Government (Section B, Chap 3.3) that will allow for their participation in this process.

Davids (2005:19) states that "participation involves a two-way interchange of decision-making, views and preferences", and that public participation should be understood in the sense of:

- Participation in decision making;
- Participation in the implementation of development programmes and projects;

- Participation in the monitoring and evaluation of development programmes and projects; and
- Participation in sharing the benefits of development.

The challenge is for municipalities to make provision to accommodate various aspects of public participation in development planning processes.

Theron (2005b:111) maintains that public participation in the IDP process not only ensures that communities' needs are identified, but that it also gives legitimacy to particular programmes and interventions that have been identified. On the ground, potential benefits of participation, as highlighted by Davids (2005:20), include: an improved sense of ownership; motivate people to act responsibly; ensure equity, capacity building and empowerment; and an improved understanding of the limitations and challenges to the provision of particular service. In the context of delivery of sanitation services, these are key to the "sense of ownership and responsibility" that Brikke (2000:45) advocates as essential for operation and maintenance. One could, therefore, argue that public participation should be considered as a key component for planning of operation and maintenance of shared sanitation facilities in informal settlements.

METHODOLOGY

In the South African local government context, Theron and Wetmore (2005) motivate for use of Participatory Action Research (PAR) as the most appropriate methodology to conduct research, as it aligns itself with the developmental local government approach. This approach prioritises linkages between development, service delivery and local citizen participation (Mogale 2005), which is manifested in programmes such as the Reconstruction and Development Programme (RDP) and the Integrated Development Plan (IDP). Public participation, capacity building and empowerment are regarded as key requirements for the provision of sustainable services. The White Paper on Local Government (Section B, Chap 3.3) advocates the use of PAR as one of the tools for public participation.

PAR is a research methodology in which key stakeholders participate as co-researchers in the identification and analysis of a problematic situation in order to change and improve it. This means that it is a form of applied research that is conducted in response to a real problem, which is identified by stakeholders conducting the research. During PAR participants are empowered through data collection, analysis and decision making processes. PAR is based on a cyclical process of enquiry, which is based on lessons learned from previous iterative

steps of problem identification, planning, implementation and evaluation of outcomes (Babbie & Mouton 2004).

Rationale for the use of a PAR approach in the context of this research is to empower municipal officials to develop operational plans for the improved delivery of basic sanitation services. Applied to the Khayelitsha ablution blocks, PAR allows for incorporation of both the municipal officials' local knowledge, as well as that of local communities that they serve. Local knowledge is defined as participants' own experiences, judgments, reactions and impressions (Babbie & Mouton 2001:326). A collaborative approach is, therefore, required to solve a common problem that affects various stakeholders in different ways. On the one hand, local government is a service provider and, conversely, community members are recipients of the shared sanitation service.

Babbie and Mouton (2001:326), state that the PAR process allows for increased dialogue and collaboration amongst the stakeholders that would not necessarily occur when using other research methodologies and, in particular, it values the "inside knowledge" that stakeholders bring through decision-making during the design, data collection and analysis processes.

Public participation allows for an opportunity for increased community buy-in and support that is essential for delivery of sustainable services to informal settlements in order to reduce incidents of misuse and vandalism. Communication and collaboration across municipal departments is also required, as sanitation service delivery in its broad definition falls across the Water Services, Health and Solid Waste Departments. Hence, the need for an integrated and inclusive approach to planning is required.

Another advantage of adopting a PAR approach is that it empowers local government to make decisions based on their own research outputs. The research can contribute to reducing their dependency on external consultants that may not necessarily use methodologies, which are aligned with the inclusiveness of integrated planning processes. According to Theron (2005b:153) some consultants have a tendency to produce inaccessible and elaborate technical research reports that are difficult to interpret by decision-makers within local government. This research is in line with the trend to develop the capacity of decision-makers to gain the skills to acquire and process knowledge, and to solve problems rather than to rely on content alone to make decisions (Skerrit 1999: xii).

RESEARCH DESIGN

This article investigates whether there are any local community-based opportunities for the procurement of some O&M tasks that are required to provide a sustainable sanitation service to the recently refurbished Khayelitsha

ablution facilities, and then to identify certain key issues that should be addressed so that opportunities, which have been identified can be accommodated within the current service delivery arrangements of the City of Cape Town. The Khayelitsha ablution blocks, which are located in a township adjacent to the N2 highway on the outskirts of Cape Town, had fallen into disrepair and were in the process of being refurbished by the Water Services Informal Settlements Department of the City of Cape Town.

The research group comprised municipal officials from the Water Services Informal Settlements Department of the City of Cape Town, as well as the researcher, and a PAR approach was adopted. In order for the researcher, as an outsider, to have a better understanding of the local knowledge, insight into the local situation was required from both an end-user and service-provider perspective. The “merging of knowledge and academic knowledge into a common field of knowledge permits the acquisition of a much more accurate picture, as well as a more profound understanding of the situation” (Babbie & Mouton 2004:320).

In order to achieve the overall objective of identifying local community-based opportunities for the procurement of some O&M tasks, by using a PAR approach, the research was divided into three stages. The first stage of the research focused on obtaining a community perspective on the current situation pertaining to the operation and maintenance of shared sanitation facilities at selected informal settlements in the COCT. This was done so that issues and concerns from the community could be brought to the attention of municipal officials and the service provider, through the focus group sessions of stage 3, and be taken into account when planning for the operation and maintenance of the Khayelitsha Ablution Blocks.

An understanding of the O&M activities, which are currently being undertaken for the provision of shared sanitation services to informal settlements within the City of Cape Town, was the focus of the second stage of the research. It also served as an opportunity to identify best practice that could be applied to the Khayelitsha Ablution Blocks, whilst identifying any shortcomings in the current O&M arrangements that should be addressed.

The third stage used focus group sessions to identify potential local community-based opportunities for the procurement of some tasks for the operation and maintenance of the Khayelitsha Ablution Blocks that would have support and buy-in from the community and key stakeholders that are involved in the provision of basic sanitation services. In addition, key issues that should be addressed for the successful incorporation of these opportunities into the current municipal service delivery arrangements need to be identified, so as to ensure that the COCT provides safe and reliable basic sanitation services to residents who use the ablution facilities.

The first two stages provided insight for the researcher and supplemented the local knowledge of the co-researchers through validation and analysis of data that was collected. The data was used by the research group to plan for the focus group discussions, which were held in the third stage of the research. Through the “conscientisation” of this information (Theron & Wetmore 2005), the decision-making and planning capacity, at a municipal level, which is required to deal with the outputs of the third stage of the research, was increased.

The initial stages of the research were also necessary as there was no documentation from the City of Cape Town on current operation and maintenance of sanitation services for informal settlements.

FINDINGS AND DISCUSSION

The findings and discussions are presented in three stages, namely:

- Stage 1: A community perspective on the O&M issues;
- Stage 2: Unbundling of O&M tasks; and
- Stage 3: Identification of locally based opportunities for the O&M of the Khayelitsha ablution block.

Stage 1: A community perspective on the O&M issues

The research highlighted environmental health risks that face residents of informal settlements owing to improper and unsafe sanitation practices as a result of inadequate basic sanitation service provision by the COCT. Both the community focus groups and the survey respondents highlighted the need for additional toilets that should be provided and identified a need for the city to take responsibility for the O&M of the sanitation facilities and to appoint caretakers to clean the toilets, as well as to educate households on proper toilet use.

The research also revealed that end-users had a common understanding of the causes of the poor sanitation conditions within their communities and, in particular, the importance of operation and maintenance. They identified insufficient toilets, inadequate O&M being undertaken and a lack of awareness of proper toilet use amongst end-users in informal settlements. The community focus groups and survey respondents suggested employment of locally-based caretakers and improved awareness regarding proper use of shared toilets at a household level as ways to improve the level of sanitation service delivery within their communities.

The level of awareness of the sanitation situation in community focus groups and survey respondents as well as participants in the focus group discussions,

illustrates the extent and value of the “local knowledge” of the community and highlights a need for the Water Services Informal Settlements Department to improve communication channels, which will ensure that they have a better understanding of the needs of communities that they serve, and to acknowledge and follow-up on suggestions for improvements to the quality of service provided to their communities. Had the relevant departments acknowledged and responded to suggestions from the community focus groups at the time of the initial PAR process, perhaps more appropriate interventions could have been implemented earlier.

The research indicated a lack of inter-departmental planning between the Water Services Informal Settlements and the Health Departments of the City of Cape Town regarding awareness and promotion of proper toilet use and O&M. This resulted in an inadequate and *ad hoc* approach to promotion and awareness initiatives at a community level, which, in turn, resulted in high incidences of vandalism and blockages across ablution sites. Both the White Paper on Basic Sanitation and the City of Cape Town Work Skills Development Plan (WSDP) identify appropriate health and hygiene practice and education as key components of a basic level of sanitation service. At a micro level, this is an example of where local government has failed to fully implement policies, which guide service delivery into operational initiatives at grassroots level.

A significant number of households use buckets for night soil, while inappropriate dumping of night soil has a major impact on environmental health conditions of communities. A total of 50% of respondents who were interviewed, cleared night soil from the toilets, while the other 50% emptied them at unsafe and unprotected sites.

Results from this research indicate that the City of Cape Town should make urgent provision for the emptying of night soil buckets as an integral aspect of sanitation service delivery. Failure to do so will result in the continued pollution of the immediate areas, as well as the surrounding communities through the contamination of the ground water and storm water drainage systems. In addition, the City of Cape Town should ensure that sanitation technologies that are selected for informal settlements can accommodate the high volumes of faecal waste when households empty their night soil buckets into the toilets.

One of the most significant problems that face end-users of shared sanitation facilities is the continued occurrence of blockages within these facilities. End-users have no safe alternatives for the disposal of faecal waste when these blockages occur, and this reinforces the destructive cycle of unsafe sanitation practice. The results from the survey quantified the extent to which incidents of vandalism and blockages occurred, which were initially raised during the community focus group discussions.

The community perspective provided the research group with an opportunity to obtain a better understanding of the local context and to recognise and acknowledge the value of “local knowledge”.

Stage 2: Unbundling of O&M tasks

Analysis of the O&M tasks, which is currently being undertaken for the provision of basic shared sanitation services within the COCT, reveals a lack of community involvement and that there are significant shortcomings, duplication and inconsistency in the allocation and application of tasks and responsibilities. These are some of the indicators of poor O&M, as identified by Sohail *et al.* (2005). The Water Services Informal Settlements Department does not have the resources or capacity to implement day-to-day operational tasks for the entire infrastructure provided, and several of these tasks are best suited to a locally based caretaker position. Insufficient and inconsistent reporting, poor response time to deal with minor leaks and repairs, and restricted access, were common problems that were identified. These are examples of tasks that are best suited to be undertaken by local community-based caretakers.

The research also illustrated the fragmented nature of the O&M arrangements of the Water Services Informal Settlements Department and, in particular, the challenges of trying to obtain consistency for the O&M tasks for different technology options into existing institutional arrangements, which govern sanitation service delivery. This makes reporting, monitoring and evaluation of sanitation services that are provided more challenging.

The unbundling of the O&M tasks of various technology choices provided a framework for the identification of tasks and responsibilities for the O&M of the Khayelitsha ablution blocks.

Stage 3: Identification of locally based opportunities for the O&M of the Khayelitsha Ablution Blocks

There was overwhelming agreement among community representatives, political representatives, and officials and workers from the Water Services Informal Settlements and Health Departments, that local community-based caretakers are best suited for the day-to-day operational activities at the Khayelitsha Ablution facilities.

Participants from both workshops identified a comprehensive list of tasks for the operation and maintenance of the Khayelitsha ablution blocks. Agreement was reached on the type of tasks that are best suited for locally-based caretakers, while recommendations were made regarding selection and recruitment of the

caretakers, as well as suggestions and comments made on the best approach for the employment of the local caretakers.

Other issues that the focus group raised pertaining to the unbundling of O&M tasks that the Water Services Department should further investigate include:

- issuing and supply of materials and equipment and, in particular, investigate costs of supplying toilet paper and soap;
- access and security to the facilities;
- disposal of night soil; and
- training and skills development for caretakers.

Monitoring and reporting are key requirements for sustainable service delivery. It was agreed that the caretaker should be responsible for day-to-day monitoring and reporting of incidents. However, it is imperative that the Water Services Informal Settlements Department have adequate monitoring and evaluation systems in place, so that incidents, which are reported are responded to promptly, while quality of the sanitation services provided remains acceptable.

The primary function of the Water Services Informal Settlements Department is to provide sustainable sanitation services and not to create jobs to provide the services. The Water Services Informal Settlements Department should identify the most cost effective and appropriate model for the delivery of sanitation services to the Khayelitsha Ablution Blocks. A detailed cost analysis for the O&M of the Khayelitsha ablution blocks should be undertaken. The cost analysis should take into account whether the caretaker function is employed directly through the municipality or by an outside labour-only contract. If the latter is considered, a decision should be made whether the ablution blocks will be managed separately or as a single contract.

Other factors to take into account include the level of management support, which is provided by the Water Services Informal Settlements Department that is required for each option. Some SMME contractors have limited capacity and resources, which will have an impact on their ability to manage larger contracts. Whatever option is selected, it should comply with the City of Cape Town's supply chain management policies and procedures.

The research process facilitated the co-operation between the Health Department and the Water Services Department of the Western Cape province. Although it appears that community health and hygiene awareness responsibility falls under the Health Department, it is imperative that the Water Services Department liaises with the Health Department in order to create awareness of the proper use of toilets, as well as involve the community in monitoring and evaluating the quality of sanitation services provided.

The PAR approach also served as an opportunity to improve communication channels between the Water Services Informal Settlements Department

and the community residents in the informal settlements of Khayelitsha. A recommendation was formulated which states that the Water Services Department should continue to engage with the community through the Khayelitsha Development Forum in order to ensure that there is community buy-in and support for the water and sanitation services provided to the Khayelitsha ablution blocks.

CONCLUSION

The research concludes that there are community-based job creation opportunities for some operation and maintenance tasks that are required for the provision of basic sanitation services to the Khayelitsha Ablution Blocks. Local community-based caretakers were best suited to fulfill day-to-day operational and routine maintenance tasks, whilst the Water Services Informal Settlements Department should take responsibility for undertaking crisis maintenance. Monitoring and evaluation should be undertaken by both the caretakers and the Water Services Informal Settlements Department.

The community perspective demonstrated the value of the “local knowledge” at a community level and the data collected was used by the Research Group in the planning sessions for the focus group discussions. The community perspective also allayed fears and concerns that municipal officials from the Water Services Informal Settlements Department had about engaging with the community. The end-users from the represented communities had a good understanding of the causes of the poor sanitation conditions, and made suggestions that were aligned with those of the municipal officials for the improvement of sanitation service delivery for existing infrastructure.

The research identified shortcomings for the tasks required for sustainable sanitation service delivery within the current service provision arrangements. Analysis of the current operation and maintenance tasks, which are currently being undertaken for the provision of basic sanitation services to informal settlements showed that the City of Cape Town did not have the resources to deal with all the day-to-day operational tasks. In particular, insufficient and inconsistent reporting, poor response times to deal with minor leaks and repairs, and restricted access to sanitation facilities for users, were some of the problem areas that were identified. These were the same tasks identified by stakeholders as tasks that were best carried out by locally based caretakers.

The research created an opportunity to identify communication channels and initiate dialogue between municipal officials and community representatives, which, with time and effort, could develop into potential partnerships that are based on meaningful participation. There was overwhelming agreement among

community representatives, political representatives and municipal officials who are involved with basic sanitation service delivery, regarding tasks that are best suited to locally-based caretakers.

In addition to the tasks identified for community-based operation and maintenance, the following operational aspects should be considered when developing an operational plan for the operation and maintenance of the Khayelitsha ablution blocks:

- Provision should be made for the safe disposal of night soil buckets.
- Access to the sanitation facilities after dark. Security at the facilities at night was raised as a concern, and it was agreed that it would be safer for users if the facilities were locked at night. It was also felt that this would also reduce incidents of vandalism.
- The need for appropriate skills development and training for caretakers.
- The issue and supply of materials and equipment and, in particular, the costs of supplying toilet paper.
- The need for appropriate monitoring and evaluation system.
- The need to implement an appropriate awareness and education programme on household sanitation as an integral component of the basic sanitation service, as required by the WDSP.
- The need for municipalities to establish mechanisms that will allow for improved communication channels between end-users and the City of Cape Town in order to encourage more public participation, which is essential for community support and buy-in. Implementation of awareness promotion initiatives will increase community support and buy-in through the conscientisation of the importance of sanitation.
- The need for inter-departmental collaboration and support between the Health, Solid Waste and Water Services Department of the City of Cape Town for the provision of basic sanitation services to informal settlements.
- The need to contact the Khayelitsha Development Forum to facilitate selection and recruitment of labour.
- The need to establish measures to ensure that fair labour practices are followed for the employment of caretakers.

For purposes of this article, the objectives of the research have been met. However, the research has created an opportunity for officials from the Water Services Informal Settlements Department of the City of Cape Town to utilise the research data and to enter a new cycle of PAR and hence develop an operational plan for the operation and maintenance of the Khayelitsha ablution blocks. By doing so, they will have an opportunity to implement a practical application at a community level of the developmental local government approach to planning, which is recommended in the IDP of the City of Cape Town.

REFERENCES

- Aimers, J. 1999. Using participatory action research in a local government setting. In Hughes, I. (Ed.) *Action research electronic reader* [online] University of Sydney. Accessed 6 November 2007. <http://www.scu.edu.au/schools/gcm/ar/arr/arrow/aimers.html>.
- Babbie, E. and Mouton, J. 2001. *The practice of social research*. Cape Town: Oxford University Press.
- Brikke, F. 2000. *Operation and maintenance of rural water supply and sanitation systems: A training package for managers and planners*. Geneva: World Health Organization.
- Burra, S., Patel, S. and Kerr, T. 2003. Community-designed, built and managed toilet blocks in Indian cities. *Environment & Urbanisation*. 15(2):11-32.
- Claasen, M., Daswa, R. and Dhliwayo, R. 2007. *Budget 2007: Poverty amidst plenty*. Accessed 11 October 2007. <http://idasa.org.za/gbOutputFiles.asp?WriteContent=T&RID=1784>.
- City of Cape Town. 2005. *Study of the social profile of residents of three selected informal settlements in Cape Town*. April 2005. Accessed 13 February 2008. http://web.capetown.gov.za/eDocuments/Informal_Settlements_Executive_Summary_272200611403_359.pdf.
- City of Cape Town. 2006a. *Water services development plan (2006/2007)*. Accessed 30 October 2007. www.capetown.gov.za/water/wsdp/.
- City of Cape Town. 2006b. *Information and Knowledge Management Department: Informal dwelling count (1993-2005) for Cape Town*. Accessed 13 February 2008. http://web.capetown.gov.za/eDocuments/Informal_Dwelling_Count_38200681212_359.pdf.
- City of Cape Town. 2007. *Water services development plan (2007/2008)*. Accessed 30 October 2007. www.capetown.gov.za/water/wsdp/.
- Constitution of the Republic of South Africa*, Act 108 of 1996, as adopted by the Constitutional Assembly, Republic of South Africa.
- CWSS, (Community Water Supply and Sanitation). 2007. WRC project No k5/1714/3 progress Report 1. August 2007.
- Davids, I. 2005. Development theories: Past to present. In Davids, I. Theron, F. and Maphunye, K. (Eds.) *Participatory development in South Africa*. Pretoria: Van Schaik Publishers: 4-30.
- De La Harpe, J. 2003. *Scaling up community management in South Africa: Alfred Nzo District Municipality*. IRC International Water and Sanitation Centre. May 2003. Delft, Netherlands.
- Devas, N. and Korboe, D. 2000. City Governance and poverty: the case of Kumasi. *Environment and Urbanisation* 12(1) (downloaded from <http://sau.sagepub.com> on February 15 2007).
- DPLG. Department: Provincial and Local Government. *Toolkit for local economic development*. Accessed 22 January 2008. <http://www.thedplg.gov.za/subwebsites/led/docs/Toolkit.pdf>.
- DWAF. (Department of Water Affairs). 2001. *Sanitation for a healthy nation: A summary of the White Paper on Basic Household Sanitation*. Pretoria: Government Printer.
- DWAF. 2005. *Sanitation job creation: A guideline for municipalities*. November 2005.
- DWAF. 2007a. *Sustainable sanitation job creation: Case studies and recommendations for future action*. 1. May 2007.

- DWAF. 2007b. *2006/2007 DWAF Annual Report* (Part A, p 3). Accessed 22 February 2008. www.dwaf.gov.za/documents/AnnualReports/2007/AnRep07part1.pdf.
- DWAF. 2007c. *Summative evaluation of the Masibambane II programme: Project evaluation report*. July 2007. Accessed 22 February 2008. http://www.sarpn.org.za/documents/d0002955/Masibambanell_programme_Aug2007.pdf.
- Eales, K. 2005. Bring pit emptying out of the darkness: A comparison of approaches in Durban, South Africa and Kibera, Kenya. *BPD Sanitation Partnership Series*. April 2005. http://www.bpd-waterandsanitation.org/web/d/doc_131.pdf.
- Government of South Africa. 1998. *Water Services Act No 108 of 1998*. Pretoria: Government Printer.
- Hanchett, S., Akhter, S. and Khan, M. 2003. Water, sanitation and hygiene in Bangladeshi slums: An evaluation of the Water Aid Bangladesh urban programme. *Environment & Urbanisation*. 15(2):43-56.
- Harvey, A. and Reed, A. 2006. Community-managed water supplies in Africa: Sustainable or dispensible? *Community Development Journal*. 1.
- IRC. 1997. *Operation and maintenance of sanitation systems in urban low-income areas in India and Thailand: Report on a joint research programme, 1989-1993*. International Water and Sanitation Centre, Delft, Netherlands. Accessed 22 January 2008. <http://www.irc.nl/content/download/2577/26741/file/pr6e.pdf>.
- Johnson, V. 2004. *Outsourcing basic municipal services: Policy, legislation and contracts*. Cape Town: University of the Western Cape: Community Law Centre.
- Mogale, T. 2003. Developmental local government and decentralized service delivery in the democratic South Africa. In Mohone, G. and Edigheji, O. (Eds.) *Governance in the new South Africa: The challenges of globalisation*. Cape Town: University of Cape Town Press: 215-242.
- Nitti, R. and Sarker, S. 2003. Reaching the poor through sustainable partnerships: The Slum Sanitation Program in Mumbai, India. *Urban Notes: Thematic group on services to the urban poor*. No 7, January 2003. Washington DC: World Bank
- Republic of South Africa. 1994. *White Paper on Water Supply and Sanitation*. Pretoria: Government Printer.
- Republic of South Africa. 1998. *White Paper on Local Government* (Notice 423 of 1998). Pretoria: Government Printer.
- Republic of South Africa. 2000. *Local Government Municipal Systems Act* (No 32 of 2000). Pretoria: Government Printer.
- Republic of South Africa. 2000. *White Paper on Local Government* (Notice 423 of 1998). Pretoria: Government Printer.
- Schaub-Jones, D., Eales, K. and Tyers, L. 2006. BPD Sanitation Series. Sanitation Partnerships: Harnessing their potential for urban on-site sanitation. *Building Partnerships for Development*. London, England.
- Sokupa, M. and Hendriks, B. 2007. *Informal Settlements Master Plan 2007-2012*. Human Settlements Directorate. City of Cape Town.

- Sohail, M., Cavill, S. and Cotton, P. 2005. Sustainable operation and maintenance of urban infrastructure: Myth or reality? *Journal of Urban Planning and Development*. 131(1).
- Solanes, M. and Jourvaley, A. 2006. *Water governance for development and sustainability: Cepal Serie: recursos naturales e infraestructura*. Santiago, Chile. Accessed 2 November 2007. www.eclac.org/publicaciones/xml/26200/lcl2556e.pdf.
- Subramanian, A., Jagannathan, V. and Meinzen-Dick, R. (Eds.) 1997. *User organizations for sustainable water services*. World Bank Technical Paper No 354. Washington, DC: World Bank.
- Theron, F. 2005a. Integrated development planning as a micro-level development strategy. In Davids, I., Theron, F. and Maphunye, K. (Eds.) *Participatory development in South Africa*. Pretoria: Van Schaik Publishers: 133-148.
- Theron, F. 2005b. Public participation as a micro-level development strategy. In Davids, I., Theron, F. and Maphunye, K. (Eds.) *Participatory Development in South Africa*. Pretoria: Van Schaik Publishers: 111-132.
- Theron, F. and Wetmore, S. 2005. Appropriate social development research: A new paradigm to explore. In Davids, I., Theron, F. and Maphunye, K. (Eds.) *Participatory development in South Africa: A development perspective*. Pretoria: Van Schaik Publishers: 151-166.
- Tibaijuka, A. 2007. Address by Mrs Anna Tibaijuka, Under-secretary General of the United Nations and Executive Director of the UN-HABITAT, at the opening ceremony of the Young Entrepreneurs Day, Nairobi, 15 April 2007. Accessed 1 August 2008. <http://www.unhabitat.org/content.asp?cid=4665&catid=531&typeid=8&SubMenuId=0>.
- UN-HABITAT. 19/06/2006. Accessed 3 December 2008. www.unhabitat.org/content.asp?cid=3177&catid=5&typeid=6&subMenuId=0.
- UN-water. 2006. Executive summary. In *Water, a shared responsibility: The United Nations world water development report 2*. Paris, France: UNESCO. Accessed 18 September 2008. www.unesco.org/water/wwap.
- Wall, K. 2003. *An investigation of the franchising option for water services in South Africa*. 30th WEDC International Conference, Vientiane, Lao PDR, 2004.
- Water and sanitation for all: A practitioners' companion. Accessed 13 February 2007. <http://www.web.mit.edu/urbanupgrading/waterandsanitation/customers/providing-services.html>.
- Water and Sanitation Tools (n.d.) *Tools: Management examples*. Accessed 13 February 2007. <http://www.web.edu/urbanupgrading/waterandsanitation/resources/tools/management.html>.
- Wegelin-Schuringa, M. and Kodo, T. 1997. Tenancy and sanitation provision in informal settlements in Nairobi: Revisiting the public latrine option. *Environment and Urbanisation*. 9(2).
- WHO. World Health Organization. 2000. *Tools for assessing the O&M status of water supply and sanitation in developing countries*. Geneva: World Health Organization.
- WSP. Water and Sanitation Programme. 2004. From hazard to convenience: Towards better management of public toilets in the City of Nairobi. *WSP Field Note April 2004*.
- WSP. 2005a. Lessons from small municipalities in Ecuador: Delegating water and sanitation services to autonomous operators. *WSP Field Note February 2005*. Latin America and the Caribbean Region, Lima, Peru.

- WSP. Field Note. 2005b. Understanding small scale providers of sanitation services: A case study of Kibera. *WSP Field Note June 2005*. WSP-Africa, Nairobi, Kenya.
- WSP. 2006. The Mumbai Slum Sanitation Programme: Partnering with slum communities for sustainable sanitation in a megalopolis. *WSP Report* No 38456. September 2006.
- Zuber-Skerrit, O. 1991. Introduction. In Zuber-Skerrit, O. (Ed.) *Action research for change and development*. Aldershot: Glower Publishing.

AUTHORS' CONTACT DETAILS

Prof H.H. Ballard
Head of Department
Department of Public Management
Faculty of Business Technology
Cape Peninsula University of Technology
P O Box 1906
BELLVILLE
7535
Tel: (021) 959 6184 or 460 3739
Fax: (021) 959 6097
Mobile: 082 200 7043
E-mail: ballardh@cput.ac.za

Ms L. Iling
Department of Public Management
Faculty of Business Technology
Cape Peninsula University of Technology
P O Box 1906
BELLVILLE
7535
Tel: 021 674 3531
Fax: 086 557 2325
Mobile: 083 469 8428
E-mail: cindy.illing1@gmail.com