CHAPTER 3: RESEARCH METHODOLOGY AND DESIGN

3.1 Introduction

In the South African local government context, Theron and Wetmore (2005:151-166), motivate for the use of Participatory Action Research (PAR) as the most appropriate methodology for conducting research, as it aligns itself with developmental local government. This approach, according to Mogale (2003: 219), prioritizes the linkages between development, service delivery and local citizen participation. Furthermore, this approach is manifested in programmes such as the RDP and the IDP. Public participation, capacity building and empowerment are formally recognized as some of the key requirements for the provision of sustainable services.

3.2 Research methodology

Participatory Action Research (PAR) is a research methodology where key stakeholders participate as co-researchers in the identification and analysis of a problematic situation, in order to change and improve it. This is a form of applied research that responds to a real problem identified by the stakeholders conducting the research. During PAR, participants are empowered through the data collection, analysis and decision-making processes. PAR is based on a cyclical process of enquiry that builds on lessons learnt from previous steps of problem identification, planning, implementation and evaluation of the outcomes.(Babbie & Mouton, 2001).

According to the White Paper on Local Government (3.1.1), one of the main objectives of integrated planning is to "empower local government to prioritize and strategically focus their activities and resources" for effective and sustainable service delivery.

The 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 the incorporation of both the municipal officials' local knowledge as well as that of the local communities that they serve. The local knowledge is defined as the participants' own experiences, judgments, reactions and impressions (Babbie & Mouton, 2001: 326). A collaborative approach is therefore required to solve a common problem that affects the various stakeholders in

different ways. On the one hand, local government is a service provider, and on the other hand, the community 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 using other research methodologies,   and in particular, it values the "inside knowledge" that the 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 the delivery of sustainable services to informal settlements, so as 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 aligned with the inclusiveness of the 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).

3.3 Research design

The purpose of this research is to investigate whether there are any local community-based opportunities for the procurement of some of the O&M tasks required to provide a sustainable sanitation service to the recently refurbished Khayelitsha ablution facilities, and then to identify some of key issues that need to be addressed so that the opportunities identified can be accommodated within the current service delivery arrangements of the City of Cape Town (COCT). The Khayelitsha Ablution Blocks had fallen into disrepair and were in the process of being refurbished by the Water Services Informal Settlements Department. "Appendix 1: Photographs of the Khayelitsha Ablution Blocks" contains a   selection of photographs of the condition of the sanitation facilities before they were refurbished.

The research question arose from a Water Research Commission (WRC) project stakeholder workshop, where representatives from the COCT Water Services Informal Settlements Department initially identified the need for the development of an O&M implementation model for the refurbishment of the Khayelitsha Ablution Blocks that drew on experience from other municipalities, as an example of how poverty alleviation and job creation can be applied to sustainable municipal service delivery. The Research Group included the need for public participation in this process, as community support and buy-in for the opportunities was identified as crucial for the sustainable provision of sanitation services through the Khayelitsha Ablution Blocks.

The Research Group was comprised of municipal officials from the Water Services Informal Settlements Department as well as the researcher, and a PAR approach was adopted to solve the problem. In order for the researcher, as an outsider, to have a better understanding of the problem and the local knowledge, insight into the local situation was required from both the end-user and the 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 of the O&M tasks, using a PAR approach, the research was divided into three stages.

The first stage of the research focused on getting 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 the municipal officials and service provider, through the focus group sessions of stage 3, and taken into account when planning for the operation and maintenance of the Khayelitsha Ablution Blocks.

An understanding of the O&M activities 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 as well as to identify any gaps in the current O&M arrangements that needed to be addressed.

The third stage used focus group sessions to identify potential local community-based opportunities for the procurement of some of the tasks for the operation and maintenance of the Khayelitsha Ablution Blocks that would have the support and buy-in from the community and key stakeholders involved in the provision of basic sanitation services. In addition, key issues that need to 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 service to the residents utilizing the ablution facilities.

The first two stages primarily gave insight into the problem for the researcher, and it will also supplemented the local knowledge of the co-researchers through the validation and analysis of the data collected. Through the "conscientisation" of this information, the co-researchers should be able to initiate the change that Theron and Wetmore (2005: 155) advocated as one of the important roles of the developmental local government philosophy. This in turn, should increase capacity at a municipal level for the decision-making required for this planning process. The initial stages of the research were also necessary, as there was no documentation by the COCT on the current operation and maintenance of sanitation services to informal settlements.

3.3.1 Stage 1: A community perspective of the causes of the poor sanitation conditions in informal settlements

The objective of the first stage of the research project was to obtain a community perspective on the current situation pertaining to the operation and maintenance of shared sanitation facilities at selected informal settlements within the City of Cape Town.   The community perspective on the causes of the sanitation hazards facing their communities, their concerns, and their suggestions on how to improve the sanitation conditions within their communities, were documented. In addition, sanitation practice and awareness of O&M responsibilities were assessed at a household level.   The community perspective gave the Research Group insight into the local knowledge of the residents of the informal settlements at the selected sites, and helped identify key issues that needed to be raised at the focus group discussions held during the third stage of the research.   The data could also be used beyond the scope of this research and be applied to other research and planning initiatives undertaken by the Water Services Informal Settlements Department.

Data was collected from the analysis of the primary data sets from a prior Community Risk Analysis (CRA) process conducted by the Community Water Supply and Sanitation (CWSS)

unit at several informal settlements within the COCT in 2006. Participatory Rapid Appraisals (PRA) were conducted to collect the data. The sites for the case studies were identified by the COCT and the Western Cape Provincial Disaster Management Centre as the most vulnerable sites where incidences of disaster have occurred. For the purposes of this study, the following sites were selected: Masiphumelele, Doornbach, Phola Park, Wallacedene and Khayelitsha – TR section. The primary data sets produced by the community focus group included the mapping exercises, 3-pile sorting outputs, and a problem tree analysis for each of the sites, as well as a selection of photographs taken during the transect walks.

In addition, a small sample, end-user survey was conducted to assess the extent to which inappropriate end-user behaviour contributed towards the creation of the poor sanitation conditions within their communities. This provided quantitative data for the Research Group that supplemented the qualitative data from the CRA process.

3.3.2 Stage 2: Description of operation and maintenance activities currently in place

The objective of the second stage of the research was to obtain a clear understanding of the operation and maintenance requirements of shared basic sanitation services in the informal settlements within the COCT, so that the approach identified for the O&M of the Khayelitsha Ablution Blocks was aligned and integrated with the current service provision arrangements.

The roles, responsibilities and allocation of specific tasks of the various role-players involved in the provision of shared sanitation services to informal settlements were also investigated. Through this process, potential gaps and examples of best practice from international case studies that could be applied to the COCT context, were to be identified.

Data was collected through key informant interviews with municipal officials in the Water Services and Health Departments, the Water Services Informal Settlements maintenance crews and sub-contracted service providers and their staff, as well as site visits.

3.3.3 Stage 3: The identification of an approach for local community-based cleaners to be employed for the operation and maintenance of the Khayelitsha Ablution Blocks.

The objective of the final stage of the research project is to identify locally based opportunities for some of the O&M tasks of the Khayelitsha Ablution Blocks that have the support and buy-in from the community and key stakeholders involved in the provision of basic sanitation services and are aligned with the current service provision arrangements of the Water Services Informal Settlements Department. In addition, factors for the successful

incorporation of the approach identified will be highlighted so as so ensure that the COCT provides safe and reliable basic sanitation services to the residents utilizing the ablution facilities.

A consultative workshop between stakeholders from the Water Services and Health Departments and community leaders from Khayelitsha took place in Khayelitsha. The purpose of the workshop was to bring key stakeholders together to gain input and suggestions for the future operation and maintenance of the Khayelitsha Ablution Blocks. The outputs from the workshop would inform the overall planning initiatives of the Water Services Informal Settlements Department.

3.4 The research group

The research group comprised of the researcher and municipal officials from the COCT Water Service Informal Settlements department who are directly involved in the planning and the operation and maintenance of basic sanitation services to the informal settlements. The use of the term "researcher" and "co-researchers" was used to distinguish the roles within the research group. The members of the research group would be responsible for providing information on the current operation and maintenance of shared sanitation services to informal settlements within the COCT and the planning and preparation for the focus group meetings. Their participation in focus group discussions was regarded as integral to the outcomes of the PAR process.

3.5 Role of the "researcher"

The role of the researcher has been defined as that of a "change agent "(Babbie & Mouton, 2001: 314) and a "catalyst" (Babbie & Moutone, 2001: 317).   In the context of the research, the researcher was assigned the role as the driver of the research process, due to insufficient resources and capacity within the Water Services Informal Settlements Department. The limited resources available were allocated to the delivery of basic sanitation services, and not to research, as part of the overall planning processes.

In the context of this research, the role of the "catalyst" could be described as someone who initiates change to the current situation   through this research project.   The researcher facilitated the development of linkages between key stakeholders for the participation in the focus group discussions. The linkages were established through engaging and developing

relationships with the stakeholders through the collection of data in the first two stages of the research process.

The researcher and the co-researchers had slightly different objectives. The researcher had a research objective in the overall process, whereas the rest of the members of the group had the application of the research to a real life situation, as an objective. A mutually beneficial relationship was required to ensure that each set of objectives were met, and that interest in the research process was maintained. The role of the researcher was to ensure that both parties had their interests addressed, which was achieved through fostering relationships. Aimers (1999: 2) notes the importance of "developing relationships as a key aspect of the research process requiring negotiation and reciprocity". The role of researcher was to facilitate this process.

3.6 Methods for data collection

Several methods for the collection of data were utilized and are explained under separate headings.

3.6.1 Documentary reviews

Documentary reviews of national and local government documents pertaining to planning, policies, procedures and legislation (local and national) that govern basic water and sanitation service delivery, job creation and local economic development took place. Literary reviews of local and international community-based approaches to delivery of services to slum areas were also included for the literature review. The analysis of the primary CRA data produced by the community focus groups was included under the documentary reviews.

3.6.2 Stakeholder interviews

Key informant interviews were conducted with the Water Services Informal Settlements Department officials, staff and community workers as well as contractors involved in the operation and maintenance of basic sanitation services to informal settlements. Interviews were also be conducted with Environmental Health Practitioners based in Khayelitsha, and local community-based water and sanitation forum representatives. Refer to "Appendix 4: List of respondents interviewed" for the list of stakeholders interviewed. The interviews also served as an opportunity to initiate relationships with the respondents as co-researchers and to invite them, as key stakeholders, to participate in the focus group discussions.

The interviews were both structured and unstructured. The structured interviews were conducted for the unbundling of O&M tasks and finding out about the local situation, whereas the unstructured interviews served as an opportunity to identify and flag stakeholder interests on the theme for inclusion in the focus group sessions. A need existed to develop a sense of reciprocity, which according to Aimers (1999), is essential for stakeholder participation, and ultimately the success of the PAR research process.

3.6.3 End-user survey

Appropriate health and hygiene awareness and behaviour are one of the key components of a sustainable basic sanitation service as defined by the White Paper (DWAF, 2001), and the COCT recognized the need to provide appropriate health and hygiene education as part of its basic sanitation service (City of Cape Town, 2006; City of Cape Town, 2007). Proper toilet use is integral to the sustainability of sanitation services provided to shared sanitation infrastructure.

A small sample size survey provided quantitative data on the practice and perceptions of small sample of end-users which should complement the qualitative data produced by the community focus groups of the Community Risk Assessment (CRA) process. The sample size was too small to have a statistical relevance to be representative of all members of the informal settlement. However, it complemented the community focus group outputs and provided an indication of the sanitation practice of the people interviewed.

The questionnaire will assess the following:
- Household sanitation practice in which the extent to which households use the bucket system within their own homes for the collection and storage of night soil, the disposal of the contents and the storage of the containers.
- Key operation and maintenance indicators in which the household awareness of their O&M responsibilities was assessed, as well as end-user awareness of the occurrence of blockages and who was responsible for unblocking the toilets, as well as the extent to which the incidences of vandalism occur.
- End-user fears and concerns and suggestions for improvements.

Initially, an English questionnaire with open and closed questions was developed. The questions were structured in such a manner that the responses could be coded on a spread sheet. The questionnaire was then translated into Xhosa. The survey was conducted by

training assistants who were facilitating CRA training sessions. The surveys were conducted doing random door-to-door visits.

Refer to "Appendix 5: Sample Survey Form" for a copy of the English questionnaire and to "Appendix 6: Coded data sheets".

3.6.4 Focus group outputs

One of the primary functions of the research group was to identify key stakeholders to participate in the focus group discussions and to plan for the consultative workshop to discuss the operation and maintenance of the Khayelitsha ablution facilities. The focus group comprised representatives from both local government and the beneficiary community immediately surrounding the ablution blocks. The focus group included representation from the Water Services, Health and Solid Waste Departments, ward councillors, ward forums and community-based organizations. The municipal officials represented a range of practitioners from professional engineers to on-the-ground maintenance crews responsible for day-to-day tasks, as well as community-based workers employed by the municipality. Community representatives from the learner group that initially suggested the need for local caretakers to be employed to keep the shared sanitation facilities clean, were also part of the focus group.

Aimers (1999: 4) notes that the role of the focus group is "… not a decision making body but a channel for information between stakeholders…". The primary function of the focus groups was to create an opportunity for dialogue amongst key stakeholders, and in this particular case, the first real opportunity for the Water Services Department to engage with community representatives on the operation and maintenance of the Khayelitsha ablution facilities. The members of the research group were responsible for incorporating the data from the focus group meetings into their own research and planning initiatives.

Refer to "Appendix 8: Attendance Sheet" for a list of stakeholders who participated in the focus group discussions.

3.7 Data validation

Data produced for the first two stages was presented to the research group as part of the planning for the third stage of the research project.   Outputs from the focus group meetings were validated through the participatory nature of the group and plenary discussions. The

outputs from the various groups were documented and presented to the research group for further discussion and planning.

The outputs from the various group discussions is attached in "Appendix 9: Khayelitsha Ablution Block Workshop Outputs".

3.8 Action and evaluation

The planning sessions for the focus group meetings not only validated data but also provided members of the research group with an opportunity to plan and implement an action based on the analysis.