

The Integration of Community-Based Procurement in the Operation & Maintenance of Basic Services

Report to the
Water Research Commission

by

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on behalf of

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Executive Summary

As municipalities are coming to terms with the scale of the operation and maintenance requirements of basic services, more are considering integrating community based procurement opportunities for the provision of operation and maintenance functions of basic water and sanitation services. While there is a willingness to integrate pro-poor strategies and improve operation and maintenance of basic services, the challenge in implementation is a guideline at local level to create an enabling environment for the integration, monitoring and support of community based-opportunities in operation and maintenance systems.

This study “**Investigation into Unlocking and Integrating Community-Based Procurement in the Operation & Maintenance of Basic Services**” was initiated in response to this challenge and is in line with the Accelerated and Shared Growth/South Africa (ASGISA) call for “procurement and capacity building strategies for poverty alleviation in the context of basic infrastructure programmes”.

Drawing on international experience, the study investigated local approaches in the context of specific case study sites (Cape Town, Stellenbosch, eThekweni and Alfred Nzo District Municipality) in order to develop a guideline.

This report which draws on the findings of afore-mentioned reports is structured as follows:

- Section 1: **Introduction and the methodology** outlines the research objectives, methodology which includes the framework for the research and analysis, case studies research approach and the rationale for Community-Based procurement in O&M.
- Section 2: **Integrating community-based opportunities in operation and maintenance of basic services** provides a summary of literature review and an overview of research findings and analysis. The section outlines local authority commitment to integrating local procurement opportunities, O&M models and pointers for the development of the guideline
- Section 3: **Framework of the guideline** provides an outline the methodology developed for the guideline and related process tools.

The appendices provide summaries with evidence produced in the series of stakeholder workshops that were used in guideline and knowledge tool development.

The key findings in the study relate to the following:

- The rationale for community-based (CB) Procurement in O&M of basic services
- Identifying O&M tasks and specifying community-based opportunities
- Setting up local Monitoring and Support Structures
- Facilitating Institutional Support for integrating community-based O&M approaches

The rationale for community-based procurement in O&M of basic services

Due to the localised nature of O&M functions that sustain services, the scale of CB procurement opportunities suggests that municipalities may re-align local economic development strategies by investing in the O&M of basic water and sanitation services. Targeted investment can contribute to creating conditions for economic viability of basic services provision with a new approach, other than user charges to the account of poor people. In South Africa, national poverty alleviation budgets, such as the Equitable Share (ES) and Expanded Public Works Programme (EPWP), are accessible to local government. Municipalities may utilize Integrated Development Plans (IDP) and Water Services Development Plans (WSDP) planning mechanisms for obtaining local development funds, as well as source special grants and support from across departments, such as Department of Water Affairs and Forestry (DWAF)* and the Department of Labour (DoL).

A CB approach implies that service providers are sourced from the communities that are served, and are based within the community of end-users. Apart from improving communication and credibility at a local level, CB service providers, are best placed to prevent, reduce and respond immediately to breakdowns.

Preventative care of facilities is the most obvious opportunity for dramatically improving O&M through CB procurement. This becomes more apparent when responsibility for each specific O&M task required to keep assets in a serviceable condition is firmly linked to the level of stakeholder that operates most efficiently.

Identifying O&M tasks and specifying community-based opportunities

It is evident that O&M tasks vary in frequency and responsibility according to the technology provided and whether the use of facilities is individual (household) or shared (public). The different requirements for effective preventative maintenance routines and reactive responses to breakdown and crises become increasingly clear when listing and sorting all O&M tasks essential for keeping the facility in a serviceable condition.

Each level of stakeholder has access to experience and details that are specific to their responsibilities. A review of a series of stakeholder workshops that facilitated the guideline development process, confirmed the relevance of collating inputs from different levels of stakeholder. The results of discussion, selection, sorting and collation are that an appropriate assignment of local, joint and municipal responsibilities is simplified when clearly associated with each specific task.

The municipality generally supplies or procures all materials and equipment required to complete essential O&M tasks. One relatively straightforward input from local level workshops was the listing of supplies as materials and equipment needed from the municipality for local care tasks to be adequately carried out. Comprehensive checklists of materials and equipment required, most specifically for supporting preventative maintenance in care of the facility, are readily and cooperatively compiled by local level stakeholders.

In addition, it was found that local level perspectives assist in establishing selection criteria on the basis of skills and experience, and processes shaping protocol at the interface between the community and municipality.

Setting up local monitoring and support structures

As operational flows for O&M are not reflected in formally structured municipal departmental organograms, the flow of responsibilities, supervision and reporting is not immediately evident. It is therefore useful to capture the reality of roles and responsibilities, complementary oversight and reporting for O&M operations.

Monitoring and support arrangements must be adapted to fit the requirements for local level O&M. While existing monitoring systems are based on reports related to the specific tasks and some of the related requirements, in general they are not clearly associated with community level intermediaries and beneficiaries. Structured communication between municipal and community stakeholders includes routine reporting that is based on monitoring. The effective functioning of both specific and joint responsibilities that operate on different levels relies on communication between stakeholders through monitoring and reporting to continuously inform the working O&M system.

Facilitating institutional support for community-based O&M

Although cross-cutting policies and programmes are geared to support direct development investment into local livelihoods, disjuncture in collaboration across departments makes it difficult for local authorities to prioritize and integrate O&M into their overall planning and budgeting processes.

Departments need to be informed regarding the scale of development opportunities that are located in fulfilling basic services Operation and Maintenance (O&M) functions. At a municipal level, information that emanates from operational realities needs to be conveyed upwards to decision-making levels in order for the institution to plan and manage implementation effectively. In this regard, specific information for each technology such as the scale of the asset base, staffing and material requirements and typical application of the technology should be collated to convey the operational requirements. Based on this information, checklists to inform departments with regard to procurement, training, management and budget requirements can be developed.

Recommended opportunities to unlock sources of funds to support a greater scope of benefits from community-based procurement include linking up with related poverty reduction focused programmes, such as:

- Budgets associated with national policies and imperatives as potential sources of funding (Equitable Share, EPWP)
- Interdepartmental collaboration to integrate programmes with resources including Local Economic Development (LED), Health and Social Development initiatives,
- Skills development funds.

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List of Acronyms

ANDM	Alfred Nzo District Municipality
CB	Community Based
CBO	Community Based Organizations
CLO	Community Liaison Officer
CoCT	City of Cape Town
DPLG	Department of Local Government
DPW	Department of Public Works
DWAF	Department of Water Affairs
EBU	Electronic Bailiff Unit
EHD	eThekweni Health Department
EHP	Environmental Health Practitioner
EPWP	Expanded Public Works Programme
ES	Equitable Share
eWS	eThekweni Water Services
FBS	Free Basic Services
HH	Household
HR	Human Resources
IDP	Integrated Development Plans
IS	Informal Settlement
ISD	Institutional and Social Development
LED	Local Economic Development
M&E	Monitoring and Evaluation
MDG	Millennium Development Goals
MIG	Municipal Infrastructure Grant
NGO	Non Governmental Organisation
O&M	Operation and Maintenance
PSC	Project Steering Committee
SHE	Safety, Health and Environment
SMME	Small Medium and Micro Enterprise
SP	Service Provider
SSP	Small Service Provider
TMC	Technical Management Committee
TRA	Temporary Relocation Area
UDS	Urine Diversion System
VIP	Ventilated Improved Pit
Watsan	Water and Sanitation
WS	Water and Sanitation services
WSA	Water Services Authority
WSDP	Water Services Development Plan
WSP	Water Services Provider
WWTW	Wastewater Treatment Works

1. Introduction and Methodology

1.1 Introduction

It is widely recognized that inadequate operation and maintenance (O&M) is a significant and common problem in basic services provision. On a global scale the water supply backlog remains steady in the face of a growing “unserved” population (1 billion) while the sanitation backlog has grown significantly over the same period (2.2 billion). As sustainability or quality of coverage is not adequately recorded or measured, a paucity of reliable data continues to obscure the direct links between poverty and Water, Sanitation and Hygiene (WSH) (CU, AGUA and IRC, 2006).

In South Africa, qualitative data on the underlying reality of coverage is often lacking, such as consistent access and the real costs and benefits of sustaining basic services provision. This results in severe gaps in information to properly understand how poverty alleviation policies can be integrated into existing municipal processes. If basic water and sanitation programmes are to be geared to support sustainable livelihoods and local economic development as intended, local authorities will have to prioritize and integrate O&M, into their overall planning and budgeting processes.

If basic water and sanitation programmes are to be geared to support sustainable livelihoods and local economic development, local authorities will have to prioritize and integrate basic services provision into their overall planning and budgeting processes.

While eradicating the backlog by 2010 requires a budget increase from the current estimated R600-700million to R2,2 billion per year, equally important are strategies for sustaining those basic services that have already been provided. In the context of existing targets and timeframes, the scale of opportunities for performing local level operation, maintenance and monitoring functions warrants a focused guideline to facilitate the implementation of existing policies.

Moving targets for addressing the basic water and sanitation backlog (DWAF, 2007), as reflected in an estimated 1,9 million people reverting back to the backlog before 2010, is the result of inadequate provision for O&M¹. According to a national Sustainability Audit (DWAF, 2005):

- Only 53% of all municipalities have adequate O&M capacity,
- 78% of all municipalities did not have O&M guidelines.
- There is a lack of M&E systems (only 48% have a system).

Operation and Maintenance is thus clearly a key element of basic services provision.

Apart from verifying the absence of crucial information on a municipal level, the initial literature review for this study found that significant gaps and problems affecting the sustainability of basic services related in particular to:

¹ A Sustainability Audit of Sanitation Facilities between 1994 and 2003, (DWAF, 2005) found that O&M is a common problem that undermines sustainability, indicating that up to 28% of those toilets provided could fail in the short to medium term.

- A lack of distinction between the responsibilities of individual households, civil society and local government departments, and
- Ineffective monitoring and reporting systems.

Critical analysis has generally agreed that sustaining effective basic water and sanitation services provision will of necessity relate to socio-economic, cultural, environmental and health conditions, and will take into account the practices of people living in poverty. The institutional infrastructure behind approaches and programmes intended to sustain basic water and sanitation services provision, will need to fit with the context of targeted users.

It is thus noted as critical that municipalities take the following into account for effective operation and maintenance:

- The crucial socio-economic situation of the end user;
- Targeted investment into priority problems, such as unemployment;
- Real opportunities for engaging users and local service providers productively.

On the municipal level, alignment of policy and guidelines will hinge on their commitment to provide sustainable basic services. Whilst a policy is a plan of action to guide decisions and actions, a guideline is a document aimed at streamlining particular processes (Wikipedia, 2007). Given the scale of the basic services backlog across South Africa and the intention to increase provision, municipalities will need the tools to gain a clearer understanding of what is entailed in sustaining the basic services provided.

The conceptual framework for this research outlines “the preferred approach to the ideas” contained in international discourse and cross-cutting national policies, and sets out to present “an outline of possible courses of action” (Wikipedia, 2007) as a product of the research process.

Exploring the extent to which local authorities have enacted basic services provision in accordance with national poverty reduction and local economic development policies, in no way diverges from a pragmatic concern with meeting the requirements for effective operation and maintenance of municipal assets. Rather, the premise for developing these guidelines is that if local government is equipped with a sound understanding of the activities and associated procedures for keeping assets in a serviceable condition, institutional arrangements and local mechanisms that incorporate job creation strategies will be developed.

A framework to assess existing O&M models and organize findings as generic gaps and opportunities also formed the basis for developing processes and tools. These included focus groups, tables and organograms, which were consistently tested against for their usefulness to municipalities. Municipal and community-level stakeholders assisted in shaping a guideline and the tools to fit the information needed for understanding how to improve any model, using any technology.

1.2 Research objective

The overall purpose of this study was to inform the development of a guideline for use by developmental local government for providing sustainable basic services that incorporates community-based procurement opportunities. The developed guideline is based on common best practice and processes undertaken at the various case study sites.

The purpose of this report was to construct and compare profiles for each of the case study sites in which the following was compared:

- Commitment to the provision of basic watsan services
- Community-based procurement opportunities for provision of basic watsan services
- Key stakeholders involved in community-based operation and maintenance

1.3 Methodology

1.3.1 Framework for research and analysis

A literature review provided the background of international experience in this particular delineated field of study. The review focused on experiences and insights into community based procurement for the O&M of basic water and sanitation services.

Case studies were selected to provide the natural setting for exploring commonalities and differences in a range of local authority approaches to providing sustainable basic services in South Africa. The range of technology options and rural, peri-urban and metro settings across different provincial contexts is not intended for a comprehensive examination but represents sufficient variation for the subject in hand.

Case study profiling was based on preliminary interviews with municipal officials, the review of accessible documentation and identifying gaps in the information provided. Profiling provided an initial indication of municipal commitment to basic services provision and the kind of community based approaches to O&M that may have been adopted. The profiling outcomes were verified with municipal officials in preparation for further detailed field research.

Subsequently, detailed field research of each case study involved site visits and interviews with various role-players involved in O&M of basic water and sanitation (watsan) services. The investigation focuses on unbundling the specific tasks and functions of those responsible for O&M. In addition, procurement processes, contractual arrangements and institutional support for community-based procurement opportunities were explored in each case study context.

Table 1-1: Framework for research and analysis

<u>Themes:</u>	<u>Discussion of data:</u>
<i>Literature review and prior Profiling and Case Study research reports</i>	Integration of Community Base Procurement in O&M is affected by the extent to which:
1. Commitment / Policy / Strategy for integration 1.1. System of forward planning 1.2. Knowledge of Asset base 1.3. Appropriate organization	<i>(Evidence provided in Literature review and Profiling of case studies)</i> • general policy on LED and procurement is informed by potential opportunities in O&M • O&M budget allocations are informed by specific requirements of O&M models associated with the particular technologies • roles and responsibilities between the municipality , community and intermediary has been informed by specific O&M and M&E tasks and targeted procurement
2. O&M Model 2.1. Requirements to keep asset in serviceable condition 2.2. Local opportunities in O&M 2.3. Responsibility for procurement and oversight	<i>(evidence provided in Case Studies data)</i> • all the key O&M tasks related to care, collection and disposal associated with a particular technology has been identified • specific task and related requirements associated with O&M of Technology are targeted for community- based procurement • targeted procurement strategies in terms of qualification, selection, type of contract and supervision are vetted by relevant technical and user groups
3. Management and Support at local level for O&M of basic services 3.1. Management and Interface 3.2 Monitoring and Evaluation	<i>(evidence provided in Case Studies data)</i> • Local technical and user structures have taken on complementary oversight and support roles related to the specific O&M tasks associated with a particular technology. • M&E system is based on reports related to the specific task and related requirements associated with the targeted procurement.

The research questions related to the unbundling of O&M tasks also track the supervision and responsibilities of specific functions. Investigation of those tasks and functions that are in-house or contracted out also covers inquiry into community-based procurement processes and budget allocations for the identified tasks.

For those tasks that are contracted out, the question of how service providers are sourced and how their performance is monitored are pursued.

The data thus gathered is collated in a report as preparation for a stakeholder validation workshop which incrementally engages the local authority informants as participants in the research, extending the research opportunity into those aspects of institutional support and management that have been difficult to find. This approach is a knowledge production process, enacted through cross checking of the information gathered and the researchers' interpretations thereof. Stakeholders who have been engaged as respondents to profiling and site visit questions are asked to validate the collated data.

In this way, each case study is subject to further queries regarding the support arrangements that may exist for developing and supporting community based procurement in O&M.

In establishing agreement with local authority practitioners on opportunities and gaps that are identified by the researchers, the guideline was incrementally developed in line with the perspective and understanding of the case study local authorities.

1.3.2 Approach used in case studies

The case study approach provides insights into arrangements and those mechanisms developed and applied by municipalities currently. While emergent guidelines are based on authentic evidence of existing practices and processes, the application of the conceptual framework above makes latent opportunities more visible.

The data gathered was therefore presented to a series of local stakeholder validation workshops which engaged technical service providers (municipal employees and contractors) and social participants (users and community-based groups) in the knowledge production process. In cross checking as well as adding to the information gathered, gaps and potential improvements that take CB procurement opportunities into account were identified and shaped progressively by practitioners themselves.

The selected sites represent a range of technology options and service delivery models and provided the natural setting for exploring commonalities and differences across a range of local authority approaches. Selecting rural, peri-urban and metro settings in different provincial contexts was not intended for a comprehensive examination but to represent sufficient variation for the subject in hand, as outlined in the table below:

Preliminary interviews with municipal officials, the review of accessible documentation and identifying gaps in the information, provided an initial indication of municipal commitment to basic services provision and of the kind of community-based approaches to O&M adopted. Case study profiling outcomes were validated in preparation for further detailed field research.

The municipal settings of Alfred Nzo District Municipality (ANDM), eThekweni, City of Cape Town (CoCT) and Stellenbosch provided the detailed field level research data. This involved site visits and interviews with various role-players involved in O&M of basic watsan services. The investigation initially focused on unbundling the specific tasks and responsibilities for these. Procurement processes, contractual arrangements and institutional support for CB procurement opportunities were explored in each context.

Table 1-2: Technologies and O&M services provision (case study sites)

Site	Technology	O&M services provision
Stellenbosch (peri-urban)	Ablution blocks	Stellenbosch municipality
eThekwini (urban and rural periphery)	Ablution blocks Communal stand pipes UDs and 200l yard tank VIP	O&M: Shared facilities managed by Health Dept with local caretakers employed Caretaker Pilot O&M: Franchise pilot pit emptying project
CoCT (urban)	TRA ablution blocks Pour flush and communal standpipes Chemical and container toilets Port-a-potty	O&M SMME contractors (local IS based) O&M CoCT IS Water Services O&M SMME contractors (not IS based) O&M SMME contractors (local IS based)
ANDM (rural)	VIP Rural water	VIP construction (CBO/ Zonal Centers) O&M CBOs

The conceptual framework applied to research and analysis of O&M implementation across the case studies was further tested by the stakeholders operating in each particular context. Examining the substance of O&M implementation data produced from their site through the lens of this framework, validation and feedback by municipal stakeholders further shaped the conceptual framework, as illustrated below.

Based on the validation of data and co-analysis with those responsible for O&M within the participating local authorities, a guideline begins to emerge. The process of building and then refining guidelines with stakeholder feedback is thus grounded in municipal realities with a forward-looking view to providing appropriate support for community- based procurement as an important element of sustaining basic services.

The diversity of approaches across case study scenarios served well for formative field testing of an emerging guideline. Details of the processes and outputs of research activities, stakeholder workshop outcomes and detailed data sets for each case study is provided in the Appendices A and B.

1.4 Rationale for community-based procurement in O&M

Where poverty prevents people from paying for basic services or accessing development opportunities, local authorities are legislatively bound to seek alternatives to status quo approaches “normal circumstances” where people are able to pay for essential services. Where there are minimal returns from customers unable to pay, adequate basic services are not always seen as essential and economic investment in basic services has not been favoured. Provision is traditionally mobilized more as a public health measure.

Previous experience and studies have confirmed that local level and daily operational functions such as minor repairs, preventative maintenance, local monitoring, reporting and customer relations are best suited to CB providers of these services. Arrangements that enable CB procurement for servicing those who are not billed must include the servicing of shared facilities, particularly as access to rudimentary or emergency types of service, commonly provided in the absence of basic services, are so widespread.

Due to the localized nature of O&M functions that sustain services, the scale of CB procurement opportunities suggests that municipalities may re-align LED strategies by investing in the O&M of basic water and sanitation services. Targeted investment can contribute to creating conditions for economic viability of basic services provision with a new approach, other than user charges to the account of poor people. National poverty alleviation budgets, such as the Equitable Share and Public Works Programme, are accessible to local government. Municipalities may utilize IDP and WSDP planning mechanisms for obtaining local development funds, as well as source special grants and support from across departments, such as DWAF and the Department of Labour.

As the underlying purpose of migration to urban areas is to seek employment, this study suggests that local authorities may view local residents as active agents rather than as passive recipients of basic services. Through identifying potential job opportunities for residents to undertake currently neglected O&M tasks, opportunities to procure community-level skills and capacities to provide services may be integrated into local government's development endeavours.

A CB approach implies that service providers are sourced from the communities that are served, and are based within the community of end-users. Apart from improving communication and credibility at a local level, local service providers, are best placed to prevent, reduce and respond immediately to breakdowns.

Preventative care of public facilities is the most obvious opportunity for dramatically improving O&M through CB procurement. This becomes more apparent when responsibility for each specific O&M task required to keep assets in a serviceable condition is firmly linked to the level of stakeholder that operates most efficiently.

2. Community-based Procurement in O&M improvements

Moving away from seeing basic services delivery as infrastructure projects, this study suggests that the O&M function can be approached as a source of direct support for livelihoods, particularly in the context of growing urban poverty. Given that “involvement of the poorest and neediest in O&M” is a recognized vehicle for increasing individual and household capacity, it is therefore viewed in this research as “a constructive step in development” (Sohail et al., 2002) beyond the delivery of infrastructure.

Given the persistence of poor sustainability records and a predominance of reactive interventions for rescuing failing basic services systems, CB procurement opportunities for providing improved O&M services is a valid research focus. International experience has confirmed that local level and daily operational functions such as minor repairs, preventative maintenance, reporting and customer relations are best suited to procuring local O&M services from within each community served. It is also apparent that, apart from administration of public services, support organizations are best suited for procurement, technical support, major repairs and a mentoring role through training and monitoring.

It has become increasingly apparent that the most significant opportunities for realizing change lie at the municipal level where organizational culture may be enhanced by knowledge, and for which assured resources from national programme allocations may provide positive incentives (Sohail et al., 2002) at the local level. In South Africa, local governments are encouraged to plan improvements in O&M systems as a direct development investment into local livelihoods.

In this study the *local residents who are users of a common basic services system constitute “the community”*, and *“community based” refers specifically to those people who reside in those neighbourhoods that are provided with a common level of service*. Being based in the user community, local entities are “thereby able to monitor more effectively and enforce water management at a local level” (Subramanian et al, 1997:6).

It is noted, however, that the use of Community Based Organisations (CBOs) for technical tasks and complex administrative functions is not necessarily appropriate, and that the optimal function of CBOs is increasingly recognized as that of addressing the following aspects of interventions:

- improving flows of information
- Identifying suitable organizations for conflict resolution
- Better understanding of end-user needs.

While a greater degree of accountability to the end-users and their problems may provide key information to service providers, burdening this important communication role with technical and administrative functions implied by the concept of “community management” is likely to be counter-productive.

The research suggests that the investment of public resources in sustaining basic services provision by providing opportunities for income generation within the user communities is justified. This approach may apply the current norm of assuming indirect socio-economic benefit through access to functional basic services, and expand the return of investments in improved O&M to serving as a direct livelihoods benefit to those people who are living in poverty.

2.1 Literature Review

The literature review draw from national and international documentation, including local water services policies, national poverty alleviation and skills development policies, municipal procurement policies, legislative framework governing the provision of basic water and sanitation services, guidelines as well as reviewing national and international case studies where CB operation and maintenance services have been procured.

In reviewing international experience of CB service provision arrangements, crisis management was a dominant activity of voluntary community management, with scant evidence of a preventative or routine maintenance role. An exception recorded by Sohail (2005) was the Karachi case study that was based on the clear formulation of defined responsibilities in conjunction with the local authority in a service provision agreement.

The O&M of communal facilities in slum areas has a particularly poor track record internationally, where the reasons for this are identified as “a lack of public sector resources, poor management, inefficiency, and unaccountability” (Sohail, 2005). In Kenya, volume of users, inability to collect funds, un-affordability (Wegelin, 1997), and low staff morale, poor supervision, poor coordination between departments, inadequate budgeting, (WSP, 2005) adds to the list of recurring challenges.

In contrast, there is sufficient experience of local Small Service Providers (SSPs), making effective use of local contractors as SMMEs and various forms of contractual arrangements involving flexibility in procurement procedures, monitoring and appropriate support by local authorities, to warrant pursuing this route further. As public toilets blocks remain clean as long as caretakers and attendants have been paid, it makes sense for municipalities to plan for the integration of CB procurement of a range of services essential to effective O&M. Rather than repeating well documented failures, mobilizing budget allocations to build on those aspects of basic services that sustain provision needs well-funded justification.

The most common sustainability problems are located in aspects of O&M, including responsive actions as far as existing infrastructure are concerned. These are reported as follows:

- Few municipalities have a maintenance programme for on-site dry sanitation or de-sludging of pits – most toilet top structure designs do not provide access for emptying or for dismantling to relocate.
- Lack of skills for O&M of waterborne systems – many are leaking or flushing continuously due to disrepair.

- Inadequate O&M capacity (only 53% of municipalities have adequacy)
- Lack of M&E systems (48% have a system).
- Lack of O&M guidelines (78% have no plans for VIPs).
- Low h/h affordability/willingness to pay for infrastructure (29%), upgrades (66%), future replacement (68%).

In respect of implementation capacity the problems given below also impact adversely on sustainable basic services provision:

- Inadequate community involvement in planning, implementation (<50%).
- Low user acceptance and satisfaction (only 65% h/h are satisfied).
- Inadequate appropriate use and hygiene practices (32% of h/h).
- Low priority (only 60% of municipalities have a sanitation unit).
- Poor technical capacity to implement (65% of municipalities).

From a social perspective on failing services, inadequate community involvement in planning and implementation accounted significantly for 50%, with low user acceptance and satisfaction running a close second (only 65% h/h are satisfied). Findings are further interpreted as indicating that up to 28% of toilets could fail in the short to medium term, resulting in 1,9 million people reverting back onto the backlog before 2010 (DWAF, 2005).

A lack of distinction between the responsibilities of household, community and municipality and ineffective planning, monitoring, evaluation and interventions are further cited as core problems.

The study concluded that a major sustainability barrier is that operation and maintenance is inadequate, and locates the cause at municipal level. However, multi-disciplinary research indicates that causative factors are complex in that economic, social and technical aspects have multiple impacts on effective and efficient basic services provision.

It is clearly designated that local government's developmental role includes the provision of adequate basic services to those people within their jurisdiction who are living in poverty and who constitute most of the backlog. However, on reflection it is equally clear that all levels of role-players are involved interactively, rather than up to a boundary of defined roles and no further. The institutional basket of responsibilities for interdisciplinary and multi-sectoral functions is no less complex, and while human resources and financial capital are recognizably essential, deployment across departments and levels of government, as well as the engagement of users and service providers external to government structures, remains a key project.

In South Africa, comparative case study research of metro approaches (Lagardien & Cousins, 2005) that incorporate the ethos of CB delivery mechanisms, demonstrated that establishing Project Steering Committees (PSCs) for more than communication, facilitation and negotiation functions is fraught with frustrations. The eThekweni (Durban Metro) approach acknowledges from experience that the PSC model is essentially a communication mechanism, functioning to include:

- continuous communication between the municipality and the community;
- support, monitoring and feedback to contribute towards improved delivery;
- allowing space for voicing concerns, recording, resolving of social issues;
- deciding on households most in need of employment.

This study of the CB approach to services provision focuses on the procurement of existing and potential community-level service providers to contribute essential operation and maintenance functions for sustaining basic services as an integral part of municipal development efforts in the context of each case study area.

Municipalities are required to prioritize basic services provision to non-tariff paying people living in poverty, and to adopt an integrated and systematic approach to meet this target. If governments are committed to meeting the targets for the MDG, they need to prioritize and integrate basic water and sanitation service provision into their overall planning and budgeting processes.

Municipalities as support agencies are a key driver that must respond immediately to demand for improving services, and to shortfalls and breakdowns. Municipalities must ensure that communication between service provider and end-users is improved. Apart from voluntary user representation playing an important communication role, local and CB small service providers may assist in achieving these ends, but as a different driver with the opportunity to make a living from delivering a service to the system.

Sustainable partnerships do not rely on short-term donor funding and interventions. Key enabling factors are aspects that need to be incorporated into current service provision arrangements and opportunities to engage key drivers in collaboration need to be harnessed. It is municipalities that need to adopt approaches which make use of the most efficient and cost effective use of resources for the operation and maintenance functions of basic services, including communal water and sanitation facilities.

An enabling environment for sustainable basic services delivery, that spreads the benefits to opportunities for CB service providers to make a living, comprises:

- Financial aspects reflected in adequate municipal budgets, regardless of the original source of funds (donors, equitable share, special pro-poor programmes, etc),
- Procurement policies and procedures that accommodate CB approaches as long term sustainable job creation programmes,
- Legislative compliance and regulations that are adapted to enable municipal support to local service providers in alignment with job creation imperatives,
- Management support to CB service providers, including mentoring and skills development,
- Clear roles and responsibilities for all the key drivers throughout the project cycle
- Monitoring of basic services provision and services providers, and appropriate quality assurance systems.

Strategies for procurement and support of CB service providers must make a distinction between the needs of entrepreneurs in the formal and informal sectors. Municipalities may target their limited resources to core functions and will need to engage actively with the user communities within their jurisdiction before devising context specific strategies.

At this juncture the broad CB approach has increasingly come to imply that service providers are sourced from the communities served by the scheme, i.e. locally-based, CB service providers. One finding from the literature review is that it is imperative to be explicit about the difference in roles and functions between users and representative organizations (CBOs) and community based service providers. Sustainable partnerships with both users and providers of services require supportive local governments.

The implementation of context specific support strategies will remain a barrier unless the impact of regulations and legislation is factored into strategies and addressed. Municipal policies that guide procurement of services has the potential to promote community based small service provider engagement in providing appropriate services, particularly in the operation and maintenance functions of basic services delivery projects.

Key findings drawn from the literature are summarized as follows:

- The crisis management is a dominant activity of voluntary community management, with a scant evidence of a preventative or routine maintenance role;
- The O&M of communal facilities in slum areas has a particularly poor track record internationally, where the reasons for this are identified as a lack of public sector resources, poor management, inefficiency, and unaccountability (Sohail, 2005);
- Local small services providers making use of local contractors as SMME's and various forms of contractual arrangements involving flexibility in procurement procedures, monitoring and appropriate support by local authorities, to warrant pursuing this route further;
- The municipalities should plan for the integration of community-based procurement of a range of services essential to effective O&M;
- The most common sustainability problems are located in aspects of O&M, including responsive actions as far as existing infrastructure are concerned;
- Inadequate community involvement in planning and implementation accounted significantly for 50%, with low user acceptance and satisfaction running a close second (only 65% h/h are satisfied);

In South African context, the literature outlines the following:

- Municipalities are required to prioritize basic services provision to non-tariff paying people living in poverty, and to adopt an integrated and systematic approach to meet this target;

- The prioritization and integration of basic watsan service provision should be part of the government overall planning;
- Municipalities to ensure that communication between service provider and end-users is improved;
- Strategies for procurement and support of CB services providers must make a distinction between the needs of entrepreneurs in the formal and informal sectors.

2.2 Local Authority commitment to integrating local procurement opportunities

The aim of South African policy and legislative reform is to reduce or alleviate poverty by providing basic water supply and sanitation services to achieve, " the creation of jobs, use of local resources, improvement of nutrition and health, development of skills, and provision of a long-term livelihood for many households" (DWAF, 2003:36). While the average working days saved for each case of adult diarrhoea prevented may indirectly help to reduce poverty, improving livelihoods as a vehicle for improving access to water, sanitation and health may transform problem arenas into opportunities for positive change (CU, AGUA and IRC, 2006).

Case study profiling served to obtain an initial indication of the local authority's commitment to poverty alleviation through basic services provision. Of particular interest was the pursuit of data that would reflect any municipal investment in direct benefits to local livelihoods through community based procurement for operation and maintenance services.

Profiles were drawn from a review of accessible local authority documents and preliminary interviews with responsible officials. The construction and comparison of profiles for each of the case study sites focused on the provision of basic watsan services and dealt with:

- Commitment to services provision against the backlog;
- Commitment to poverty alleviation and local economic development;
- Community-based procurement opportunities for provision of services;
- Key stakeholders involved in community-based operation and maintenance.

In respect of Local Economic Development (LED) and job creation, where the extent to which municipalities fulfilled O&M requirements through community-based procurement as direct development opportunities was not evident, this was further explored in interviews with officials. In the Eastern Cape for example, the EU-LED named **Gwebindlala** programme initiated by Mvula Trust was part of the micro project set up with the financial support of the EU to contribute to poverty alleviation by improving the capacity of rural communities to gain access to or mobilise local human, financial and physical resources towards sustainable development initiatives (The Mvula trust, 2007). Targeted communities were able to harness local and provincial government resources for the provision and maintenance of services which was aligned with the government policy framework which provide local communities to play an active role in the IDP planning process.

It emanates from the final report that the project was financially viable and resulted in job creation and poverty alleviation throughout municipalities. However, bureaucracy and lack of exit strategies were amongst major problems faced during the implementation and execution of the projects. Due to the lack of sustainable strategies and continuity, jobs created through the initiatives were neither sustainable nor evident at the end of the programme.

Procurement options were probed with particular attention to community based procurement practices, which were insufficiently documented and often experimental or in transition, and therefore lacked established practice or institutional guidelines.

2.2.1 System of Forward Planning

The South African government has set targets and timeframes for addressing the basic water and sanitation services backlogs, including Free Basic Services (FBS) and bucket eradication programmes. Local government commitment to meeting the targets for the MDG is reflected in their planning and budgeting processes, where the extent to which prioritization and integration of basic water and sanitation service provision may be measured. Integration of poverty alleviation policies into existing municipal processes relies on a combination of:

- Institutional capacity to develop and implement policy, and
- Political commitment to poverty reduction.

Finding out what and how much is working, or not, may not be sufficient to inform planning. We need to answer the question “why” to address “the causes of problems rather than just effects” (Cotton et al., 2000: 42). For example, as settlement planning still lags behind the urban drift of employment seekers, the view that many local residents may be active providers rather than exclusively passive recipients provides grounds for identifying opportunities to procure community level skills and capacities to provide O&M services.

This view may open up avenues for unemployed work-seekers to contribute to the achievements of developmental local governments in line with national imperatives as opposed to being seen as a burden to the state.

The table 2-1 below captures some initial evidence available in local authority documentation in a summary format, to provide an overview of the institutional realities that may reflect issues of knowledge management rather than practice.

While the institutional knowledge contained in case study documents reflected some degrees of commitment to LED, poverty alleviation and basic services provision, there was insufficient evidence in policies, IDPs and WSDPs, budgets and guidelines to be able to assess their level of commitment to basic watsan services provision from municipal documentation. Inconsistencies between the IDP and the WSDP in the total population served and the extent of the backlog were evident at all 4 case study sites. Further analysis of municipal commitment and indicators of performance for implementing cross-cutting policies required additional information to that contained in their current IDPs, WSDPs and available municipal documents.

Table 2-1: Case study profiling of commitment to job creation in services delivery

Case Study	Commitment to job creation	CB services within municipal backlog informal areas
eThekweni	Committed to LED by encouraging local SMMEs to bid for tenders.	SMME contractors using local labour for construction of basic sanitation facilities. Metro also encouraged the use of local suppliers for construction and O&M.
ANDM	ANDM highlighted poverty eradication and provision of infrastructure as one of its priorities. 12 000 jobs created in addressing the sanitation backlog. ANDM set target of creating 5000 new jobs during the period 2007 – 2011. ANDM play an active role in job creation initiatives. 98% of the ES allocation earmarked for job creation initiatives.	"Clean Green" Refuse collection Construction of sanitation infrastructure. Establishment of Zonal Centres. CBOs for O&M of rural basic water services
Stellenbosch	LED policy targeted at creating an enabling environment: provision of infrastructure and engaging other stakeholders in stimulating the economic growth for increased job creation opportunities. Job creation through EPWP.	Refuse collection in informal settlements through the Cleansing Dept. Construction of municipal infrastructure such as storm water drainage, building maintenance, housing and sanitation construction, etc using labour intensive construction methods through the EPWP programme. SMME contractors employ local labour. Such contracts awarded for the maintenance of public ablution facilities in Khayamandi utilize locally employed cleaners from zones where public ablution facilities are located
City of Cape Town	EPWP unit responsible for co-ordinating activities within metro. Municipal service delivery seen as key vehicles for implementing EPWP. Job creation through EPWP Focus on labour intensive methods, use of local SMMEs, etc	Some cleaning and servicing contracts have been outsourced to small scale contractors through the appointment of sub-contracts under existing appointments or appointed directly if quotation is less than R100K

Although a general commitment to job creation was evident, only eThekweni could show substantial evidence of their commitment in practice. eThekweni was also the only case study where exit strategies for community-based employment during facility construction in their O&M models was formalized.

While the EPWP has been readily adopted for creating short term jobs in the construction of infrastructure, longer term income for alleviating the poverty of those people who form part of the backlog was scarce. However, those residents who are able to provide key O&M service requirements, in particular those best performed on a local level, represent a viable and direct local economic investment. The feasibility of obtaining such development investment allocations from LED budgets or specific Public Works programmes for ongoing basic services preventative maintenance appears to be relatively unexplored by local authorities.

The first phase of EPWP achieved its millions works opportunities targets a year ahead of schedules. The second phase which start on April 1st for national depts. And provinces and July 1st for municipalities targets a creation of 2 million jobs in many sectors and contribute to halving unemployment by 2014 through the delivery of public and community services.

As part of antipoverty strategies, the EPWP enable the government to act as an employer. Similarly to EPWP 1, the second phase of the EPWP 2 has primary objectives of creating paid work. The key components of this programme are the targets and accountability across Government, Fiscal incentive, non-state sector and technical support to spheres, sectors and implementing bodies (DPW, 2009).

The EPWP incentive is based on paying all public bodies that create work above a minimum threshold for the EPWP target group an incentive of R50 per day for every day of work created. While indicative performance targets and incentive amounts are set for each eligible public body, they will only be able to claim the incentive upon providing that work has been created. The incentive however is not paid out for work created below the eligible threshold, but is paid for all work created above it.

Conversely to the first phase, EPWP 2 introduces the non-state sector like NGO's, CBO's and other non-profit organization whose activities create jobs for target group. The non-state sector will be managed by the DPW with oversight from other key departments and will be implemented with the assistance of an intermediary. The programme implemented will be area and activity based; activities will be those identified in consultation with local government and communities.

Since employment creation remains the key priority of the government, the EPWP remains the most important vehicle for the government to create employment for target communities.

With regard to this programme, the guidelines intended to assist on the implementation of EPWP and meet the target set. Both EPWP and the guidelines tend to encourage and promote job creation through identification activities that will provide job opportunities. However, the EPWP does not provide a framework from which the job created should be created, implemented and managed.

Therefore, the EPWP programme should draw from the guidelines a sustainable framework focusing on job creation in water and sanitation sectors.

Adopting an integrated approach that links LED and water services provision by using the EPWP, all four case study municipalities have created jobs in the construction of infrastructure. Claasen et al. (2007) note that a main shortfalls of the EPWP is the lack of ...” *an exit strategy for the participants*”, and that progress is measured by job creation opportunities created and not their long term sustainability, earnings or quality of the opportunities created. Only the eThekweni municipality prioritizes “the need to formulate service delivery strategies that will maximize the impact on job creation and poverty alleviation” (eThekweni WSDP, 2007) in their WSDP.

Tender procedures were underway in CoCT at the time of the study for the appointment of new service providers for the O&M of basic water and sanitation infrastructure. The O&M of the container and porta-potties had a specific local labour requirement. In addition, the Water Services Department employed Community Development Workers on 6-month contracts for cleaning, monitoring and evaluation (M&E) and health and hygiene (H&H) awareness at several sites, as well as locally based contractors for the operation and maintenance of the TRA (temporary relocation areas) ablution facilities.

The eThekweni, COCT and Stellenbosch municipalities have implemented community-based approaches to operation and maintenance on ad hoc “pilot” basis. The ANDM implemented a large scale community-based approach for basic water services infrastructure in the rural areas of the ANDM, leaving a legacy of zonal centre that have potential for furthering the objectives of basic services delivery.

The City of Cape Town faces significant challenges posed by deteriorating health, high levels of poverty and water pollution. Although the overall rate of access to basic sanitation is 95%, approximately 44% of informal residents do not have access to basic sanitation (City of Cape Town, 2006). Contamination of storm water, water streams and the marine environment is exacerbated by the emptying of buckets into storm water systems in informal, un-serviced environments. According to their WSDP (2007), the COCT approach is to provide an emergency level of service to all informal settlements.

Although the emergency level of service is free, it is less than basic and relies on an unacceptably high ratio sharing of facilities. At the same time, the WSDP suggests that the basic services backlog could be addressed by:

- extending coverage of the services provided to that of a basic level of service as funds and land become available, and
- providing a full level of service through the provision of formal housing, requiring an amount of R210M per annum for the next 20 years.

However, with the Western Cape’s housing backlog recorded at 410,000 units (backlog 2006) and continuous in-migration as well as growth, alternatives to the traditional provision of serviced sites encourages project level interventions that unlock capacities to the benefit of the urban poor (WC DPLH&H, 2007). New approaches include “redirection of public and private sector economic opportunities”, with reference to priority targets including “By 2010 all households supplied with basic sanitation” (WC DPLH&H, 2007:42).

Forward planning in terms of Equitable Share (ES) allocations of finances and for provision of support for down the line O&M functions was not part of the institutional policy, planning or budget models in the case studies. In addition, as the responsibility for O&M of basic services lacked coherence and was shared across health, water services and social development departments, the existing policy, planning and management arrangements clearly needed much improvement. As most residents of informal settlements do not receive municipal accounts, these are poor

households that do not fall into the category applied for receiving Indigent Policy grants to cover free basic services. In respect of the ES allocation to municipalities, none of their WSDPs give a breakdown of how the ES, if any, is planned to be allocated for the provision of basic watsan services.

An '*opportunity driven approach*' (CU, AGUA and IRC, 2006) may allow for turning specific causes of problems into appropriate community-based procurement opportunities for particular operation and maintenance (O&M) services. Opportunities inside O&M systems for community based procurement can only be identified accurately in context. Targeted investment into priority problems, such as under-employment, require pro-active seeking out and shaping of the real opportunities for both users and local service providers to be engaged appropriately and productively. To this end local authorities will be better informed by focusing on understanding the particular requirements of each specific basic services technology provided to users in context. Supporting sustainable livelihoods and local economic development as an integrated part of basic services provision calls for forward planning and budgeting processes across departments within local authorities.

In order to plan for effective O&M of basic services, findings suggest that the responsible institution should pursue answers to the following questions, preferably in this sequence:

- **Local level:** What is required? Who can best do it?
- **Municipal management level:** What support will enable local level functions? Who oversees and reports to whom? How is this monitored?
- **Institutional decision making level:** Assets and investments in managing these – Who decides? Based on what? Who is or should be involved?

Apart from hidden budgeting processes it is procurement trends that present the greatest obstacle to deploying local level efficiencies in keeping assets in a serviceable condition. As it is financial policy and supply management policy that the municipality does not engage with persons for contracting purposes that are not accredited and registered, the stakeholders have entertained Cooperatives as a possible solution, particularly for the monitoring of O&M tasks at ablution facilities. In concept this model relies on users of the ablution facility, who are supposed to get together to form cooperatives that operate the facilities, which would entail:

- The cooperatives would supply own material including toilet paper (alternatively be supplied by the municipality) and carry out O&M tasks at the facility
- The Environmental Health Practitioner would supervise the work done
- The Municipality would pay the cooperative for the work done

It has been noted that in the context of their policies both eThekweni and ANDM were able to succeed to some extent in implementing large scale community-driven approaches for the construction phases of basic water and sanitation services. Successes that open up opportunities for engaging across departments in this respect include:

- In the case of ANDM, community-managed zonal centre facilitated the construction of latrines with jobs created over a year period. However, no planning for O&M was evident.
- In the case of eThekweni, the EWS together with PSC and local contractors, installed UDS toilets over a year period and integrated “exit strategies” through the continued use of existing structures and people involved in the construction of the facilities, for the operation and maintenance thereof.

Some form of community based operation and maintenance on a smaller, ad hoc pilot project scale has been implemented in the other case study municipalities.

- Stellenbosch subcontracted a local contractor to operate and maintain the ablution facilities. The tender has a specific local labour requirement that requires the rotational employment of local labour within the immediate vicinity of the facility.
- COCT, Water Services Dept., employed Community Development Workers on 6-month contracts for cleaning, M&E and health and hygiene awareness at several sites, as well as appointing locally based contractors for the operation and maintenance of the TRA ablution facilities.

Both Public Works and LED programmes have been repeatedly suggested as potential sources of support for local deployment for O&M as an ongoing livelihoods benefit to residents of the poorest communities. Exit strategies for those local residents who participate in short term projects and training initiatives, arises from the subject in hand: sustainability.

In the case of eThekweni, a caretaker pilot project is making use of locally based caretakers to conduct household level O&M and health and hygiene awareness and M&E activities. They are also piloting a franchise model for the emptying of pits. The Health Department (Environmental Health) has successfully facilitated the deployment of voluntary caretakers for the cleaning of the shared ablution facilities in dense informal settlements.

Building on these substantial experiences, forward planning by the institutions will entail knowledge gathering and collation from across departments and levels of stakeholders and collaboration towards developing improved models for O&M of basic services.

2.2.2 Knowledge of Asset base

The basic services backlog is situated where people are unable pay for neither services nor access development opportunities (Van Ryneveld, Muller & Parnell, 2003). The Chief Directorate Sanitation (DWAF, 2005) reported the basic sanitation backlog as standing at 17.1million people, reduced from 20.4 m people since estimated in 1994. While the eradication of the backlog by 2010 was said to require an increase in investment from the current R600-700million to R2,2 billion per year, strategies for sustainable provision and local authority capacity to implement this effectively are equally important (DWAF, 2005).

In general, as the basic level of water and sanitation services is not linked to service charges for operation and maintenance due to the poverty context of provision, operation and maintenance costs tend to remain hidden. However, as institutional commitment is reflected most concretely in financial allocations, the lack of budgets for O&M reflects a lack of institutional commitment to sustaining services, in particular for those residents who face the greatest health risks.

O&M budgets are closely linked to social capital, which is increased through use and regeneration whereas infrastructure projects aim to indirectly support livelihoods without physical inputs into the production processes (Sohail et al., 2002). Concepts of local “ownership” of assets and civic responsibility for public facilities recurs as both a cause and a potential palliative for the failure of public utilities to deliver and sustain basic services. While ideas such as these cannot be assumed to proffer solutions, both control and a sense of responsibility are undoubtedly entwined in the complex relationship between people, resources and basic services assets (Sohail et al., 2002). Serious consideration of all resources is called for, such as human inputs, as well as the financial means needed to access, manage and maintain functional basic services.

Currently, O&M specific budget allocations are lacking key information about specific requirements of O&M models associated with the particular technologies in all cases. In all case study sites there is an operational budget in which O&M is included. The O&M costs falls under the broad operating budget in all case study sites which means that there is presently no specific budget allocated for O&M of basic water and sanitation infrastructure.

Insufficient detail was available from case study municipalities to compare the operating and capital budgets for the provision of basic watsan services. In each of the case studies, O&M budgets appear to be drawn from general allocations for services and are not ring-fenced. It appears that records of past expenditure or past patterns do not inform annual budgeting, which contributes to the prevailing trend in adopting a reactive rather than preventative approach to sustaining those basic services that are provided.

The lack of budget allocations to support appropriate procedures and the specific activities required is, however, of primary concern to the municipal practitioners participating in this research.

It was found that extensive use of shared units and ablution facilities is a common form of municipal provision to dense informal settlements, where lack of space and inability to pay for individual household services leads to sharing and provision of forms of public facilities.

Drawing from interviews with senior water services officials it became apparent that although shared facilities were clearly a feature in informal settlements, levels of service had not been standardized, in particular in the City of Cape Town. For types of technology provided, the operation and maintenance requirements differ in respect of shared, public or individual use of facilities and yet municipalities make little reference to different requirements for managing such systems.

Both the costs to society and the burden placed on departmental overall budgets warrants financial foresight and forward planning from a central management perspective, rather than continued tolerance of the hidden costs of adopting a “pay-as-you-go” approach to keeping assets serviceable.

According to the Maintenance Officer of eThekweni’s Dept of Health, this is because “... *the municipality is not taking full responsibility of day-to-day O&M, the only budget is the operating budget that covers the purchase of materials, spares and equipment needed for O&M.*” He explained that the budget is voted based on the number of facilities under the municipal management. Although the supply of materials required for care of the facility is undertaken by the municipality, and clear material items list can be readily drawn up into a checklist, the associated requisition system does not reflect sources of finance for O&M costs.

The Equitable Share (ES) was introduced to municipalities to assist them with service delivery to the very poor, and in particular, it was calculated to cover the operating costs of basic services. Residents of informal settlements are poor households that do not fall into the category for receiving Indigent Policy grants against municipal accounts to cover free basic services. While all the municipal case studies do have indigent policies, the extent to which these provide for adequate free basic water and sanitation services to all residents is not reflected in the breakdown of ES allocations to municipalities, or WSDPs. Concerns on the general lack of reporting on the ES grant by the WSAs has been raised, at a high (DWAF, 2007). In the case of eThekweni and COCT, the Water Services Departments were able to state how much ES was allocated for O&M of basic watsan services through subsequent interviews, but they did not know what percentage of the total ES allocation for overall basic services was allocated for the operational costs of these services.

The difficulty of managing unpaid volunteers who are playing an essential role in keeping the municipal asset serviceable was raised by the operational staff in eThekweni. To improve the performance within this model, regardless of the form that organisation of staffing takes, additional HR costs – for local employment or contracting (individuals, SMMEs or cooperatives) – will need to be justified by operational staff and then budgeted for by decision makers.

Recording, collating records and reporting on information related to O&M costs, as well as cost-benefits, is not apparent as a formalized municipal practice. Decision-making would undoubtedly benefit from M&E systems that are designed to ensure a flow of key information on requirements for keeping assets in a serviceable condition from the operational realities upwards. Mechanisms for communicating upwardly, and not only with local levels, are both a gap and a distinct opportunity for ensuring that the interface is provided with sufficient funding.

2.2.3 Appropriate Organisation: complementary roles within institutions

In South African municipal legislation the Municipal Systems Act, Section 41, requires that municipalities take steps to improve performance where targets are not met, while Section 11 obliges municipalities to draft by-laws in a “Municipal Code”, and to monitor “*the impact and effectiveness of its policies, programmes and plans*”. In Chapter 6, municipalities are responsible to

“establish a system of performance management”, which leaves no doubt as to where the buck stops (Atkinson et al., 2003).

A World Bank assessment of institutional involvement for implementation in urban environment and infrastructure projects confirms that local governments play the most significant role across projects (34%). While involved, civil society organizations (20%) and the private sector (17%) participate in operations to a lesser extent (Bigio et al., 2004). However, it is noted that the World Bank definition and assessment of institutional roles remains within these three silos, which tends to close the spaces between, wherein variations of forms of partnerships may lie.

The *“institutional infrastructure”* that lies behind approaches must be able to deal with both the growing backlogs manifest in different municipalities and current threats to sustainability that result from ineffective O&M arrangements. Support and resources for managing and maintaining basic services systems remains an area of uncertainty, and yet this is central to sustaining the provision of services.

While each municipality is responsible for its own employed staff, it is noted that field-based staff involved in operating and maintaining water and sanitation assets report to different departments, such as Water Services, Solid Waste services and Environmental Health. Stronger coordination and integrating strategies for planning O&M, promoting LED and ensuring public health, would benefit from common organizational policy and guidelines for planning and managing implementation.

There is much to learn across case studies and for municipalities in general from experiences of working in partnership with the community served. Developing an Implementation Model requires attention to the stages in the project and being cognizant of the guidance required from support organizations, which will take into account:

- Linking O&M to construction phase, and reflecting on O&M management plan before handover of facility after construction;
- Mechanisms for identifying and procuring service providers need political buy-in;
- Standardizing spares, task rates and payments can improve budgeting and management.

Further afield, the most successful scaled up approach was reported in Mumbai, where the local municipality played an important role in supporting a community base approach. This was achieved by local government implementing flexible and incremental changes to local procurement policies and procedures (Nitti & Sarkar, 2003), as well as facilitating the procurement of service providers. Clear roles and responsibilities were defined in a MOU and municipal responsibility for monitoring was unambiguous.

Locally, the roll out of Urine Diversion Systems, as individual household units in dense “rural” areas on the periphery of Durban’s urban sprawl, integrated the technical and social aspects of project management successfully. eThekweni’s Water Services Division (eWS) consciously minimized the appointment of external consultants and contractors, utilizing three specialist municipal divisions to oversee and provide specific support to implementation, as follows:

- *Construction Branch* - programme manager, appoints local contractors and ensures the use of local labour;
- *Training Division* - support skills development and links the technical and social inputs throughout project phases;
- *Development Support* - oversee social consultants/facilitators and community facilitation through regular reporting of progress.

A Technical Management Committee (TMC) that incorporated community representation, was established to “iron out problems” in implementation that left unattended might have escalated. Definition of the key tasks and functions of this structure covered technical and social aspects of project management and community involvement (Lagardien & Cousins, 2005):

- Provide management support services, for which each TMC member was paid;
- Record and resolve technical and delivery issues, allowing concerns to be voiced;
- Monitor the performance of community based employed/contracted teams.

The working structure adapted to fit with the programme’s specific needs as these emerged. In 2005 the adapting Committee functions were depicted as shown in the rectangular boxes overlaying the model structure’s original organogram (ovals) in the figure below:

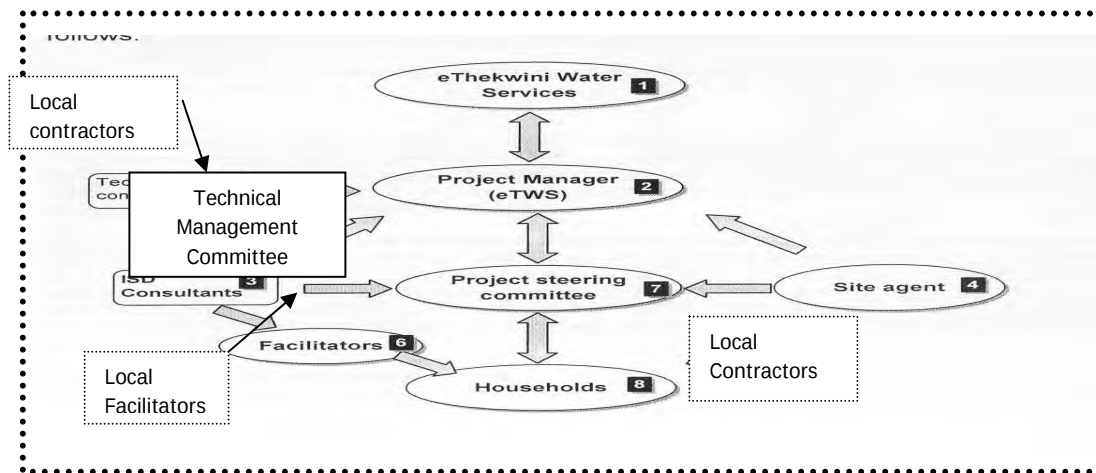


Figure 2-1: eThekweni Water Services (eTWS) – TMC Committee Functions

(source: eTM, 2002)

According to Cotton et al. (2000) the tools for a functioning management system are based on the ability to assess the O&M system that is in place, in respect of:

- Feedback, Forecast and Integration
- Responsibilities within the organisation
- Rules, Procedures and Systems

These are some of the key aspects for setting, planning and coordinating O&M objectives (Cotton et al., 2000) that would be more effective and efficient if applied across departments in general. Professionals are often either ill-informed or limit their scope of interest, for example Engineers may value engineering standards and physical outputs higher than the improved access, and hygiene that Environmental Health practitioners value more.

Integration of efforts across departments and divisions in local government may also enable water and sanitation-related O&M activities to extend beyond the narrow infrastructure and departmental delimitations, to multiple tasks that simultaneously focus on improving public health conditions by incorporating greywater and solid waste disposal systems.

In as much as the perspectives of professionals and municipal officials, engineers and health officials, differ from that of end-users it is imperative to clarify the important role that each stakeholder group has to play. While it is valid to state that, “ through reflecting on experience and learning from its successes and failures, communities can be given the opportunity to succeed where governments have failed” (Sohail et al., 2002), local authorities will remain the central organisation for their constituencies with respect to access to resources, administrative systems and technical skills.

Municipal capacity and ability to support the infrastructure and maintain the technology provided requires clear understanding that technology choices cannot be divorced from the context in which they are intended to operate, nor from arrangements for supporting or managing operation and maintenance. Investing in an asset base intended to reduce the backlog must be based on clarity about the specific requirements to keep the asset serviceable.

While it is apparent that solutions do not lie exclusively in direct intervention by government departments, improved coherence across departments that share municipal responsibility for basic services is needed to improve policy, planning, budgeting and management arrangements.

The degree of collaboration between different departments reflects the scope for inter-dependant decision-making and provision for support roles within the case study municipalities. Interaction between different departments was taken into account in identifying collaboration across municipal departments and/or divisions, and the extent to which they are complementary. eThekweni again stands out as best practice in inter-departmental collaboration to work towards optimal O&M arrangements.

Collaboration works towards optimizing different inputs into O&M arrangements in eThekweni as the roles of officials involved from different municipal departments are informed by specific O&M and M&E tasks and targeted procurement to a greater extent than in the other cases. Interaction between divisions and departments is in response to O&M specific needs, and takes the support required for local level deployment and contractors into account, involving:

- Health department: EHPs, Pollution Control and Maintenance Officer
- Community Education & Councillor Liaison division (Water Services)
- Water Services: Project Manager

Table 2-2: Organisation for oversight in eThekweni

Supervision Public (ablution facilities)	Supervision – Household (VIP/UDS)
Health Dept - Environmental health EHP – oversees vetting of volunteer caretaker	Water Services – (training division) Education and community liaison officer
Health Dept - Pollution control Maintenance Officer Volunteer are answerable – thus standards Checklists difficult to implement	Safety Health Environment (SHE) Water Services maintenance Contractor and Foreman of contractor

In addition, all of the officials involved appear to be adequately supported by their departmental line management to undertake tasks and face the challenges that arise in carrying out their designated responsibilities.

The discussion of institutional arrangements for support policies, strategies and planning, including budgets allocated for O&M, is based on evidence obtained from the four case studies. Having developed an incomplete picture of institutional management of O&M, essential information for asset management is still required for decision making levels to be able to make appropriate decisions. This was an important conclusion reached by the first joint stakeholder workshop. Subsequent interviews with municipal officials and line managers were linked to the convening of a second joint stakeholder workshop to prompt further insight and inputs for the institutions to consider.

2.3 Operation & Maintenance Models

Understanding O&M implementation models in context firstly dwells on identifying the specific requirements to keep the asset in a serviceable condition. In each case the key to understanding O&M models is through interrogating the extent to which:

- Key O&M tasks associated with a particular technology have been identified
- Specific tasks and related requirements are targeted for community based procurement.
- Roles and responsibilities associated with each O&M task are distinct.

Each basic water and sanitation technology has inherent technical characteristics that define many associated O&M tasks for ensuring that services are adequately maintained on the ground. However, the socio-economic context of provision, including details such as the ratio of persons using each facility, equally impacts on requirements to maintain the condition and functionality of facilities.

The two key variables that shape specific requirements is whether a facility is public and shared by groups or exclusively for individual household use. Requirements, that influence both specific tasks and the most appropriate assignment of responsibility for sets of tasks, are best understood as either:

- Shared, public facilities, or
- Individual household units.

Understanding that effective O&M activities are those which keep facilities in a serviceable condition, unbundling all the O&M tasks that *prevent breakdown* is a valid focus. Reactive tasks, such as ad hoc responses to frequent breakdowns and blockages will be noted in current practices, but it is important to recognize where these constitute failures in a system intended to prevent such mishaps.

When divided into different *kinds of tasks* that must be carried out, many of the key preventative O&M details tend to become more visible and tangible. All O&M tasks may fall into one of three (3) clusters or categories of kinds of task, namely:

- **Care of the facility or Preventative maintenance**
- **Reactive maintenance on the Collection, Disposal, or Drainage** (in the case of wastewater) systems or infrastructures

Depending on the technology, **Collection and Disposal** may converge and seem as **Reactive maintenance**. In the case of communal water supply, the accompanying wastewater outputs require O&M inputs that will not only reduce leakages but also ensure that adequate drainage is maintained.

Rather than relying on a definitive technical list from an exclusively municipal perspective, creating space for “hidden” tasks includes local level inputs that specify the impact of gaps in O&M systems. Initial lists of unbundled tasks were discussed and qualified in detail by focus groups of users, contractors and municipal officials involved directly with O&M in each specific case study site.

Responsibility for specific tasks was assigned to the most appropriate level of role-player in the view of focus groups. Different perspectives are loosely labeled as *social* and *technical* for the purpose of analysis, inasmuch as the local level focus group included users, while service providers and the municipality’s knowledge base was expressed and seen as technical. Incorporating differences in technical and social perspectives enriches the unbundling of tasks.

While ensuring that no key tasks are excluded, the stakeholder workshops also opened up lines of communication between the levels of key role-players, immediately enabling the sharing of insights and knowledge across levels. The assignment of joint responsibility for between 3 and 5 key tasks raised the importance and relevance of the interface between levels of stakeholders.

As an entry point for presenting detailed Operation and Maintenance (O&M) data, Table 5 gives an overview of approaches and particular technologies that four case study municipalities decided on for providing Basic Levels of Service to address their basic water and sanitation backlogs.

eThekwini was able to describe their O&M models in terms of a caretaker pilot project, a pilot franchise model for the emptying of pits and the deployment of voluntary caretakers for the cleaning of the shared ablution facilities in the dense informal settlements. Community-based procurement is experimental in status.

The ANDM have employed community-based operators for the day-to-day operations on the rural schemes. Specialist electro-mechanical sub-contractors are appointed as and when necessary. The other case study municipalities report on forms of community based operation and maintenance on a smaller, ad hoc pilot project scale. Stellenbosch has subcontracted local contractors to operate and maintain the ablution facilities where the tender has a specific local labour requirement, requiring rotational employment of local labour within the immediate vicinity of the facility.

Responses to malfunctions that are systematically reported as a planned O&M function of routine inspection are an essential part of operating and maintaining systems. However, although anticipated, ad hoc repair in response to emergency reports of malfunction must be recognized as a result of *inadequate O&M* rather than defaulting to a part of preventative maintenance.

Table 2-3: Basic levels of service across case study sites

	eThekwini	Stellenbosch	ANDM	City of Cape Town
Basic Sanitation Service as defined in WSDP *confirmed on site	1. Urine Diversion System per h/h 2. VIP per h/h <i>Urban periphery</i> 3. Ablution Facilities <i>Dense informal settlements within bulk services fringe</i>	1. Ablution facilities <i>" safe, reliable, environmentally sound, easy to keep clean, provides privacy and protection against the weather, well ventilated"</i> * Rows of shared toilets are also evident in dense informal settlements	VIP to individual households <i>Rural</i>	1. Shared : Containers, Flush/Pour flush <i>"Appropriate and clean technology choice shared by not more than 5 households per toilet"</i> 2. Ablution Facilities <i>Dense informal settlements within bulk services fringe</i>
Basic Water service as defined in WSDP *confirmed on site	1. 200l ground tank fed by EBU <i>Urban periphery</i> 2. Shared tap at ablution blocks within 200m of h/h <i>Dense informal settlements within bulk services fringe</i> 3. Shared standpipe within 200m of h/h	<i>"A minimum quantity of potable water of 25l/p/d at a minimum flow rate of not less than 10l/min; within 200m of a household; and with an effectiveness on not more than 7 days interruption supply to any consumer per year"</i> * This service is usually provided through communal taps (standpipes) and at Ablution facilities	Shared standpipe within 200m of any household	<i>"Shared standpipes by not more than 25 households not further than 200m from any household"</i>

Different degrees of technical skill are required for crises and for preventative repairs, minor and major works and on site restoration of infrastructure. As O&M tasks span across ongoing preventative maintenance, including access and security of shared facilities and units, routine inspections and reporting will cover both technical and functional aspects, such as cleanliness related to daily use.

eThekwini and ANDM have provided an individual household level of basic sanitation service to formal rural sites. eThekwini, Stellenbosch and the City of Cape Town municipalities have also made use of Ablution facilities due to space constraints in dense informal settlements. Cape Town still provides “emergency” levels of service, where the ratio of 5 h/h sharing one container or flush toilet is often exceeded.

Except where eThekwini provides a 200 litre ground tank (which has been upgraded to 300l) along with the Urine Diversion system, basic water supply is provided by communal standpipes in all cases, with alternative communal water supply (for domestic use, including laundry) at Ablution Facilities.

Before presenting further details, current O&M arrangements are profiled below:

a) The City of Cape Town

Along with communal standpipes, shared use of container and flush units are provided in rows or spread across sites.

- Containers include:
 - 100l plastic units – approx. 7,000 units
 - Chemical toilets – approx. 1,800 units
 - 550 “Porta-potties” units distributed to households, rely on collection and transport by vehicle for disposal in the WW Treatment works.
- Ablution Facilities – Apart from 47 ablution blocks, rows of Full-flush or Pour-flush toilets that are shared by user-groups, require unblocking and repairs to keep facilities functioning.

b) Stellenbosch Municipality

Ablution Facilities 27 blocks consist of flush toilets with laundry facilities and sometimes showers.¹⁵ Cleaners assist with cleaning. More rudimentary rows of toilets, locked and self-maintained by user-groups, with a standpipe nearby, are not counted in this number. Key O&M tasks include drainage and disposal of wastewater generated. Due to the common use of newspaper instead of toilet paper, blockages are common, resulting in a municipal crisis maintenance norm for enabling the continued use of facilities.

c) eThekweni Municipality

- VIP and UDS sanitation technologies. There are about 60,000 of each of these two types of individual units, both dry systems that require emptying, but are otherwise in the care of the household at their own cost. Cleaning in and outside the facility is the responsibility of users, while the municipality checks structures and undertakes major O&M works involving emptying the pit content, cleaning, disinfecting and disposing of the pit contents.
- Ablution Facilities. Approximately 105 facilities are managed by the Health Department (Environmental Health) which, in partnership with community structures, deploys local voluntary Caretakers, who endeavour to obtain some payment from users of the facility.

d) Alfred Nzo District Municipality

VIP systems: About 30,000 VIP systems that households are responsible for. No O&M system and dealing with full pits has yet been put in place. Basic water supply is by communal standpipes.

In the case of Shared and Ablution facilities, constant breakdowns and pipe blockages have become a norm, largely due to inappropriate cleaning materials (lack of toilet paper). In the case of individual units, forward planning of O&M to include dealing with full pits or vaults may have influenced specifications for construction of facilities that enabled more efficient collection and disposal.

Differentiating between preventative and reactive maintenance is important to understand specific tasks in terms of efficiencies or deficiencies in existing O&M systems. Rather than speculating on general causes of malfunction beyond one's control, pro-active improvement of efficiencies would, for example, reduce complaints. With accompanying burdens on human and municipal resources thus reduced, the potential for releasing resources into improving preventative O&M may expand to pro-active investment in local development opportunities.

2.3.1 Requirements for keeping assets in a serviceable condition

The unbundling of detailed tasks and then clustering these into categories of O&M task, better informs comprehensive planning of an effective O&M system for sustaining services. Planning will take into consideration that essential tasks must be carried out on different levels, encompassing local and institutional levels.

Each technology in context will require human resources and budgets for materials and equipment that is necessary for carrying out each task efficiently and effectively. During implementation, consistent record keeping of patterns and expenditures are important for informing plans and budgets that can adequately support preventative maintenance. It may be deduced that the responsibility for local, intermediary and institutional inputs to cover all essential tasks adequately, will be specified in an O&M model.

The extent to which all the key O&M tasks that are essential to maintaining the functionality of facilities have been identified is well reflected in categories or clusters of tasks, and organised as those which relate to:

- Care of the facility or preventative maintenance
- Reactive maintenance

O&M tasks will be more or less effective in respect of daily use and the ongoing maintenance of the functionality of facilities and systems². The aspect of access and security is paramount to due care of shared facilities and units, and yet appears to be given scant attention. *Care of the Facility* as preventative maintenance includes inspection and reporting on improper use as well as technical malfunctions.

In this research O&M tasks were found to be remarkably similar for all technologies, but most often not adequately covered in respect of Preventative maintenance. However, checklists for ongoing activities may differ substantially when shifted from current trends of reactive crisis management to foresight in respect of effective preventative maintenance. Seen through the lens of the conceptual framework it was agreed by all stakeholders that Preventative maintenance includes cleaning and disinfecting, minor repairs and replacement of defective parts, and ensuring access and security for both users and service providers. As appropriate levels of responsibility for sets of tasks hones in on local use and daily functioning it becomes clear that these are all essential to maintaining the services and the condition of the asset.

Given that Ablution facilities are a key feature in dense urban backlog areas and the technology covers access to both a shared water supply and waterborne sanitation, the table below is shown to demonstrate how the framework may shed light on the requirements to keep the asset in a serviceable condition across sites. The Ablution Facility services typically consist of flush toilets, washing posts and possibly showers, and usually also serve as a water supply point. Therefore the O&M tasks involved include maintaining adequate drainage for wastewater disposal.

While each technology has inherent technical characteristics that define the O&M tasks, the context of provision and the ratio of persons using each facility influences the sets of tasks required to operate and maintain them. Therefore understanding that the use of the technology as an individual (household responsibility), or shared (public responsibility) is equally important to understanding appropriate responsibility for tasks required for effective O&M.

Water supply O&M will also differ in respect of individual h/h or shared facilities. Basic water supply is by communal standpipes in all cases, except where eThekweni provides a 200litre yard tank along with the Urine Diversion system. The allocation of responsibility for maintenance to households wherever possible, is one indicator of recognition that the lowest level of input is the most cost-effective.

Unbundling specific O&M tasks at a local level in each of the sites ensured that both user and service provider perceptions of the activities necessary for effective O&M, and of who is best

² In 1983 WHO introduced the measures of USE and FUNCTION in assessing sustainability (Shordt, 2000)

assigned responsibility for each task, expanded the range of key tasks most appropriate for carrying out on-site, on a local level. One example of unbundling of tasks and responsibilities, in eThekweni's Ablution facilities, is shown in the table 2-4 below.

At this stage of research the following key issues are highlighted below, as validated data across case studies:

a) *Maintenance as preventative routines is different from Reactive crisis management systems*

The response to those malfunctions that are systematically reported as a planned O&M function of routine inspection and reporting are an essential part of operating and maintaining systems. Although it may be expected, ad hoc repair that is dependent on emergency reports of malfunction is a result of inadequate O&M rather than forming part of preventative maintenance. Crisis maintenance should be viewed as an oxymoron.

Table 2-4: Tasks and Responsibilities at ablution facilities (from 3 case study sites)

O&M	Unbundled Tasks	Responsibility
Care of the facility	Access and security (opening & closing time)	Community
	Liaise with community & Identify need for sanitation Education (use of facilities) Inspection of ablution facilities Drop off materials (disinfectant) Collect complaints/requisitions Report blockages, full toilets	Environmental Health department (EHP)
	Cleaning inside/outside facility Cleaning toilets bowls, hand wash basin and urinal Cleaning, sweeping, disinfecting Inspect and report broken, blocked toilets or burst pipes	Cleaner/caretaker TRA vendor or Community worker
	Cleaning outside the facility (pick up rubbish & cut grass),	Municipal Solid waste or cleaners
	Replacing toilets and spares	Plumbers (contract) or Municipal
	Collection and Disposal	Blockage team (S) Reticulation Services (C)
Disposal	Off-site: all wastewater collected is discharged to the WWTW and solid waste to the landfill site	Wastewater Services

A routine that informs improved preventative maintenance may be ultimately assigned to monitoring and reporting, and includes monitoring of responses as part of an M&E system, whether it is currently in place or not .

b) Local level O&M and M&E tasks are essential to effective O&M

O&M tasks will be more or less effective in respect of daily use, as this is a key factor in the ongoing maintenance of facilities and the functionality of the whole system.

Some tasks that fall into the category of Care of the Facility include the inspection of facilities to report on technical malfunction and extend to minor repairs. Others may be clustered with a monitoring and evaluation (M&E) function that covers proper use along with caretaking, rather than being assigned to a technical aspect of O&M.

c) Responsibility for inspection and repairs requires different degrees of technical skill in different technologies

Dry systems that require routine inspection, emptying and attending to repairs on site is a relatively infrequent and simplified maintenance function, occasionally requiring some technical oversight for ad hoc infrastructure defect repair. Households and local semi-skilled service provision can meet the routine requirements with less oversight. The waterborne system requires more complex technical skills related to the reticulation system and frequent unblocking and repair inputs, with relatively higher technical skill required for a routine oversight function.

The eThekweni focus group workshop outputs, illustrated in Table 9 below, shows the level of responsibility for each task, as municipal or community levels, which the stakeholders put forward alongside the required frequency for each task.

An analysis of differences in the assignment of responsibility by the two different stakeholder groups is shown in the tables below. It may be seen in the table comparing perspectives of Stellenbosch stakeholders that a greater number of key O&M tasks was assigned to community level by the social group.

The technical group assigned 12 tasks to the municipality as opposed to the social group's 2, which illustrates the relatively limited number of community based opportunities for improving O&M perceived by the municipality.

Table 2-5: Responsibility for specific tasks (case study: eThekweni ablution facility)

Unbundled O&M Task	Assigned Responsibility
<i>Liaison with the community</i>	<i>M</i>
Identification of need for sanitation	C&M
<i>Collection of complaints</i>	<i>M</i>
<i>Unblocking, open channel, toilets, drains and gullies</i>	<i>M</i>
Inspection of broken, blocked toilets or burst pipes	C&M
Cleaning outside the facility (picking rubbish and cutting grass)	C
Fixing major leaks, pipes and blockages	M
Education (Use of facilities)	C&M
<i>Replacing toilets and spares</i>	<i>M</i>
<i>Fix major blockages</i>	<i>M</i>
<i>Drop off materials (disinfectants)</i>	<i>M</i>
Cleaning inside facility	C
<i>Unblocking outside the toilet</i>	<i>M</i>
Reporting blockages/full toilets	C
Cleaning toilet bowls and urinal	C
Checking tidiness of toilets	C

Key: C - Community; M – Municipality, C&M - Community and Municipality;

There was agreement from both the technical (public service providers) and the social (users) perspectives on just over one third of all twenty of the unbundled O&M tasks. The total number of tasks assigned by the two different groups differed as follows:

Table 2-6: Task assignment according to stakeholder group (case study: Stellenbosch)

Responsibility	Social (end-users)	Technical (public service providers)
Municipality (M):	5	12
Community (C):	9	2
Joint responsibility (M&C):	4	5

Key: C - Community; M – Municipality, C&M - Community and Municipality;

It may be drawn from the O&M Tasks and their assignment as produced by the focus groups of the Stellenbosch case study stakeholder workshop (see Appendix C for detailed evidence) that there was most agreement across perspectives on tasks that require joint and complementary responsibility.

On assigning *Education (on use of facilities)*, it was seen as a joint responsibility by the social group, as “the end-users are in the best position to interact and relate to one another”, and the “municipality facilitates the capacity to educate and funds the education process”. The technical group’s rationale for municipal education was “skilled personnel and a budget”.

Community Liaison was viewed as representative and assigned to councillors by the technical group, while the social group pointed out that standard feedback/ liaison is not taken up and needs still to be built. Compared to the unbundled tasks in *Care of Ablution Facilities* in eThekweni, *Security* was neither a task nor an issue since users have apparently shown “a sense of ownership” of the facilities; resulting on few cases of vandalism reported. It was stated that eThekweni provides a “proper public facility”. Conversely, in Stellenbosch there is an issue since users have apparently shown “a sense of ownership” of the facilities; resulting on few cases of vandalism reported. It was stated that eThekweni provides a “proper public facility”. Conversely, in Stellenbosch there is an expectation of local “ownership” simply by virtue of use, offered as an explanation for a missing factor and a key cause of ineffective O&M of public facilities, where *security* was a significant task.

Three further divergences in evidence of perceptions were:

- *Issuing of toilet paper and emptying bins* is placed close to *cleanliness* tasks by the social group whereas *provision of toilet paper* is listed last by the technical group.
- While *Monitoring* and *Evaluation* were tasks assigned to the Municipality by the social group neither of these tasks were included in the technical group’s listed tasks.
- *Security* as a Community-based task was identified only by the social group, which suggested that this should be a 24hr task to ensure access, and that lighting is provided.

As a result of focus group deliberation the frequency with which each task should be carried out, to keep the asset in a serviceable condition, served as a further descriptor that lends dimension to the scale and scope of each unbundled task. These aspects of O&M systems are discussed further, based on the emergent data on other requirements. Appendices C provide the detailed evidence from all sites.

Table 2-7: Unbundled Tasks and Responsibility (Case study: Stellenbosch Municipality)

Social group (end users)		Technical group (Municipality)	
Who	Task	Who	Task
C&M	Education (use of facilities)	M	Liaison with community
C	Liaison with community	M	Education (use of facilities)
C	Inspection of broken, blocked toilets, burst pipes	M	Drop off of materials (disinfectants)
C	Liaison with community	M	Education (use of facilities)
C&M	Identification of need for sanitation	M&C	Cleaning toilet bowls, hand wash basin and urinal
C	Reporting blockages/full toilets	C	Cleaning inside facility
M	Collection of complaints/requisitions	M&C	Cleaning outside facility (picking up rubbish & cutting grass)
C	Unblocking pipes outside facility	M&C	Checking tidiness of toilets
C	Cleaning outside facility (picking up rubbish & cutting grass)	C	Reporting blockages/full toilets
C	Cleaning toilet bowls, hand wash basin, urinal	M	Collection of complaints/requisitions
M	Fixing major leaks, pipes and blockages	M	Inspection of broken, blocked toilets, burst pipes
C	Cleaning inside facility	M	Unblocking open channel, toilets, drains and gullies
C	Issuing toilet paper and emptying receptacle/bin	M	Replacing toilets and spares
C&M	Checking tidiness of toilets	M	Fixing major leaks, pipes and blockages
M	Drop off of materials (disinfectants)	M	Fixing major blockages
M	Collection of bins etc	M&C	Identification of need for sanitation
M	Replacing toilets and spares	M	Painting and upgrading
C&M	Unblocking open channel, toilets, drains, gullies	M	Unblocking pipes outside facility
M	Monitoring	M	Provision of more toilets
M	Evaluation	M&C	Provision of toilet papers
C	Security		

2.3.2 Local opportunities for targeted CB procurement

Community based contractors and sub-contractors, and the use of local labour wherever possible, is emerging as a pragmatic solution to the need for both low cost and effective maintenance strategies. It is in this respect that local, community based procurement emerges most powerfully as a cost effective strategy that simultaneously.

Further afield, there is no shortage of evidence that skilled people within communities of users are able to undertake both minor and elaborate repairs, and that unskilled and very simple routine tasks are effectively employed, creating opportunities for direct support for livelihoods in the context of urban poverty (Sohail et al., 2002).

While centralized in-house responsibilities may be retained, many associated operation and maintenance tasks and activities down the line may be improved through decentralizing key functions. This approach will free up municipal staff from avoidable sets of tasks that are

appropriate to the technology, while opening up opportunities for local employment to fulfill important on-site functions that require a local presence.

It is of note that Care of the facility or preventative maintenance is the most localized and on-site set of tasks for appropriate community-based procurement. Households and local semi-skilled service providers may meet more of this category of requirements with less oversight, provided that efficient communication and support links are in place.

Collection involves removing waste and Disposal involves transport and discharge of waste, which are generally more suited to off-site service provision in the sense that resources, equipment and the scope of operations lends itself to economies of scale that lie beyond the capacities of the poorest, under-served population. It becomes Reactive maintenance when problems occur at the collection infrastructures or the facilities.

By way of example the O&M model for ablution facilities that eThekweni has adopted is sketched out below in table 6. Viewed in terms of unbundled and clustered tasks, assigned responsibilities for specific tasks and associated aspects of management and support, key tasks and how they function, local opportunities within the O&M system become more visible and tangible.

Table 2-8: Example of CB Opportunities identified in the O&M of ablution facilities

Unbundled O&M Tasks	WHAT?	WHO?	HOW?
CARE of Facility	Caretaker approach. Educate: Dos/Don'ts and responsibility. Preventative maintenance	Facilitators pair with Caretakers to assist maintenance – especially in respect of use	Environmental health dept supports Local caretakers (volunteers)
	Provide materials	Municipality through Local Supplier - Fixed prices	Monitor, Support and Train
	Monitoring and Reporting	Partnership – volunteers and EHPs	Management Plan from community with feedback from Environ. Health
	Budget according to costing	Municipality inspects, signs off	Inspection – monitor performance
COLLECTION & DISPOSAL	Access to facility, buy in from community	Apply protocol	Standardised fees
	Budget. Crisis responses to blockages/repairs	Municipality	Technical design for O&M
	Locked out periods	Users	Specs to accommodate emptying (night soil)

The extent to which potential opportunities for community-based procurement in O&M are currently targeted by municipalities was validated in a joint stakeholder validation workshop. This has subsequently been further explored in case study specific workshops with a broader range of stakeholders who are actively involved in O&M at different levels.

Appropriate assignment of the different sets of local level tasks, put together in clusters and frequency, gravitates towards a Community-Based role. Sorted according to their required frequency while assignment of responsibility is retained, both community and municipal roles are logically clustered and clarified in remarkable detail, as shown in table 2-9 below.

The frequency axis shows that with a caretaker conducting daily and weekly tasks the municipal burden is minimised. The outcome of analysis by triangulating three sets of information from the mixed levels of stakeholder focus groups in the eThekweni case study of Ablution Facilities is shown in detail in the Matrix above.

The Caretaker role was identified as an opportunity for targeted community-based procurement. Additional tasks and the frequency of tasks make up at least a daily 8hr function that justifies local employment and contracting, given the added cost-benefit to O&M arrangements. It was agreed that this would improve on the shortcomings of the volunteer system used by eThekweni in deploying community members without adequate agreements in regard to performance.

Access to users varies in two sections of eThekweni. In some areas the Ablution Facilities are accessible during the day, until the early hours of the evening. In other sections, there is access for 24hours although the caretaker (with keys and toilet paper) does not stay at the facility. A caretaker may be requested by users at any time after hours to provide access and toilet paper. This is not seen as an inconvenience as it is agreed upon by the community as a whole during community meetings. In both scenarios, provision is made in the mornings for disposing night soil in the facilities. There are enough toilet facilities available to allow dedicating one toilet to the disposal of night soil during the morning.

In both Stellenbosch and the City of Cape Town's Ablution and shared facilities the burden on municipal staff is greater and vandalism is a major problem. Another common issue in these two case studies is that inadequate access to public and shared facilities is an issue that impacts considerably on effective O&M. These inadequacies give rise to more input requirements, even on a local level.

Opportunities for local level suppliers were mentioned in passing but not self-evident in O&M data, as it is in the phase of constructing infrastructure. The outcome of discussions, both in terms of opportunities and gaps to be addressed in respect of improvements on current approaches are discussed further below.

Table 2-9: CB Opportunities identified at ablution facilities (Stellenbosch Municipality)

Opportunities	Tasks	Considerations
Attendant	- Cleaning inside and outside the facility - Minor repairs and leakages - Reporting major repairs - Providing toilet paper to users	2 people required for adequate Care of each facility to enable: Access 24 hours as proposed
Educator	- Educator - Liaising with the community	Number of people for this task depends on: Size of the area Number of people that can be trained to educate other users by the municipality Training materials that are provided by the municipality
Security	Ensuring that facilities are secure during the hours that they are closed	Depends the length of time that facilities will be open

2.3.3 Responsibility for procurement and oversight

Clustering of specific tasks and their frequency, together with the rationale behind appropriate assigning of responsibility, has outlined the scope of those functions best targeted for community-based procurement. While the focus was on getting inputs from a local level, the question that followed was around the selection and procurement processes from a local perspective.

Responsibility for the suite of tasks necessary to keeping assets serviceable, particularly on a local level, must be clearly assigned or delegated and performance managed in order to fulfil requirements.

Responsibility for inspection and responsive preventative repairs require differing degrees of technical skill. Overburdening of in-house maintenance staff who are retained for higher levels of technical skill than are needed for preventing constant blockages, providing security and daily care of the facility, increases costs without providing efficiencies. Whereas, dry systems require routine inspection, whereas emptying and attending to repairs on site is relatively infrequent and simplified, requiring some technical oversight for restoring the infrastructure.

In forming public service partnerships, local government has the advantage of being able to consult directly with project beneficiaries as well as collaborate with civil society, which is valuable for providing basic environmental infrastructure and services, especially at a neighbourhood level (Bigio et al, 2004:41). On the other hand, civil society has a monitoring role in providing information on the social impacts of development projects or the maintenance of infrastructure and services. While civil society inputs into project design is especially important, this role should not confuse or obscure areas of opportunity for direct livelihoods benefits.

Across South Africa contracts and payment on performance arrangements are currently being tried and tested by local governments. Case study findings that were validated in a joint stakeholder validation workshop have subsequently been further explored in case study specific workshops with a broader range of stakeholders who are actively involved in O&M at different levels. Some snapshots are provided below:

The VIP and UD sanitation technologies are provided to rural areas in the eThekweni and ANDM. The O&M works involves emptying the pit content, cleaning, disinfecting and disposing of the pit contents. In general the care of the facility which consists of cleaning in and outside the facility is the household responsibility of the user, the municipal technician is tasked to check the structure while the municipality undertakes major O&M works such as pit emptying. In ANDM, the project still at a pilot stage and currently the municipality still planning on how and whom will be undertaking O&M works in the near future.

In eThekweni, a consultant was appointed to evaluate the state of VIP structures and suggest an emptying technology. Afterward, a (joint venture) managing contractor was appointed through a tender process to undertake the O&M works by appointing sub-contractors. In turn the sub-contractor appoints only CB labour through the community development committee (CDC). The subcontractor undertaken O&M works described in the table as well as the repair of defective structural components. The current O&M budget for O&M is estimated to R12 Million over 5 years cycle for emptying of 60 000 formal VIP.

The emptying of UD is done by a CB contractor who was selected following the same procedures indicated above. The starter kit (consisting of materials and equipment) is supplied by the municipality once off at no cost; afterward the contractor has to buy all supplies at preferential price from the municipality. All O&M works undertaken by the contractor are paid by the householder (at fixed price of R100 as indicated in the MOU) and R60 is paid by the municipality (in case of disabled and elder persons). Since the emptying of UD is paid by the household, the operating budget covers the cost of materials and spares provided to the contractor.

In both technologies (VIP and UD), the procurement process is organised in terms of reporting system and promoting CB labour. However, the VIP system still not promote CB contractor to a high level of exposure. In the UD system as described above, the municipality promote CB contractor by providing tools and equipment and necessary support. However, this process does not provide as much jobs as it should due to the fact that the empty of toilets is sporadic.

In the cases of Ablution facilities, depending on the organisation, O&M tasks may be undertaken by contractors (may be Community Based TRA vendor or an off-site other), contracted community workers (CW) and/or municipal cleaners. Both contractors and CW are contracted through municipal processes for a determined period of time.

The eThekweni case study differs from the Western Cape municipalities in the study. In Stellenbosch and the City of Cape Town, variations are that:

- TRA vendors are contracted by the municipality under specific TOR contract. The call for tender concerns only locally based emerging SMME; the special terms of the contract request the appointment of local labour only.
- TRA vendors and the CW are responsible of O&M works inside the facility while in other municipalities the caretaker is responsible of cleaning in and outside the facility.

- Cleaning outside is often done by the Solid Waste Services and municipal cleaners in some cases.
- Major O&M works are done by the municipal blockage team or contracted plumbers. Collection and disposal remain entirely under the municipal Reticulation Services.

Effective reporting on the care of the facility as a preventative measure, rather than as a response to breakdown, emerges as a clear opportunity for productively expanding on the procurement of community based services. Such improved service will be related to local level tasks that may be productively linked to daily operations, access, cleanliness and proper use, customer relations and possibly extended to minor repairs. The range of local level tasks will inform the kind of management support needed to ensure that they are do-able, and suggest appropriate procurement arrangements. These are further explored in chapter 3.

Table 2-10: Tasks, Responsibilities and Procurements- Ablution facilities (3 case studies sites)

O&M	Unbundled tasks	Responsibility	Procurement
	Access (opening & closing time and security)	Community	Volunteers (E)
	Liaise with community Identify need for sanitation Education (use of facilities) Inspection of ablution facilities Drop off materials (disinfectant) Collect complaints/requisitions Report blockages, full toilet	EHP (Environmental health dept) (C&S) Maintenance Officer (C)	Appointed by the municipality under normal HR procedures (E)
	Cleaning outside the facility (pick up rubbish & cut grass)	Municipal solid waste or cleaners (S&C)	Appointed by municipality under normal HR procedures (S&C)
	Cleaning inside/outside facility Cleaning toilets bowl, hand wash basin and urinal Cleaning, sweeping, disinfecting Inspect and report broken, blocked toilets or burst pipes	Cleaner/caretaker (C) Cleaner (S) TRA vendor (C) Community worker (C)	Volunteer (E) Special tender process (S) Contracted by the municipality through Community Forum on 6 month basis (C & S)
	Replacing toilets and spares	Plumbers (contract) or municipal	Tender process Appointed by the municipality under normal HR procedures (S)
Collection & Disposal	Reticulation system: Unblocking open channel, toilets, drain and gullies; Fixing major leaks, pipes & blockages; Fixing major blockages Unblocking pipes outside the facility	Blockage team (C) Reticulation services (C) Water Services (E)	Appointed by the municipality under normal HR procedures (S)
	Off-site: all wastewater collected is discharged to the WWTW and solid waste to the landfill site	Wastewater Services	Municipal Services (staff appointed under normal HR procedures)

Key (E): eThekweni; (S): Stellenbosch, (C): City of Cape Town

Apart from the likelihood that compared with preventative maintenance there is an increased cost in crisis management, with reactive major repairs and continuous unblocking of sewerage pipes, the indirect social, health and economic costs of a hazardous public health environment provides further justification for targeted CB procurement. The table 2-10 above outlines the initial picture of current arrangements.

Local semi-skilled service providers may meet more of the requirements, particularly in the cases of shared facilities, than the municipalities and off-site contractors are able to provide. A guideline will thus encompass the provision of appropriate support to enable community based procurement as a cost-effective investment in keeping municipal assets in a serviceable condition on the ground.

Based on the identified O&M task requirements for a particular technology in context, selection criteria for community based procurement for these responsibilities were suggested by the focus groups, and gaps and issues arising around their appointment were indicated.

In the table 2-11 below, selection and appointment for two different technologies in the case of eThekweni are shown. In the first table, *Identifying need* and *Educating users* was assigned to the municipality based on their technical knowledge and information and budgets rather than social aspects of these tasks. The importance of user households obtaining the correct information and the need for oversight by the municipality was emphasized in focus group discussions.

Table 2-11: CB Opportunities and Selection criteria - Ablution facility (eThekweni)

Unbundled Tasks: Responsibility and Role	Selection Criteria	Appointment
<u>CARE: Caretaker</u> Cleaning (in/outside) Checking tidiness Reporting blockages <u>Added:</u> Access to facility Fix minor leaks Replacing toilet paper	Community meeting selects volunteers <u>Criteria:</u> Interest in watsan Responsible Age (+25) Basic numeracy Basic literacy. <i>Needs procurement</i>	Volunteers to collect payment from users. <i>(Unsatisfactory=GAP).</i> <i>Registration for appointment by municipality - Cooperative suggested.</i>
<u>Shared</u> <i>Toilet paper to users</i> <i>Monitoring more frequently</i> <i>Inspection</i>	GAP <i>Shared tasks need accurate recording and reporting skills</i>	GAP <i>No budget for function or materials needed</i>
<u>Municipality</u> Identify need Educating users <u>COLLECTION & DISPOSAL:</u> Inspection (technical) Minor/Major repairs Supply spares	Contractors for specialist technical or educational tasks <i>Need appropriate skills, training and mentoring.</i>	<i>(Water Services to take over O&M)</i>

In eThekweni, a consultant was appointed to evaluate the state of VIP structures and suggest an emptying technology. The emptying of UD is done by a CB contractor who is supplied with a starter kit (consisting of materials and equipment) by the municipality once off at no cost, after which the contractor buys supplies at a preferential price from the municipality. The current O&M budget for O&M is estimated to R12 Million over 5 years cycle for emptying of 60 000 formal VIP. Since the emptying of UD is paid by the household, the operating budget covers the cost of materials and spares provided to the contractor.

In both technologies (VIP and UD), the procurement process is organised in terms of reporting system and promoting CB labour. However, the VIP system still does not promote CB contractor to a high level of exposure. In the UD system, the municipality promotes a CB contractor by providing tools and equipment and necessary support. However, this process does not provide as many jobs as it should due to the fact that the emptying of vaults is sporadic.

In **eThekweni**, both a pilot pit-emptying programme, as well as a pilot community-based UDS caretaker programme made use of service providers fulfilling specific O&M tasks sub-contracted by the EWS.

The following procurement processes were noted in the context of the case studies:

UDS: The emptying of UD is done by a CB contractor who was selected following the same procedures indicated above, through the Community Development Committee (CDC). A starter kit (consisting of materials and equipment) is supplied by the municipality once off at no cost, whereafter the contractor buys all supplies at a preferential price from the municipality. In the UD system, the municipality supports the CB contractor by providing tools and equipment and necessary support. However, this process does not currently provide many community based opportunities due to the infrequency of toilet emptying.

VIP: After a consultant was appointed to evaluate the state of VIP structures and suggest an emptying technology, a (joint venture) managing contractor was appointed through a tender process to undertake the O&M works by appointing sub-contractors. In turn the sub-contractor appoints only CB labour through the Community Development Committee (CDC). The subcontractor undertakes O&M works described in the table as well as the repair of defective structural components. They are also piloting a franchise model for the emptying of pits.

According to the eThekweni Maintenance Officer, procurement includes *“Local communities and any person from outside the settlement especially those registered in the municipality database. The contractor is appointed on rotational basis in order to give a chance to all. Depending on the type of jobs, short term contracts are often offered. It really it does not benefit local.”*

In both VIP and UD technologies, the procurement of contractors and the reporting system is organised so as to promote CB labour opportunities. However, the VIP system provides fewer opportunities for CB contractors.

It was noted by the focus group that Facilitators are supposed to be from the community, but must be trained and paid by the municipality. Proper use and care for facilities, for example materials that should and should not be thrown into toilets, is the result of visits by the municipality facilitating the appropriate use of the toilets. Advice was noted as very important to O&M and proper use of facilities. Visits were said to be best carried out before facilities are handed over to users, during and after the handover.

Where the type of contract and arrangements for carrying out terms of reference are vetted by relevant technical and user groups: i.e. municipality, intermediary and community, even in the case of volunteer selection, the cooperation of users in maintenance appears to follow as a consequence. Table 16 synthesizes the community-based opportunities that have emerged from across sites and technologies along with their municipal counterparts and notes to procurement processes, as they arose from the case study focus group workshops.

Depending on the servicing organisation, Care of Facility tasks may be undertaken by voluntary Caretakers, contractors (may be Community Based TRA vendor or an off-site other), contracted Community Workers (CW) and/or municipal Cleaners. Both contractors and CW are contracted through municipal processes for a determined period of time, which is tentatively applied to minor repairs in some cases.

Table 2-12: CB Procurement - VIP (case study eThekweni)

Unbundled Responsibility & role	tasks:	Selection criteria	Appointment
Care: household - Cleaning - Checking tidiness - Report to contractor Local facilitator - Education - Monitoring		Training by ISD consultants	Community structures and municipality Councillor and community liaison division
Collection & Disposal Contractor - Checking infrastructure - Minor repairs - Advise households - Empty vaults/pits Municipality - Inspection (technical) - Monitoring (pit emptying)		BEC Rotational (to spread benefits) 18 plus No qualifications Basic literacy	Community structures and municipality Councillor and community liaison division

An interview with the Maintenance Officer of eThekweni's public Ablution facilities revealed that procurement should be *"through local SMME as previous experience had shown the failure of local communities to undertake these tasks. Given the high health risks and hazard occurring experienced contractors were called upon to undertake this job."* According to this official registered contractors on the municipal data-base are prioritised and the current model (open tender) is

working perfectly. He felt that any other suggestions might change the good functioning of the current process. In all cases major O&M works are done by Municipal teams or contracted plumbers. Collection and disposal remain entirely under the Municipal Reticulation Services.

It is those areas of joint or shared responsibility that call for closer examination from a municipal perspective, given that overall responsibility for management of O&M resides with the public services institution, the municipality.

Table 2-13: Examples of roles, responsibilities and procurement arrangements

Community-based O&M Roles	Public/Shared (Ablution Facilities)	Individual (VIP/UDS)	Procurement
Care of facility: Caretaker Educator/Facilitator Community Worker, TRA Vendor <i>Cleaner</i>	Volunteer (eThekwini) Contracted by the municipality through local committee (eThekwini) or community forum (Stellenbosch)	Individual household responsibility: ISD Facilitator (eThekwini) Subcontractor (CLO) (eThekwini)	Local Committee selects Volunteers (Dept Health). Councillor Community Development Committee paid by the subcontractor .(E) Special tender process on 6 month basis -renewable (Stellenbosch., CoCT)
	<i>Municipal Solid waste or cleaners (C, S)</i>	<i>Technician municipality (A)</i>	<i>Appointed by the municipality under normal HR procedures</i>
Collection & Disposal: Local Contractors (minor repairs, pit emptying) Local Suppliers <i>Plumbers (Contract)</i> <i>Maintenance teams</i> <i>Maintenance Officer/</i>	Suppliers (materials)	Pit /Vault emptying – local contractor hired by users. Contractor and Subcontractor (Handyman, eThekwini) Contractor/ Subcontractor (Foreman)(eThekwini)	Councillor /Community development committee and Tender process (eThekwini), Private arrangements .(eThekwini)
	<i>Municipal staff and requisition systems (Stell, CoCT)</i> <i>Maintenance Officer eThekwini)</i>		<i>Appointed by the municipality under normal HR procedures</i> <i>Normal Tender process (all)</i>
Drainage (water supply and wastewater)	<i>Water Services (eThekwini)</i> <i>Blockage team (Stell)</i> <i>Reticulation Services</i> <i>Wastewater Services (CoCT)</i>		<i>Municipal Services (Staff appointed under normal HR procedures)</i>

Roles in italics are based on Tasks assigned to the Municipality

2.4 Management & Support at local level for O&M of basic services

Assigning responsibilities and estimations of frequency per task lent a sense of the scope of responsibility and assigned roles for clustered sets of tasks. The effective functioning of specific and joint responsibilities that operate on different levels will thus rely on communication through reporting systems to continuously inform the working O&M system. Arrangements for management and support that accommodates complementary oversight requires some focus to unpack inter-dependant roles.

Developing improved practices and building on experience requires an understanding of who is responsible for implementing whole systems in order to improve existing models. As delegated tasks must be managed, performance requirements translate into the assignment of responsibility to ensure uninterrupted operation and reduce the risks of breakdown.

Effective management systems will have traceable and replicable protocols and procedures that fit the intentions in respect of programme targets. The actual and potential roles and responsibilities for O&M that lie between municipalities, intermediaries and communities that are recipients of basic services have to be more clearly understood to develop sound guidance for programmes that will lead to sustainable services.

It was confirmed by user groups that many operation and maintenance tasks and activities down the line may be improved through decentralizing key functions. A programmatic approach and support at the lowest level to ensure due care of the facility is key to sustainability.

Supervision and reporting systems and routines that inform improved operation and maintenance may be adjoined to the monitoring of efficient responses. Performance management forms part of the appropriate support to community based providers which are clearly necessary to open up potential areas of opportunity in basic services provision arrangements and equally applies to the appointment of professional consultants and any procurement that is appropriate to the context of provision.

Appropriate support for all levels of actors relies on good communication between role players and suggests that monitoring may play a pivotal role for effective O&M. The questions that management requires to answer are:

- How is the whole system monitored and reported on, and to whom?
- What is the frequency of monitoring actions, reports?
- Are assigned tasks carried out as scheduled?

One relatively straightforward input from local level workshops was the listing of supplies as materials and equipment needed from the municipality for local Care tasks to be adequately carried out. The municipality supplies all materials and equipment required by people to complete essential O&M tasks.

Table 2-14: Materials and Equipment support needed at Ablution facility (in Stellenbosch)

O&M Tasks	Materials/Equipment required
Liaison with community	Loudspeaker, newspapers, community development workers, venue.
Education (use of facilities)	Pamphlets, shows, tells and rallies
Drop off of materials (disinfectants)	Car, labour, register account
Cleaning toilet bowls, hand wash basin and urinal	Disinfectant, hosepipe, water, masks, gum boots, rake, gloves, brush, rain coat and overall
Cleaning inside facility	Disinfectant, hosepipe, water, masks, gum boots, rake, gloves, brush, rain coat and overall
Cleaning outside facility (picking up rubbish & cutting grass)	Black bag, brush cutter, spade, wheelbarrow, shower spade, vehicle, safety equipment (masks, gum boots, rake, gloves, brush, rain coat and overall)
Checking tidiness of toilets	Pen, paper, vehicle or bicycle and checklist*
Reporting blockages/full toilets	Phone: toll free number
Collection of complaints/requisitions	Vehicle and requisition book, pen
Inspection of broken, blocked toilets or burst pipes	Book, pen and vehicle or bicycle
Unblocking open channel, toilets, drains, gullies	Rod, chemicals, spade, safety equipment
Replacing toilets and spares	Spade, spinners, pipes, hammer, scissors, cement
Fixing major leaks, pipes and blockages	Spade, spinners, pipes, hammer, scissors,
Fixing major blockages	Spade, spinners, pipes, hammer, scissors, rod
Identification of need for sanitation	Pen, checklist, census book
Painting and upgrading	Paints, brush, bricks, woods, scaffoldings, polyfiller, hand cleaner, safety equipment
Unblocking pipes outside facility	Spade, spinners, pipes, hammer, scissors, rod
Provision of more toilets and toilet papers	Vehicles

Checklists such as that generated in table 2-14 above may well be useful to inform O&M budgeting, given that no such information appears to be recorded for adequate budget allocations. Specifically in respect of local procurement for key O&M tasks, such checklists will need to be drawn up and, based on records of expenditure and reporting, properly inform the public service institution of all requirements.

Apart from the provision of materials, management support in the form of oversight, mentoring and training was assigned squarely to a municipal responsibility. According to the eThekweni Health Department's Maintenance Officer, *"The municipality should empower community with skills through training then provide contracts to those local labours grouped in a close corporation"* which in turn raises issue around procurement that have a direct link to management.

2.4.1 Effective Management Systems

Linkages between the municipality and users generally involve some form of routine inspection by the municipality, with an interim communication mechanism for crisis reporting where this is insufficient. A mechanism that most often arises as a concern in reporting arrangements in shared facilities is to accommodate complaints, breakdowns or blockages and the need for ad hoc repairs.

It may be a combination of aspects or simply the constant presence of local Caretakers at eThekweni's Ablution Facilities that averts the vandalism complained of in the other two case studies where facilities are shared, and therefore essentially public. Whether the absence of vandalism and the need for security at public Ablution Facilities is due to the existence of communication channels between partners on different levels, to decision-making on a local level (local selection of local Caretakers), the regular liaison by EHPs, or ongoing support by the Maintenance Officer is not clear.

In any event, it is apparent that the support institution's commitment to working with local committees through communication on the ground, via forms of Project Steering or Management Planning committees, can hardly be divorced from the functionality of management and support in oversight arrangements.

According to the Maintenance Officer interviewed in the eThekweni case study, *"Communication channel (is) through councillor – ward committee – meeting between them and the municipality official. Currently things work due to an understanding between the local communities and the municipality."*

The information required to ensure effective performance spans across in-house departments and levels, external service providers and local community based service providers. Key information is derived from performance monitoring. This concerns checking, reporting, responding to reports and managing those responses. As Cotton et al (2000) point out, "performance Indicators", both quantitative and qualitative, "should be truly representative of (that which) they are intended to represent". Indicators are by definition to be:

- verifiable – possible to check accuracy,
- informative for decision making,
- available in time to influence decisions

If the scale of the backlog in basic services and the quality of actual levels of service provides the baseline, it follows that quantitative reduction of the backlog will be accompanied by measures of use and functionality as the outputs of due performance.

Two examples of current oversight practices in case studies are shown below.

a) City of Cape Town: Management and Support

Oversight of the contractor, who reports directly to the municipality, depends on specific arrangements between the municipality and the contractor. The municipality (water services) manages monitors and evaluates the O&M works through reports provided by the Health Department or the community leaders/councillors.

However, the monitoring and evaluation of contractor performance is a missing part of the O&M supply chain as EHPs report directly to the Health Department and the community as users or volunteers report to the EHP, or sometimes directly to the call centre in case of an emergency/crisis.

b) eThekweni: Management and Support

Where a pit-emptying subcontractor pays out per pit that is emptied, and claims from the contractor on a monthly basis, the performance of the subcontractor is overseen by the main contractor's senior site foreman. However, the 35 local people who are employed by the subcontractor were initially selected by a local Community Development Committee prior to their appointment by the municipality, rather than leaving the selection of local labour in the contractor's hands.

Supporting infrastructure should include both permanent resources (of physical, financial and human resources) and community level monitoring of sanitation technology and water supply functionality. Built on the basis of the envisaged support for provision of a serviced technology, the proscribed intervention and to ensure sustainable basic services, specific and explicit Municipal support functions need to be established.

Ultimately, the joint stakeholder validation workshop allowed for sharing of best O&M practice across sites and learning by participants. Stakeholders suggested each should learn from other municipalities, based on a sense of gaps and opportunities in their own context and their interest in testing some aspects service provision currently applied elsewhere.

Of the four case studies, eThekweni was selected as a best practice case study by the stakeholders, as relatively advanced in planning and implementation of an O&M model for basic watsan; however, it was noted that they have their own gaps that may be addressed in order to make their model work more efficiently.

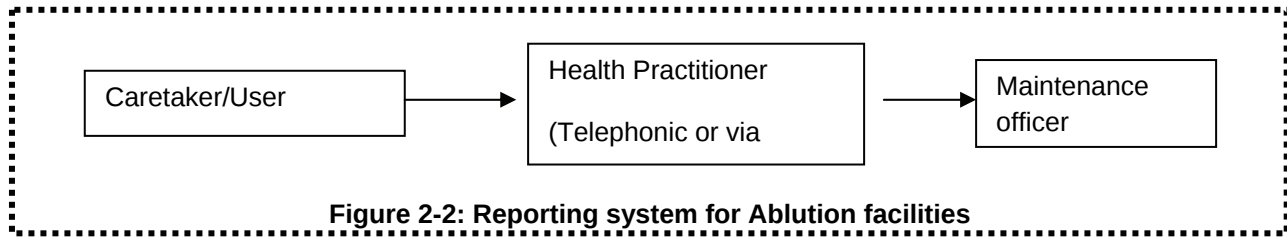
In good practice arrangements in eThekweni, two supervision systems that are in place are demonstrated. A brief overview of these arrangements is as follows:

- *Ablution Facilities:* The Municipality (Health Department, Environmental Health) deploys Environmental Health Practitioners and a Maintenance Officer to oversee social and technical aspects of O&M, including local, volunteers Caretakers are selected by local committees.
- *VIP/UDS:* The Municipality (Water Services) and CBO shares responsibility for the appointment and management of community based workers, contracted to empty vaults and

pits and restore/repair facilities as needed. The Water Services Training division's inputs are embedded in the project cycle that is driven by delegated Water Services programme managers.

In both individual and public facility contexts, the oversight of Water Services and Health departments relies on local level reporting and it is agreed by mixed levels of stakeholders that this operates well, depicted simply below:

Public Ablution Facilities: shared

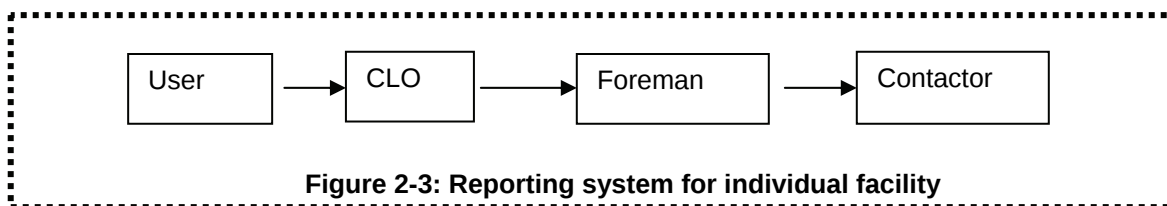


“

The Caretaker is reporting on tasks undertaken, at least once a week”; according to the Maintenance Officer of eThekweni's Health department. The focus group agreed that in this system of reporting the Municipality also responds to blockages on time.

Both service providers and users confirmed that the current oversight and reporting structure for ensuring that contractors are delivering satisfactory services works well for the VIP's O&M requirements.

VIP: individual households



The household VIP relies on performance monitoring based on payment certificates used to pay-off contactors for O&M tasks that are completed. The recipient householder signs out that they are satisfied before the appointed Community Liaison Officer/Foreman signs off a job. Payment certificates are issued on the basis of completed tasks. The payment certificate that the CLO and foreman sign is against a checklist of items that covers the structure, pit, vehicle checklist and performance.

The health and safety aspect of emptying pits (could also apply to vaults) is monitored by:

- Safety, Health and Environment (SHE) representative twice a week
- Municipal representative once a week

One overview of responsibility for ongoing performance monitoring in the eThekweni scenario was given as follows:

- UDS: random check (on weekly basis) by the municipality /local contractor
- VIP: site foreman responsibility
- Ablution facility: Caretaker and EHP responsibility

According to eThekweni's Maintenance Officer, " *The major setback is volunteerism. It is difficult to monitor a volunteer. Standards and checklists are difficult to put in place as the individual is neither employed by the municipality nor answerable to some other contractor. Since there is no payment, evaluation does not take place*".

Where the local technical and user structures have taken on complementary oversight and support roles that are related to the O&M tasks associated with a particular technology, negotiated agreements are reached regarding selection and appointments, contract periods and a means of spreading the benefit of direct livelihoods opportunities (e.g. rotational local contractors).

2.4.2 Monitoring and Evaluation Systems

The purpose of assessing real problems in the municipal context of level of service decisions is to identify opportunities for improvement. Monitoring is used to track the progress of the process, while the purpose of Evaluation is to assess the outcome of the process. Evaluation calls for assessment of the situation at the beginning, to establish a baseline, and at the end of the process, to establish the outcome.

A thorough and detailed understanding of the maintenance requirements in each basic services context provides a basis for planning and implementing improved O&M systems and services. In planning an M&E system Cotton et al (2000) suggest that obtaining the views of users of the service is important because public participation in M&E:

- increases acceptance and use of findings
- builds consensus on what outcomes to monitor and impact to evaluate
- incorporates individual's well being as a critical outcome
- fosters a strong feedback process
- provides relevant information for remedial measures and improvements

In fulfilling each requirement for effective O&M, an on-site monitoring role within Monitoring and Evaluation (M&E) systems suggests an additional opportunity for targeted procurement of community-based monitors.

As the purpose of M&E is explicitly to "use the results to improve the situation" (Cotton et al: 2000), the extent to which an M&E system is based on reports related to the specific task and related requirements, and the extent to which reporting is associated with targeted procurement are key considerations. Improvements are best informed by the results of ongoing monitoring, and regular

evaluation of operation and maintenance systems are based on assessing existing gaps. Monitoring and evaluation systems provide records that are:

- internalized to inform improvement of performance.
- informed by local inputs into improvements.

Each case study model had gaps and associated opportunities emerging from the application of the conceptual framework as an evaluative tool, as shown below in the snapshots that emerged from the first joint stakeholder validation workshop.

As pointed out by Shordt (2000) monitoring is best planned and carried out on all levels by those who will use the information to improve systems. These include:

- Municipal officials (programme managers and field staff),
- Intermediaries (NGOs and consultants) and community level workers (hygiene promoters, facilitators, training personnel), and
- Community members involved in providing services and local level support of the systems they use

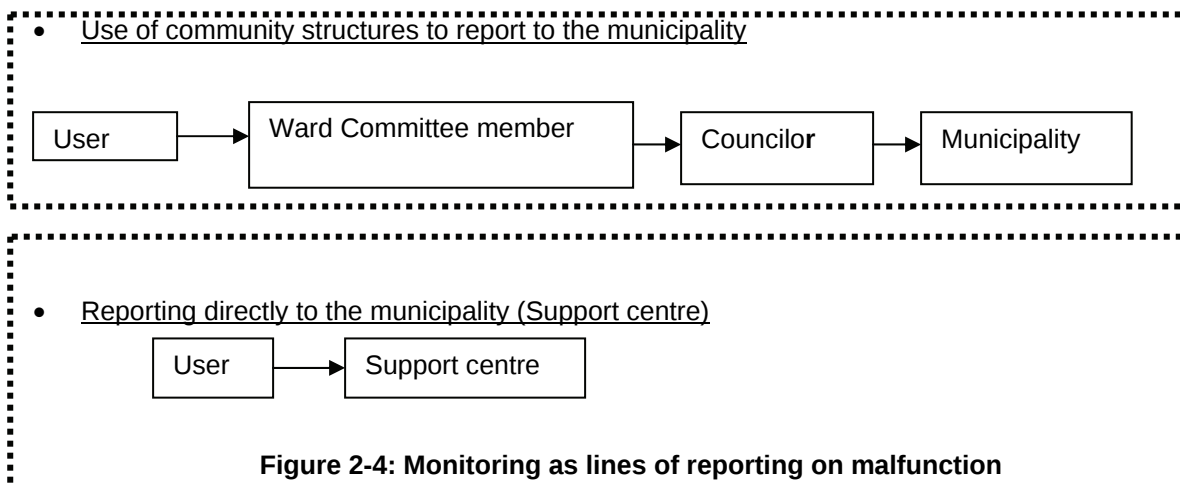
This is because M&E systems are intended to cover all key areas which in every project will comprise “three crucial issues for monitoring” (Shordt et al, 2000:2), which are:

- Institutional: capacity & responsibility,
- Programme: sustained services
- Beneficiaries: use and benefits

While existing M&E systems in the case studies are based on reports related to the specific tasks and some of the related requirements, they are not clearly associated with community level intermediaries and beneficiaries except in the case of eThekwini. In this case the socio-economic impact of activating local level opportunities through targeted procurement on improved O&M is not measured. Thus the cost benefits of targeted community based procurement remain hidden as this requires measurement, recording and reporting so as to check the performance of the system as different from inputs into the system.

Evident adaptations of existing arrangements to accommodate specific improvements on a local level in the case studies are limited. Monitoring systems vary considerably in that in two case studies reporting between local and municipal levels is most often associated with failed O&M rather than the prevention of breakages and blockages. Reporting of blockages is seen as important to O&M of shared and public facilities.

Two methods of reporting were suggested, as shown below:



Only in eThekweni is there a systematic link between levels of stakeholders to complement the inspection and random checking associated with management as monitoring of inputs. It is in the space between levels that progressive learning based on experience of outputs takes place, and where ideas for improvements are shared. Oversight that is complementary appears to lend more value to a monitoring function, which is concerned with the delivery of intended functionality, than lines of communication that are set up for complaints and ad hoc reactive responses to breakdown.

Arrangements for monitoring eThekweni's public Ablution facilities were described by the eThekweni Maintenance Officer as, *"Monthly site visit: meeting with community and collect complaints and suggestions for improvement. Caretaker checks the work (cleanliness of facility) daily."* which confirms that the local Caretaker essentially takes responsibility for monitoring local level conditions along with daily maintenance.

Focus groups of stakeholders suggested somewhat different sets of what should be monitored, illustrating further the importance and relevance of inputs from the perspectives of the different levels and roles in ensuring adequate O&M of facilities.

a) City of Cape Town

- Opportunities:
 - Reviving communal Ablution facilities, specifically in Khayelitsha where old infrastructure already exists, requires an O&M implementation model that draws on experience.
 - Application of the eThekweni Health department's Caretaker support and toilet paper supply model may be tested as part of planning the details for the intended Ablution facility rehabilitation exercise.
 - Existing gaps: TRA contracts and the procurement system require revisiting and further testing. O&M budgeting issues were noted by COCT as follows:
 - Follow up with Stellenbosch on how their ablution facilities are budgeted;
 - Look at how VIP and UD's are budgeted in eThekweni;
 - Look how Ablution facilities are budgeted.

c) Stellenbosch Municipality

- Opportunities:
 - Learning from eThekwini Ablution Facilities model included the practice of fixed pricing for repairs and spares – based on rehabilitation experience, on-site information and standardisation of prices.
- Existing gaps:
 - Lack of interactive planning that included LED and Budgeting
 - Cost of O&M to be identified – specifics
 - Nothing in writing – write up O&M model/operational structure
 - M&E – needs the current picture captured from Educators to future role/s
 - Budgeting to be according to specific O&M needs for basic services

c) eThekwini

Opportunities: the O&M model for Ablution Facilities should be captured and completed in a format that may serve as a guideline for application in other case study sites and municipalities.

Existing Gaps for improvements that were identified in relation to the framework presented for developing O&M guidelines, included:

- Operational structure
- Costs of O&M to be broken down to specifics and inform an indication of financial savings through caretaking on site
- Substantiate the caretaker role as a job: “Volunteer” status to be clarified in terms of tasks, responsibilities and procurement procedures, selection criteria

The checklists shown in Table 2-15 were produced by focus groups in the case study specific Stellenbosch stakeholder workshop.

Table 2-15: Monitoring checklist for ablution facilities (in Stellenbosch Municipality)

Social/User group criteria	Technical/Municipal group criteria
Cleanliness of toilets after use	Leakage
Blockages	Vandalised spares
General cleanliness of wall and floors	Broken/blocked pipes or toilets
Leakages of pipes and taps	Urinal
Vandalism	Water availability
Good functioning of the facility	Window
	Fencing
	Doors and walls
	Wash basin
	Floor

After much discussion it was suggested that this Checklist for monitoring should include the following: Day, Date and Time; Description of the item, Comments and a signature.

Performance management against terms of reference for tasks, and M&E of the results of specific tasks and the impact of task performance are related. However, deeper and important information on the sustainability of the O&M system as a whole will be provided if overseeing inputs and monitoring of outputs are clearly differentiated. M&E systems may be recognized in the following forms (Cotton et al: 2000):

- Reporting schedules to inform decision making.
- Is data qualitative or quantitative? – input, output and impact data
- How will information be processed? – Baseline, inventories.
- Who will collect and how will data be kept? - Recording and filing...
- Interpreting data as useful information for management.

Differentiation between technical (municipal) and social (local) perspectives also appears to be a useful device for broadening the space of M&E to cover the effectiveness of the whole system rather than narrowing the focus on whether the technicalities, as parts of the whole system, are functioning.

d) Alfred Nzo District Municipality

- Opportunities:
 - Greenfield site: A broader based and context specific stakeholder workshop would enable the conceptualization of these details.
 - Application of eThekweni model as a test, using existing Zonal Centres, established for basic water supply as a working model.
- Existing gaps: No O&M implementation model for roll out delivery of VIP sanitation technology has been developed as yet. It was suggested that an O&M implementation model for VIP sanitation should involve:
 - Unbundling of O&M tasks
 - Responsibility assignment
 - Procurement mechanisms

In general, community based monitoring that includes feedback from users with a daily, on-site perspective, will inform whether adequate maintenance occurs on the ground. This suggests an opportunity for expanding a task linked to daily operations, improving on:

- Customer relations,
- Minor repairs,
- Reporting and preventative maintenance and
- Monitoring use and security to ensure access to users.

As improvements are based on assessing existing gaps in each task cluster, potential improvements required for full functionality and how the community will benefit from task assignment, these are key aspects that a guideline will cover.

2.5 Knowledge Tools

The existing municipal WSDPs provide an initial baseline of backlog figures and indicate levels of basic service chosen for delivery, where after interviews and internal departmental data and documents may further clarify outstanding details on technologies, programme cycles, possible procurement approaches and budgets allocated to O&M.

In order to ensure that sufficient and purposeful information is collated from across departments, a validation and planning workshop that engages the relevant municipal officials is best convened to validate fill out the baseline of current O&M programmes for basic water and sanitation services.

Getting to know the range of relevant programmes and policies that may be drawn on towards improving models may be internally tasked or outsourced but led by the municipality. The driver may be a lead department or representative task team which collects, provides and checks data.

It has been suggested that an essential knowledge tool would contain the key information for an O&M model shown in a draft *Technology Sheet* below:

Table 2-16: An example of technology sheet

<i>Initial cost</i>	<i>Expected life</i>	<i>Recurrent costs</i>	<i>Frequent problems</i>	<i>Limitations</i>	<i>O&M Management-</i>

Budgets would be better informed if equipped with this information, which can only be provided from the operational perspective. Finding valid, reliable and useful indicators for the sheet would entail site visits, local level workshops (as suggested in the tested methodology described below) and interviews with levels of officials able to provide the details required for adequate budgeting.

Communication between levels, from local to interface to institutional role-players may be best depicted in a flow chart or organogram that illustrates who reports to whom on what. In addition, the construction of knowledge tools must be cognisant of:

- *Who uses the data?*
- *For What purpose?*

2.6 Key aspects for a guideline

Based on the literature review and interaction with different stakeholders during the study, the following aspects emerged as key considerations for the development of a guideline:

a) At local level: Identify CB opportunities

Unbundling of all the specific O&M tasks, their frequency and allocation of responsibility will clarify the appropriate assignment of activities for a particular technology in context. Experience of the use and function of a facility from both municipal and user perspectives is important to distinguishing between community-based and municipal capacities.

- Details of O&M tasks, their frequency and assigned responsibilities
- Community based opportunities to contribute to O&M services
- Support and materials required for Community-based tasks
- Protocol and selection criteria on a local level

b) At the Interface - joint responsibilities Community and Municipality: Monitor implementation

Setting up an interface structure to support the flow of communication and interaction needed between users and service providers and to monitor performance and reporting will also provide for the protocols required to target and support community based opportunities.

- Complementary oversight of preventative, reactive and interactive O&M functions
- TOR for the interface functions, routines and schedules
- Monitoring and reporting links to appropriate supervision of CB opportunities

c) Municipal level: Support integration

Developing technology information sheets and checklists to communicate O&M approaches will facilitate alignment and collaboration between various departments and inform policies and resource requirements in municipalities.

- Technology Information Sheet to outline O&M requirements
- Budget, Procurement, Training and Management checklists to support the uptake of community based opportunities in O&M and inter departmental collaboration

3. Framework for the Guidelines

3.1 Guidelines for O&M: Planning improvements

In order to ensure that assets are kept in a serviceable condition there are three levels of stakeholder engagement to cover in putting together the information required for planning and budgeting.

The stakeholders' feedback and inputs are inherent in the methodology. A process that facilitates input and co-analysis will gather more detail about the current O&M system, gaps and opportunities for improvements if local level practitioners and intermediaries are engaged together to construct the knowledge required by senior Municipal decision makers.

Each institution has its own culture and protocols to garner support for the sequential process, as set out stepwise below.

a) Step 1: Associated with the Technology context:

Local Level inputs provide valuable insight into the details of key preventative tasks and the support required from Municipal line departments and their consultants or main contractors. On this level the scope and details of community based tasks are substantial;

- **Unbundle O&M** tasks and their frequency.
- **Assign Responsibility** for key O&M Tasks.
- **Identify Community-based Opportunities** in O&M.
- **Unpack procurement** protocol and selection *on a local level*;

b) Step 2: Associated with Programme management:

As O&M operates at the *interface* between communities and the responsible public institution; communication is central to linking the local level and off-site asset servicing requirements. Both performance management and indicators of the qualities of use and functioning of facilities calls for a reporting and M&E system that:

- *incorporates local level feedback* from the operational site,
- *informs public support institutions* on gaps and opportunities,
- *informs improvements* in preventative O&M.

On this level the focus is on systems that organise oversight and reporting by

- **Understanding Management Support** that is required, including oversight and performance management (at the interface between municipality and community), and materials /equipment required *on a local level*;
- **Locating Monitoring and Evaluation** systems to incorporate local level feedback on inputs and outputs and that inform the planning of improvements by public service institutions.

c) *Step 3: Associated with Institutional decision making:*

Institutional decision making based on evaluating actual outcomes of inputs on the level where the system is operated and maintained, will inform gaps and planning opportunities for the most cost-effective approach to keeping assets in a serviceable condition.

- **Appropriate Organisation** for interdepartmental, multidisciplinary collaboration
- **Knowledge of the Asset base**, in particular **O&M Budgets** required for recurrent operation and preventative maintenance costs
- **Forward Planning** that anticipates specific requirements, based on Evaluation. Such planning calls for tools that will facilitate the documentation of experience, records of prior expenditures).

The tested methodology that is based on the framework is presented below in the table 3-2. The table captures the sequence and indicates the content of stakeholder workshops conducted in each individual site with mixed levels of participants, covering the interface between the municipality and the local O&M context.

Except in the eThekweni workshop where departments were well represented, it was noted that interface participants were not able to discuss or provide answers on internal institutional issues.

However, this stakeholder workshop methodology covered the steps 1 to 4 in a process that proved to be applicable in each case study site and technology. Baselines of the existing O&M models provide an essential starting point for any improvement process, matching the logic of the conceptual framework.

Information furnishing the details from stage 5 (and part of 4) to 7 of the framework as presented above could not be easily obtained from the case study specific stakeholder workshops alone. Interviews with relevant municipal practitioners and officials, supplemented with municipal documentation provide a baseline for further engagement with institutional role-players.

Table 3-1: Synopsis of the interface stakeholder workshop methodology

Stage	Sequence	Inputs	Process	Outputs
Unbundle O&M tasks				
1.	Unbundling O&M Tasks	a) Validated unbundled tasks b) Unbundled tasks added by participants	Unbundle specific tasks associated with technology chosen and Identify frequency with which tasks need to be undertaken.	Specific tasks and their frequency as required to ensure that facilities stay in a serviceable condition identified.
2.	Assigning responsibility	Appropriate levels of assignment discussed	Assign responsibility for each O&M Task to community or municipality (or both)	Responsibility for specific O&M tasks identified as best carried out by levels
Identify CB opportunities				
3.	Identifying CB opportunities	Identified O&M tasks best carried out on a local level	Based on outputs, Cluster local level tasks into community-based opportunities and define these. Indicate task(s) requirements in terms of materials and equipment.	CB opportunities in O&M and specific materials and equipment requirements identified.
Appropriate procurement strategies				
4.	Unpacking procurement process	Based on outputs arising from clustered tasks and local experience, explore options for CB procurement	Unpack procurement processes such as application process and selection criteria (in term of skills requirements). Discuss duration of appointment / type of contract.	Selection criteria identified in respect of targets (local residents) and Age, gender, basic skills.. Recommendations on appropriate recruitment process, as fair and transparent, at local level.
Management and support requirements				
5.	Understanding management and support	CB opportunities as job description and appropriateness of current procurement options	Identification of specific requirements to do the job Flow of reporting system: to whom does each level report? On what? and how often?	Relevant support for skills and training, needed to undertake jobs outlined. Reporting protocols and procedures outlined
6.	Monitoring and evaluation	Based on outputs on Reporting protocol and procedures outlined	Outline of monitoring system: Who is checking the work carried out? and How often? What are the performance indicators? What should be monitored?	Checklists for monitoring performance. Performance management as evaluation of work carried out against payment.
Appropriate Organisation				
7.	Knowledge of Asset base and Forward Planning	WSDP and figures from interviews validated	How and by whom are budgets allocated? What is the scale of delivery of which technology choices?	Lack of Budgeting for O&M

3.1.1 Guidance on Tools that need to be developed

The tools that have been well tested with stakeholders involved in O&M of basic services have enabled the collation of informative data from a local at an interface level, covering a gap that was evident in most cases. The interface to institutional level, essential for obtaining adequate support to improve O&M systems and procure community-based service providers, requires further tool development.

The refinement of formats and their application as tools will benefit from a clear distinction of *Who will use them for What?*

The stakeholder interface is emphasized as an inter-dependant level of primary importance to keeping assets in a serviceable condition, and is thus the most strategic starting point for developing improved models.

In a subsequent phase, the institutional responses require processes that can be incorporated in the Guideline. These require testing with the stakeholder group that is well placed within institutions, and who can provide direction in the way of procurement, policy, planning and budgeting processes.

3.2 Developing knowledge tools

The guideline developed for community-based procurement in O&M of basic water and sanitation services, aims to provide the tools for municipalities to collate key information about their existing systems and practices.

Spanning across the full range of basic services technologies, existing gaps and opportunities for improvement become clear when specific information is collated as municipal knowledge that is based on experience.

3.2.1 Assignment of Unbundled O&M tasks

It is evident that O&M tasks vary in frequency and responsibility according to the technology provided and whether the use of facilities is individual (household) or shared (public). The different requirements for effective preventative maintenance routines and reactive responses to breakdown and crises become increasingly clear when listing and sorting all O&M tasks essential for keeping the facility in a working condition.

It is interesting to note that when those unbundled O&M tasks initially listed by municipal officials were clustered into types of tasks by a broader spectrum of stakeholders, an expansion on the details of the preventative functions of O&M, such as consistent care of the facility, was prompted.

Differentiating between preventative and reactive maintenance is important to understanding specific tasks in terms of efficiencies or deficiencies in existing O&M systems.

O&M tasks that prevent breakdown warrant recognition as the most effective of O&M activities, while important reactive tasks, such as responding to frequent breakdowns and blockages may often constitute failures or a weakness in a system intended to be pro-actively preventative.

a) Frequency and assigned responsibility

Opportunities for improving O&M through community-based procurement become more apparent when the responsibility for each specific task is assigned to the level of stakeholder that operates most efficiently. Assignment of responsibility for distinct tasks is bound to be most appropriate when considering the necessary frequency of each task if it is to be effectively carried out.

Each level of stakeholder has access to experience and details that are specific to their responsibilities. A review of a series of stakeholder workshops that facilitated the guideline development process, confirmed the relevance of collating inputs from different levels of stakeholder. The results of discussion, selection, sorting and collation are that an appropriate assignment of local, joint and municipal responsibilities is simplified when clearly associated with each specific task.

After establishing the frequency of each listed O&M task, clustering the sets of tasks according to frequency and responsibility provides a clearer view of community-based procurement opportunities. The frequency with which each task should be carried out to keep the asset in a serviceable condition, serves as a further descriptor that lends dimension to the scale and scope of opportunities for improving preventative functions.

Monitoring and reporting systems vary considerably in the diverse O&M models that have been reviewed. Reporting and communication between local and municipal levels is most often associated with failed O&M rather than the prevention of breakages and blockages. Reporting of blockages is however a particularly important function in the O&M of shared and public facilities.

Table 3-2: Unbundled O&M tasks: Frequency and Responsibility (Case study eThekweni)

Assigned Responsibility			
Frequency	Community	Community & Municipality (joint)	Municipality
Ongoing		Identify need for sanitation Education Collection of complaints	Unblock open channels, toilets, drains, gullies and pipes outside the facility. Inspect broken, blocked or burst pipes
Ad Hoc	Report blockages. Report full toilets.		Liaison with the community Fix major blockages, leaks, pipes Replace toilets and spares
Daily	Clean outside the facility, (remove rubbish, cut grass) Check tidiness of toilets. Issue toilet paper to users. Clean toilet bowls. Clean hand wash basin and urinals.		
Weekly	Clean inside the facility.		
Monthly			Provide more toilets. Drop off materials, including toilet paper.

In all models where there are Caretakers, Security was neither a task nor an issue since users have apparently shown “a sense of ownership” of the facilities; resulting on few cases of vandalism reported. Conversely, in situations where there are no facility attendants there is an expectation of local “ownership” simply by virtue of use, offered as an explanation for a missing factor and a key cause of ineffective O&M of public facilities. In these cases Security was a significant task.

The Caretaker role was identified as an opportunity for targeted community-based procurement. Additional tasks and the frequency of tasks make up at least a daily 8hr function that justifies local employment and contracting, given the added cost-benefit to O&M arrangements. It was agreed that this would improve on the shortcomings of volunteer systems in deploying community members without adequate agreements about their terms of reference and performance.

Rather than speculating on general causes of malfunction beyond one’s control, a focus on pro-active improvement of efficiencies may overcome the normalizing of constant breakdowns and pipe blockages. Reducing the frequency of complaints and accompanying burdens on users and municipalities may in turn release resources into improving preventative O&M systems. Transforming reactive burdens into pro-active investment potential for local level monitoring as part of a joint responsibility emerges as a realistic opportunity.

b) Support required: Skills and Materials

The municipality supplies all materials and equipment required by people to complete essential O&M tasks. One relatively straightforward input from local level workshops was the listing of supplies as materials and equipment needed from the municipality for local Care tasks to be adequately carried out.

Comprehensive checklists of materials and equipment required, most specifically for supporting preventative maintenance in care of the facility, are readily and cooperatively compiled by local level stakeholders.

In addition, it was found that local level perspectives assist in establishing selection criteria on the basis of skills and experience, and processes shaping protocol at the interface between the community and municipality.

Examples of differences and options discussed in relation to current municipal selection processes are set out in the table below to provide an overview of particular aspects of their current approaches to community-based procurement.

In considering arrangements for Ablution Facilities, it was noted that Caretakers are appointed per facility, while Educators can operate across an area. The community-based opportunities of Caretaker and Educator have been well described as responsibilities.

Table 3-3: Examples of current O&M models: Selection criteria and Protocol

	Alfred Nzo	City of Cape Town (CoCT),	eThekweni -Ablution facility Caretaker
Criteria	Community meeting to determine	Employ contract and seasonal workers. Not specifically local residents	Persons residing within vicinity of, or close to, the facility itself.
Selection	a process that is not biased	Data-base of unemployed people and their skills base	<i>Was employed in construction?</i>
Interface structure/s	Zonal structures	Ward Councils	Community structures Community meetings
Interface routines	CDWs as neutral to facilitate the process	Meetings	Poverty alleviation department for community recruitment drives

From both municipal and community perspectives, the opportunity costs and benefits of facilitating and providing support for targeted residents to establish long term formal entities may be justified in the interests of sustaining basic services. Feasibility criteria must include direct benefits to local livelihoods and essential improvements to O&M systems in both models.

As shared or individual use will cover the variations on maintenance of a range of technologies, the two types of models are fairly generic for:

- Shared or Ablution facilities, used by the public,
- or*
- Individual on site facilities, used exclusively by a household.

It is in the space between levels of stakeholder that progressive learning based on experience of inputs and outputs takes place, and where ideas for improvements are shared. After consideration it was recommended by stakeholders that:

- **Stakeholder inputs across all levels** are advisable to determine criteria and selection processes.
- **Criteria for selection** should include experience as a 'skills' criteria.
- **Exit strategies** for construction labour for uptake in O&M was recommended.
- **Interface structures** are to accommodate responsible officials and user representatives as combined responsibility (municipality and community) is central to O&M of basic services.

Interaction between levels may readily extend from targeting and selecting local labour or contractors to encompass planning, monitoring progress and performance, and joint evaluation of O&M systems over time. Assigning responsibilities and estimations of frequency per task lent a sense of the scope of responsibility and assigned roles for clustered sets of tasks. It is those areas of joint or shared responsibility that call for closer examination from a municipal perspective, given that overall responsibility for management of O&M resides with the public services institution, the municipality.

3.2.2 Management and Support

Management and support that is intended to strengthen preventative maintenance may be found to hinge on the interface between municipal and local level stakeholders. Appropriate support to community based providers and a community based monitoring function are relatively neglected elements of basic services arrangements. More attention to detail is necessary to open up these areas of opportunity.

Where arrangements are vetted by relevant technical and user groups, including the municipality, intermediaries and community structures, the cooperation of users in maintenance appears to follow as a consequence. While ensuring that no key tasks are excluded, opening up lines of communication between levels of key role-players, immediately enables the sharing of insights and knowledge across levels.

a) Interface between Community and Municipality

Interface structures enable joint responsibility where there are overlaps between levels in carrying out the unbundled tasks. Mixed stakeholder groups in different models assigned joint responsibility for between 3 and 5 key tasks, raising the importance of the interface between levels of stakeholders.

Having confirmed that O&M requirements rely on interface arrangements that systematically link local and municipal levels, some pointers to complementary oversight in supervisory monitoring and reporting were pursued for further detail.

Management and support arrangements may be adapted to fit the requirements for local level O&M. Picking up on interface arrangements required further insight and foresight for constructing tools to facilitate collation of the more elusive aspects of:

- management and support - interface structures and routines;
- monitoring and evaluation systems - performance of all service providers, and the use and function of facilities.

As protocols and procedures for performance management are contained in contracts and backed by payment on completion, as recognition that work is done, it was suggested that persons and structures delegated to overseeing that the work is carried out need to be involved in, or oversee, the selection and appointment process.

Arrangements for management to accommodate complementary oversight and communication between levels of stakeholder require some focus on inter-dependant roles. While each situation is different, structures to facilitate interface protocol and routines are necessary. The constitution of an interface structure must be guided by its essential functions.

Setting up structures and routines for joint responsibility is a key requirement. It was noted that setting up management systems, minimum standards written into Key Performance Indicators

(KPIs) need to be amended from time to time. As operational flows for O&M are not reflected in formally structured departmental organograms, the flow of responsibilities, supervision and reporting is not immediately evident.

Current good practice experiences of interface arrangements include, for example, eThekweni's Ablution facilities' small community committees. In this case, the municipal official (EHP) interacts with committees on a monthly basis, which in turn communicate with Caretakers. These committees:

- Represent user interests
- Give feedback
- Ensure interaction with the Caretaker

It is useful to capture the reality of roles and responsibilities, complementary oversight and reporting for O&M operations. The use of an organogram or flow chart as a tool may plot the flow of reporting and supervision on delegated responsibilities, as shown below. However, interface structures may be more or less apparent in flows that focus on line reporting and oversight, monitoring of performance and line management. Illustrated below is an organogram with notes on functions added from tables to explain these arrangements.

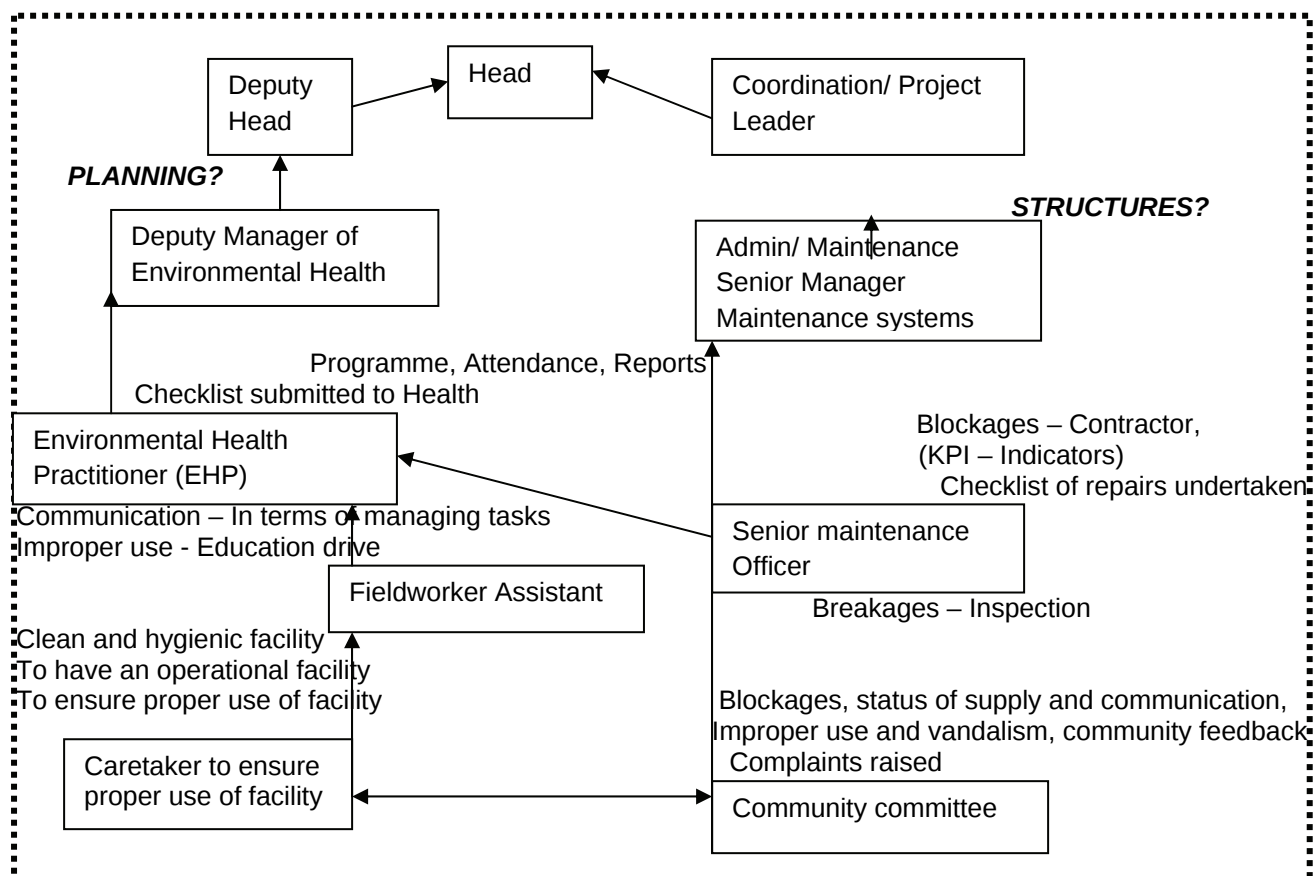


Figure 3-1: Flow chart of ablution facilities oversight (eThekweni)

If expertise is brought in from outside this must be linked to local level initiatives and provided with clear guidelines. The specific support that is to be provided to contracted community-based service providers by management contractors and/or the municipality must be clearly spelled out.

The reflection of an O&M Model calls for more detail on the municipal/community interface that is so crucial to the success of selection, reporting and performance management.

b) Monitoring and reporting

Structured communication between municipal and community stakeholders includes routine reporting that is based on monitoring. The effective functioning of both specific and joint responsibilities that operate on different levels relies on communication between stakeholders through monitoring and reporting to continuously inform the working O&M system.

As pointed out by Shordt (2000) monitoring is best planned and carried out on all levels by those who will use the information to improve systems. These include:

- Municipal officials (programme managers and field staff),
- Intermediaries (NGOs and consultants) and community level workers (hygiene promoters, facilitators, training personnel), and
- Community members involved in providing services and local level support of the systems they use

Monitoring and evaluation (M&E) systems may be recognized in the following forms (Cotton et al: 2000):

- Reporting schedules to inform decision making.
- Qualitative or quantitative data – input, output and impact data
- How information is processed – baseline, inventories...
- Who collects and how data is kept- recording and filing...
- Collation and interpretation of the data as useful information for management...

While existing monitoring systems are based on reports related to the specific tasks and some of the related requirements, in general they are not clearly associated with community level intermediaries and beneficiaries. M&E systems are intended to cover all key areas which in every project will comprise “three crucial issues for monitoring” (Shordt et al, 2000:2), covering:

- Beneficiaries (use and benefits),
- Programme (sustaining services),
- Institutional (capacity & responsibility).

It is also seldom that the socio-economic impact of activating local level opportunities through targeted procurement on improved O&M is measured. Thus the cost benefits of targeted community based procurement remain hidden as this requires measurement through recording and reporting, so as to check the performance of the system. Oversight of inputs into the system is often not carried through to monitoring the impact of those inputs, resulting in malfunction despite considerable investments.

Monitoring of the results of specific tasks and evaluating the impact of task performance are related to performance management against terms of reference for tasks. However, deeper and important information on the sustainability of the O&M system as a whole will be provided if overseeing inputs and monitoring of outputs are clearly defined in the terms of reference of responsible structures.

c) Procurement of community based service providers

Encouraging the mobilisation of community-based service providers requires a clear understanding of how local level O&M functions may be procured within existing municipal systems. Constraints and opportunities for community-based procurement to provide O&M services confirmed that guidelines will have to deal with established procurement norms and procedures.

Moving from Volunteer Caretakers to Community-based procurement for Ablution facilities does not detract from challenges in respect of opportunities and costs. Consideration of options to enable Community-based procurement included Cooperative and SMME models as two arrangements that appear to be feasible for facilitating contracts and payment for services. Amongst other possible approaches to contractual arrangements, such as community managed public facilities, are models that may be considered as hybrids of these two suggested entities.

Procurement processes for appointments and contracts are ultimately a municipal responsibility. Considerations of supply chain management for procuring community-based services suggests that a format better designed to capture the key information is required to set procurement in motion within existing municipal systems.

3.2.3 Institutional knowledge

Municipalities that need to adopt approaches which make use of the most efficient and cost effective use of resources for the provision of basic services, including communal water and sanitation facilities. Key enabling factors are those aspects that need to be incorporated into current service provision arrangements.

- **Financial aspects** reflected in **adequate municipal budgets**, regardless of the original source of funds (donors, equitable share, special pro-poor programmes, etc)
- **Procurement policies and procedures** that accommodate community-based approaches as long term sustainable job creation programmes;
- **Management support** to community-based service providers, including mentoring and skills development;
- **Clear roles and responsibilities** for all the key drivers throughout the project cycle;
- **Monitoring** of basic services provision and provider arrangements, through appropriate **quality assurance** systems that inform policies and decision-making.

Guidance that will make a significant difference is needed for overcoming the existing institutional barriers to community based procurement. From an institutional perspective, understanding their existing approaches to provision and knowing the extent of basic services backlogs, provides some insight.

Senior decision-makers need to be informed regarding the scale of development opportunities that are located in fulfilling basic services Operation and Maintenance functions. At a municipal level, information that emanates from operational realities needs to be conveyed upwards to decision-making levels in order for the institution to plan effectively. Therefore, collating records as information in such a way as to carry it up to management levels of relevant departments is a core insight into a common gap.

Information collation for the institutional level therefore includes a focus on facilitating planning by the institution to ensure that it is based on solid knowledge of the asset base and realistic O&M requirements. This information will then inform the allocation of adequate budgets for O&M of basic services. Key considerations in profiling existing levels of services will include:

- Budgeting processes
- Structure of organisation for supporting operations
- Planning documents

Municipal experience and understanding of existing O&M models will best inform institutional support for improvements based on past experience in relation to the maintenance requirements as tasks, per technology context.

A guideline will involve not only capturing current levels of service and approaches, but also make existing knowledge the basis of conveying added insights based on experience to inform the institutional decisions that shape improved O&M models.

a) Nature of the Asset base

Shortcomings in the institution's knowledge of its asset base results in insufficient budgets for essential features of an O&M system that will sustain services and keep assets in a serviceable condition. .

For planning purposes a description of the technology chosen includes the initial cost and costs over the expected life of the asset. Knowledge of recurrent costs, frequent problems, limitations and anticipated management and support requirements is required to adequately inform budget allocations.

A detailed O&M Budgets will incorporate consideration of the costs associated with CB tasks, materials and equipment needed to support O&M and potential improvements cost against probable savings by virtue of improvements.

Sufficient information will both frame a starting point for assessment of an existing O&M Model and serve to inform forward planning in an evaluative cycle. Knowledge Tools that recommended for collating the information required by the institution for planning should include:

- A Technology Sheet collating data specific to shared or individual facilities
- Cost benefit analysis of effective preventative maintenance measures
- Targeting tools such as Maps that show the Wards and indicate environmental impact issues (e.g. rivers that may be polluted).

An example of a Technology Sheet to be compiled for the purpose of collating the information needed for decision-making within an institution was drafted by stakeholders as presented above (table 2-16).

Appropriate information sheets will evolve to accommodate all the particular or requested information required to form a sound basis for decisions by the institution.

Municipal practitioners will need to be more pro-active in providing sufficient information to their decision-makers, in the interests of acquiring support to overcome the gaps that they have experience and knowledge of.

Table 3-5: Summary of Stellenbosch municipality profile

Format for LOS Profile	Stellenbosch Municipality
What are the Basic Water and Sanitation technologies provided?	Shared street tap or shared tap at ablution facilities Shared flush toilets: Ablution blocks; Chemical or container
What Ratio of pp sharing facilities /using public facilities is the municipal norm?	Not available
How is the municipality committed to job creation in basic services provision?	LED targeted at creating an enabling environment to increase job creation. Municipal role as support, regulation, Business information. Job creation: EPWP and provision of infrastructure promoting community facilities and informal business
Which departments have procured CB services for O&M of basic services?	Refuse collection in informal settlements through the Cleansing Dept storm water drainage construction, sanitation construction, etc using labour intensive construction methods through EPWP
What are the specific CB services that have been procured in O&M of basic services?	SMME contractors employing local labour for the maintenance of shared ablution facilities.
How many jobs have been created each year in O&M of basic services?	Not available
How are CB services for O&M procured?	SMME contract awarded for the maintenance of public ablution facilities in Khayamandi which utilizes locally employed cleaners from the zones in which the public ablution facilities are located
What is the O&M Budget for basic services?	No detailed breakdown of budget available in the IDP Total operating budget for Civil Engineering Services is R119 874 470 for 2007/2008
Is the Equitable Share used for O&M of basic services?	Unclear from WSDP and IDP how much ES received
Is Free Basic Sanitation implemented?	Yes - DWAF reporting system for FBW. Unclear re free basic sanitation figures included or excluded.

b) Appropriate Organisation

The degree of active collaboration between different departments reflects the scope for inter-dependant decision-making and provision for support roles – the more collaboration, the greater are the opportunities for adaptation and improvements on O&M systems.

Collaboration across Sections/departments will be encouraged if the information reported is made palatable to certain departments whose inputs are needed. Inter-departmental collaboration works towards optimizing different inputs into O&M arrangements. When interaction between divisions and departments is in response to specific O&M needs, and takes the support required for local level deployment and contractors into account, creative solutions have emerged.

Highlighting the municipal responsibilities for performance management and reporting indicates that appropriate organisation by the institution is necessary to provide the support required.

The question that must be answered by the institution itself is: If different departments and levels of contractor conduct different O&M related tasks, who brings them together?

c) Forward Planning

Sources of funds for basic services O&M is a key and constant issue that stimulates speculation on pro-active strategies. Unlocking Grant in Aid as not for profit sources of local development funding, and DWAF's less restricted distribution of funds, have been noted as potential opportunities for institutions to pursue further.

Recommended opportunities to unlock sources of funds to support a greater scope of benefits from community-based procurement include linking up with related poverty reduction focused programmes, such as:

- Free Basic Sanitation (for real)
- Budgets associated with national policies and imperatives as potential sources of funding (Equity Shares, Extended Public Works Programmes, etc.)
- Interdepartmental collaboration to integrate programmes with resources including LED, Health and Social Development initiatives,
- Skills development and knowledge transfer funds.

It is generally agreed that Poverty Alleviation, Expanded Public Works and LED departments need to be involved in exploring resources for local government that may match the intentions of basic services policies. In order to facilitate direct investments into livelihoods, procurement processes may borrow impetus and mechanisms from the experience and knowledge residing in these departments and policies that relate to local development initiatives.

As different departments in municipalities may be mobilized to take up opportunities, information collated from diverse levels of stakeholder down the line may draw from across a greater diversity of stakeholders, such as: LED departments, Directors that manager's work with and Finance persons, Operational level validation and inputs/pointers and Community forums.

4. Conclusions

Unpacking current O&M systems provides the most grounded starting point for identifying all requirements to keep municipal assets in a serviceable condition. Information that is needed encompasses technical, social and economic perspectives to inform management and forward planning by municipalities.

At the initial stages, unbundling specific O&M tasks and assigning responsibility for these will assist in identifying community-based opportunities with sufficient detail to motivate local procurement to provide O&M services. Although community-based opportunities can be effectively identified, those assigned to municipal and joint responsibility also indicate that:

- The municipal role is largely preoccupied with reactive tasks,
- Joint responsibilities rely on interaction between municipality and community.

At a second stage, management and support includes monitoring the performance of O&M systems and procurement processes, which operate most effectively at the interface between municipality and community. While productively assigning responsibility for each essential task, sharing joint responsibility will initially highlight the importance of setting up appropriate interface arrangements. It becomes clear apart from communication between representatives, structured routines involving both technical and social inputs are imperative for effective preventative maintenance.

This deliberation leads to a third stage, where additional knowledge tools are shaped to provide pertinent information that institutions will require to plan for cost effective improvements in current O&M systems.

In a third stage, key decision-making such as the allocation of budgets is best informed by operational realities. By this stage, the collated information will serve as knowledge in hand, which makes it apparent that preventative maintenance suffers a shortfall while reactive maintenance draws on seemingly unspecified budgets. Municipalities may reduce the burden of using municipal and human resources for constant reaction to breakdowns, vandalism and frequent blockages.

Table 4-1: A framework of the guideline for CB procurement in O&M

How to go about unpacking current O&M systems in a sequence which lends itself to informed planning and improvements in current O&M models
1. Identify Community-based opportunities in O&M • Unbundle O&M tasks, their frequency and assign responsibility for each task • identify Community-based opportunities to contribute to improved O&M • Indicate skills and support for Community-based task clusters 2. Monitor implementation • Set up complementary oversight and provide ToR for interactive preventative and reactive support • Establish Monitoring and Reporting routines and schedules 3. Support integration • Base budget requirements on nature of the asset base • Set up appropriate organization across relevant departments • Establish a system of forward planning that supports CB procurement options

Formats for collating the information required by stakeholders in order to keep assets in a serviceable condition, must make provision to:

- Incorporate local level feedback from the operational site,
- Shape municipal/community interface structures to support and improve efficiencies, and
- Provide adequate information for forward planning by the municipality.

Institutions may then plan and budget for reasonable and anticipated recurrent costs rather than draw on unlimited crisis management pots with no apparent boundaries.

Sufficient experience and knowledge of an O&M model will require information inputs from across different levels of stakeholder and municipal departments. Each level of stakeholder has experience and access to information specific to their technology context, area of operation and responsibility. It is therefore crucial that different levels of stakeholder are engaged to unpack different aspects and issues in detail. A series of stakeholder and focus group workshops is suggested to facilitate vital inputs of their knowledge at each stage of collation.

It has become apparent that three stakeholder levels are associated with three particular aspects of any O&M model. These may be summarized as:



1. **Local level** : Identifying CB opportunities by unbundling O&M tasks and assigning responsibility;
2. **Interface between municipality and community**: Monitor implementation by Unpacking management and support, procurement processes and monitoring performance on all operational levels;
3. **Institutional level**: Support integration to fulfill specific requirements to keep assets in a serviceable condition involves allocating adequate budgets and collaboration across departments

Figure 4-1: Pit-emptying: eThekweni VIP programme

Example of a Case Study Good Practice: eThekwini's O&M Models

eThekwini has over 500 informal Settlements, partially serviced by 63 Ablution Blocks. On the periphery of the metro on-site h/h services include UDS and VIP. Although eThekwini is relatively advanced in developing O&M models they have their own issues, gaps and challenges to make their model work more efficiently.

Table 4-2: eThekwini's O&M model: On site level of service (individual household VIP's)

VIP model	WHAT?	WHO?	HOW?
Preventative	1.Community Care: Educate: Dos/Don'ts and h/h responsibility	Households Facilitators	Map-Zones covered 3-day course Introduced to h/hs Sequence of Visits
	2. Check defects - repairs	Local supplier Local contractor	Starter capital Support and training
	3. Monitor		Sequence of Visits
	4. Signing off to h/h	Municipality	Inspection of standard
Reactive	Access, buy in	Apply protocol	
	Specs for emptying	Contractors - local	Standardised fees Tech design for O&M
eThekwini's O&M Model: Gaps and Opportunities			
	Ablution facilities: public/shared	VIP/UDS: individual household	
Gaps	- Costs of O&M to be broken down to specifics and inform indications of financial savings through caretaking on site	- Records of contractor's income to be synthesized to understand LED impact - An aspect of beneficiary agendas in respect of resistance to pit emptying needs to be revisited	
Opportunities	- Caretaker role as a job: "Volunteer" status to be clarified in terms of tasks, responsibilities and procurement procedures, selection criteria	- The O&M models should be captured in a format to serve as a guideline for application in other municipalities.	

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Appendix A: Stakeholder validation workshop 1

1. Introduction

The workshop was organised to:

- Validate information that has been collected during site visits,
- Share experience from individual case study sites,
- Find out gaps,
- Discuss procedures for developing O&M implementation model.

2. Workshop plan

2.1 Validation workshop programme overview

Table 1: Overview of the programme

Day 1 – 31 March 2008		Day 2 - 1 April 2008	
Time	Activities	Time	Activities
10:00 to 11:00	Session 1: Overview of project - <i>Presentation</i> Validation of case study information - <i>Feedback from participants on preparatory documents</i>	09:00 to 10:30	Session 4: Creating and enabling environment for planning, implementation and management of O&M Model - <i>Feedback from participants on preparatory documents</i>
11:30 to 13:00	Session 2: Unbundling of tasks Community- based opportunities Procurement - <i>Groups to discussion per technology & feedback to plenary</i>	11:00 to 12:30	Session 5: Management and support systems for implementing O&M (organograms/structures, reporting and response systems) - <i>Discuss organogram, responsibility management and M&E</i>
14:00 to 15:30	Session 3: Case study – Procedure for developing an O&M implementation model - <i>Plenary discussion on case study steps and information based on previous sessions</i>		

2.2 Presentation

Day 1: Overview of the project, validation of case study data, unbundling O&M tasks and procedure for developing an O&M model

Session 1: dedicated to the validation of case study data based on preparatory documents circulated prior the workshop. Participants from each case study site were requested to confirm the validity of data collated and presented in the document, and provide any additional information pertaining to their own case study site.

Session 2: set to give a feedback on the unbundling of O&M tasks for each watsan technology. Four groups discussed specific details of O&M tasks, procurement processes and management support.

Session 3: a plenary discussion on procedures for developing an O&M implementation model.

Day 2: Developing O&M implementation models and management and support for implementation

Session 1: The session started with an overview of the project by presenting the aims and keys threads, what the project intends to produce and expected outcomes. Participants were requested to give a feedback on profiles, organograms and O&M related documents.

Session 2: following the outputs of the previous session, participants were requested to reflect on O&M planning and support structures by identifying goods practices based on the first day programme and identifying gaps for further research.

3. Workshop outputs

3.1 Validation of case study information

3.1.1 City of Cape Town

All O&M tasks identified are relevant and were validated. The following information was added by participants:

- The chemical toilets are used for a ratio of 1 in 5 family per toilet, given the dynamic of the IS, the ratio may be underestimated.
- The cleaning of the chemical toilet is done by vacuum tanker
- The chemical toilets remain property of the contractor who absorbs all costs related to vandalism, fire, theft etc.
- The container toilets remain the property of the municipality
- The ablution facility O&M tasks are relevant
- The design of old ablution facilities is not standardized compared to the newly constructed facilities.

3.1.2 Stellenbosch municipality

All O&M tasks identified are relevant and were validated. The following information was added by participants:

- The ablution facilities are equipped with full flush toilet (not pour flush)
- Buckets are used to flush up due to vandalism, theft of spares and low maintenance

3.1.3 eThekweni Municipality

All O&M tasks identified are relevant to the technologies. The following information was added by participants:

- The community reports directly to the EHP or community leader (for the ablution facilities) and the EHP make requisition and report to the line manager who sign off and maintenance crew are sent on-site to fix problems reported (in case of minor problems).
- In case of major problems, 3 contractors are called for a quotation and one is appointed following certain selection process to undertake the works.
- Apart ablution facilities, VIP and UDS, the municipality also make use of container ablution facility in certain areas and have standard design in all settlements where implemented.

3.1.4 Alfred Nzo District Municipality

All O&M tasks identified are relevant and were validated. The following information was added by ANDM representatives:

- Trial O&M technologies on VIP are experimented
- The project is at its pilot stage
- There is a need to find O&M guidelines in order to plan the future O&M works on VIP toilets throughout the municipality.

3.2 General comments arising from the validation of case study information

- The technology option as a focus does not in IS setting;
- There is no buy in, no caring of infrastructure; better look at the use of the technology rather than the infrastructure;
- Misuse (putting foreign objects in the vault) is a common problem found in the operation of the VIP sanitation system; this make the manual emptying advantageous.
- Not everyone have access to the toilet (VIP), sharing is problematic and challenging in terms of responsibility of caring of the facility;
- The safety of the manual emptying remains questionable

3.3 Unbundling O&M tasks – CB opportunities – procurement

3.3.1 Grouping of O&M tasks

O&M tasks are grouped into 3 clusters:

- Care of the facility
- Collection
- Disposal

3.3.2 General comments

- Every technology may work but the community involvement and commitment remain the key factor of success;
- The unbundling of O&M tasks was fully understandable and covered all aspect of what is required for each watsan technology;
- Design and technical aspects of the technology
 - the design of basic watsan should include a feedback from users (who should be involved in decision making or informed about design or technology intended to implement);
 - The design should retrofit to users' beliefs and acceptance;
 - Movable design are efficient in terms of O&M;
 - Design to be standardised in order to apply same O&M principles.
- Procurement:
 - The caretaker selection and contract are not incentive
 - Sporadic work and rate of payment (fixed price)
 - The municipality to take responsibility of the half of the salary

3.3.3 Questions that came up in the discussion

- What are the tasks currently carried out under each cluster heading?
- What is the frequency of scheduled tasks?
- Who is responsible for carrying out each O&M Task?
- Who does each functionary report to?
- Are services adequately maintained on the ground?
- What are the variable features to be noted for O&M of technology provided in particular user context?
- Toilet paper supply versus cost of blockages?
- What are different requirements for adequate O&M for shared or for individual facility use?
- Are annual open-ended tender systems cost efficient?
- What are the tender processes?
- How are these conducted in respect of community and institutional protocol?
- How do tender processes ensure or enable the consistency of O&M functions?
- Are contracts informal or formal and secured for appropriate periods?
- What are any "special arrangements" and how may these be formalized?
- How many LED opportunities have been created and filled?

3.4 Case study – Procedure for developing an O&M implementation model

- ANDM is a model to develop an O&M implementation model
- eThekweni municipality to advice on O&M model to be implemented
- Steps to development of an O&M implementation model:
 - Understanding of the technology (unbundling O&M related tasks)

- Establish roles and responsibilities (between the municipality and the household)
- Establish the procurement methods susceptible of empowering local communities
- The management support and institutional arrangements

3.5 Creating an enabling environment for planning, implementation and management of O&M Model

The plenary stated with useful remarks that were made by participants; these are presented as follows:

- In eThekweni ablution facility, the caretaker system put communities on their responsibility or ownership rather than the municipality; this is not sustainable in view of the low incentive payment, the municipality in then requested to pay in order to ensure that the responsibility is equality shared.
- It was also admitted that O&M could work only if the management should start working hand-on-hand from the top to the bottom. The management should be working in conjunction with the ground staff without intermediate; this will ensure a good understanding of the situation and rapid response.

3.6 Management and support systems for implementing O&M (organograms /structures, reporting and response systems)

3.6.1 Monitoring & Evaluation (M&E)

- Good communication is key to the success of M&E
- Regular M&E calls for appropriate support
- CoCT: the maintenance crews are disseminated in the district; the team dedicated to IS is on standby every day. The standpipe implementation team is based at the watsan services offices. There is a new organogram which explain the current administrative situation (to be obtained by the research team).

3.6.2 Organograms/structures

- Stellenbosch: there is also a new organogram which gives more details of the operational structure than the administrative (to be obtained by the research team).
- Procurement and Management support: the success of O&M is also based on the procurement and management support provided. After unbundling of tasks, the next step should be to establish responsibilities, look at the procurement process (how this is conducted) and establish how the community will benefit through such system.
- From the management support point of view, the plenary suggested that to each O&M tasks unbundled, a training needed should be established. It was also requested to establish whether or not if the expertise brought in is linked to local initiatives.

- It was highlighted that the research will explore the lower level of organogram (looking more to the operational and ground staff responsibilities).

3.6.3 Planning Improvement and filling gaps

Suggestions for improvement and gaps that were identified in relation to the framework for developing O&M guidelines for each case site included:

Table 2: Planning for improvement

Site	Gaps	Improvements
ANDM	No O&M model	Need to develop O&M model
	How to implement the O&M model developed?	Based on eThekwini case study?
eThekwini	Ablution facilities: - Clarify the selection system (procurement) and operational structure - Indicate specific cost of O&M - Clarify the volunteer or caretaker position	- Outline structure more specifically - Look at the cost of toilet papers - Clarify roles and responsibilities of caretaker, procurement methods and status as well as related costs - Establish user M&E
	UDS: -Clarify the duration of caretaker employment - Contractor income to be synthesized to understand LED impacts	
	VIP: beneficiary of emptying not informed prior emptying which result in general belief of non opportunity for providing new infrastructures	
CoCT	Reviving communal ablution facilities	
	Revisiting TRA contract and procurement system	
Stellenbosch	Lack of interactive planning High cost of O&M No written information on budget, policies or guidelines No M&E system No specific O&M budget	

3.7 Developing O&M implementation model

- ANDM is a Greenfield site to experiment O&M model;
eThekwini is the upfront the best practice case study site which O&M model has been implemented and should be used as a model for other municipalities;

b) O&M implementation model:

Tasks should be unbundled in the following categories (that may change according to the technology):

- *Care for the facility,*
- *Collection/drainage and*
- *Disposal.*

c) A typical example for VIP provided by eThekweni should involve:

- Unbundling of O&M tasks
- Responsibility assignment
- Procurements mechanisms

3.8 Way forward

3.8.1 Who should engage in the validation workshop and making inputs?

- All levels down the line (communities as users, person directly involved in O&M, community leaders, contractor etc.)
- LED department
- Directors (decision makers)
- Finance departments

3.8.2 How do practitioners engage?

- Structure (organograms)
- Budgeting (of O&M)
- Planning documents

3.8.3 O&M planning sheet

- O&M clusters: care of the facility, collection and disposal
- Tasks involved within each cluster
- Responsibility (for undertaking the tasks)
- Procurement process (how is the person selected?)
- Management system (what specific support is provided to the person appointed?)
- Keys skills (training need)

Appendix B: Focus group workshop design and facilitation

1 Rationale

1.1 Preamble

During the stakeholder workshop discussion and inputs from participants, opportunities for learning from O&M practices across sites were identified, based on a sense of gaps and opportunities in their own context and their interest in testing some aspects of technology – related service provision currently applied elsewhere.

The CoCT targeted the reviving of ablution facilities (in Khayelitsha) in order to test an O&M model that draws from on experience. The Stellenbosch municipality targeted to draw from eThekweni model experience based on fixed pricing for repairs and spares – based on rehabilitation experience, on-site information and standardization of prices. The ANDM municipality targeted to draw from eThekweni VIP model experience based on the appointment of local labour to operate and maintain infrastructures. It was agreed that eThekweni municipality is advanced in planning and implementation of O&M model for basic watsan; however some gaps still to be filled. In all case study sites gaps identified at the previous workshop are to be taken into considerations for improvements.

1.2 Objectives of the workshop

The workshop aims to provide opportunity to participants to give feedback and inputs into guidelines for the integration of CB tasks in O&M of basic watsan, validate the information collected (existing data) and suggest O&M model

The workshop tends to get participants to:

- Identify a generic sequence for the unbundling of O&M tasks
- Identify O&M model using the guidelines as a tools
- Verify the procurement process
- Identify a model for CB procurement of some O&M tasks
- Validate the application of the guidelines tools in practice

2. Workshop design and facilitation

2.1 Summary of the workshop design

Table 3: Overview of the workshop design

Name of tool	Purpose	Target outcomes	Process
Presentation	Introduce participants to the objectives of the project	Understanding of the purpose of the workshop	Introduce the workshop by highlighting the objectives and outputs
Case study data	Present the current findings (data)	Understanding and validation existing data	O&M table is provided and explained o participants
Case study data: O&M table	Participants to validate the data presented	Selection of key O&M tasks	Participants are requested to add additional tasks and validate
List of selected tasks	Participants to select key O&M tasks that create jobs which are best done by them or municipalities	An understanding of CB tasks that create job opportunities for communities	Participants are requested to select tasks that is best done by communities and municipalities
Open discussion	Collect technical and user concern	List user and official taught about O&M, M&E and procurement that will provide job opportunities to local	Open discussion: Users and official are requested to speak out about their taught on O&M.

2.2 Workshop Facilitation

The workshop was designed in so that all questions related to unbundling of O&M tasks; procurement and management support were discussed in sequence shown below. After a brief introduction of the background of the project and an overview of the programme, participants (one group representing users) were requested to go through the four session of the workshop described below.

2.2.1 Session 1: Presentation of case study data

Overview of the project, presentation of case study data and introduction to unbundling O&M tasks.

The session was dedicated to the presentation of case study data collected and validated at the previous workshop. The aims of the project were presented to participants, pictures of the current and previous state of the ablution facilities and overview of O&M tasks pertaining to the ablution facility as validated at the stakeholder workshop.

2.2.2 Session 2: Unbundling O&M tasks

The session was dedicated to the presentation and validation of O&M tasks. The session was set to get participants to provide additional tasks and indicate whether or not presented tasks are related to the technology. Participants were grouped according to their specific function as user or beneficiary for those who make use of the facilities and technical for those involved in the O&M (private contractor or municipal staff). The groups discussed the tasks by presenting tasks that are best done by communities and those best done by municipality.

Envelope containing O&M tasks was handed out to participants. All tasks identified as important to the proper day to day functioning of an ablution facility were explained. (Any other that may have been added from previous activity and blanks to add those tasks have not been identified in the envelope). Participants were:

- asked to add tasks on blank pieces of paper that are not on the list that they believe should be part of the O&M tasks required;
- asked to use coloured dots provided to indicate those tasks that should be carried out by using colour codes as indicated: (community – red dot and municipality – green dot);
- requested to select only those tasks that have been identified as to be taken up by local residents.

The exercise was achieved by dividing the task slips into those that are part of either (routine maintenance or response to crisis on separate charts provided). On the columns/blocks provided on the task slips with red dot, participants were requested to agree on and indicate: how long it takes to complete each task identified as to be undertaken by the community and further participants were asked to put forward how often they perceive that the task is to be carried out (daily or weekly):

Table 4: Model job chart

Task	Time per day	Frequency		Total hour/ month	Equipment and material	Any other comments/issues raised/notes
		Per day	Per week			
Stick slip on						

Participants use the task slips to complete the table for each task:

- Estimate the total time it takes to complete the task in a week (against 8hrs per working day in a 5 day working week)
- Estimate total time spent on the task per month
- Suggest materials needed to carry out the task
- Suggest and other support required to complete the task and add any other comments relevant to carrying out the task identified

Participants were asked at the end to cluster together those tasks (given the calculated time required to undertake the tasks) that create a job. And paste the cluster tasks on the job chart presented in table 3.

2.2.3 Session 3: Integration of CB tasks with municipal O&M planning

The session was dedicated to identification of tasks and how these tasks can be integrated to the service delivery mechanisms in the context of the municipality.

- Selection and procurement of local community-based labour

a) *Discussion*: participants were requested to discuss the following questions:

- Who should be targeted? (Age, gender, location)
- Requirements
- How should applicants apply for position?
- How should applicants be selected?
- Duration of appointment?

b) *Report backs*: the group was requested to report on the discussion by giving reasons for the choice made.

c) *Conclusion*: participants were requested to provide a final O&M planning based on discussion.

2.2.4 Session 4: Selection of most appropriate O&M Model

The session of dedicated to the discussion during which participants were requested to identify and suggest a most appropriate O&M model (recruitment and selection).

Participants were requested to:

- Identify most appropriate model by placing sticker on table and give reasons why they selected a particular model (i.e. the advantages) and the potential limitations of such a model.
- Identify management support that the municipality will need to provide for each model by placing sticker on table and reports back and the facilitator to comment on similarities and differences.

Table 5: O&M* Presented to the workshop participants

Labour Contracts		Management / Service Contracts			Lease	Concession
Municipal employees	Labour Broker	CBO/NGO	SMME	Franchise		

** All types of contract were explained and participants were requested to explain the most appropriate model and give reason for the choice made. Following the explanation given, the facilitator was able to indicate the O&M model identified based on the list presented in table 5.*

Appendix C: Case study sites Workshop outputs

C.1 City of Cape Town

Two workshops were held separately due to the refusal of municipal officials to meet with community representatives and the sensitive nature of the topic. The selection of groups profiled in this workshop was random. The numbers that represent the groups were used only for group identification purposes. The first workshop was attended by the users group and the second by the technical group.

User group refers to member of the community/beneficiary and user of the facilities as well as any person involved in community structures. Technical group refers to person involved directly or indirectly in O&M of the facilities; it includes contractors or municipal staffs.

The requirements for targeted individuals for selection were noted as:

➤ *Users group:*

- No need of formal qualifications, Innumeracy and literacy to be considered as minimum entry level.
- Individuals need to possess the ability to read or write, necessary to order materials required to undertake tasks
- Individual living in the vicinity of the facility.
- Employment of individuals on a rotational basis from the list of those who were retained (after short-listing).

➤ *Technical group*

It was proposed that unemployed youth (of up to 35) and adults are suitable for the job. It was agreed that the person should be a mature person who understands and values the importance of proper sanitation practices. It's not just a job, the individual selected:

- Must be willing
- Should be responsible
- Must be from area where ablution block is located. Close to home for the opening and closing of facility.
- Basic literacy and innumeracy skills required to compile reports and do stock control
- Duration of appointment:
 - Permanent position through the municipality – job security. Contractors have poor track record. Also difficult to get stuff on lay-by if don't have a permanent job.
 - Need for proper grievance procedures to be in place- workers need to be able to voice them and have concerns responded to.
 - Strike.

a) Effective management system, protocols and procedures

- Good communication system between users and service provider. This should start with community, community leader or representative, the municipality (representative) and then up to the decision makers).
- The protocol and procedures does not matter;
- The municipality remains custodian of the service and should provide necessary services as required by users.

b) Monitoring and Evaluation

For the facility to be declared clean it should meet the following criteria (which are also used by the person responsible for monitoring and evaluation the work done by the designated person):

Table 6: Performance management criteria checklist

Criteria	Toilet bowl & seat	Hand wash basin	Urinal & shower	Floor & wall	Washing post
Smell pleasant & fresh					
Clean & scrubbed					
Using cleaning materials					
Attractive					
Polished					
No solid/liquid deposit					
Disinfected					
Flushing (when available)					

c) Other issues arising from the workshop

Unbundling O&M tasks

- Operations: the caretaker needed to do following:
 - Responsible for cleaning:
 - Clean, sweep and wash floors with hosepipe. Scrub and disinfect with jeyes fluid
 - Clean inside and outside bowl and disinfect
 - Clean basins and disinfect
 - Clean showers and disinfect
 - Clean outside ablution block – up to 3m
 - And access (opening and closing) 5h00 till 10h00 and 6h00 till 10h00. Need s 2 people to attend to

- Stop people from washing dishes in or emptying food into basins. Causes major problems and blockages. Suggestion for need for outside troughs.
- Need for security raised. Security guard 9pm till 5am
- Install outside lighting. Security outside facility as well as access;
- Education: responsibility of City to create Health and Hygiene awareness programmes. Involve ward forums and sub-councils.
- Toilet paper: Caretaker to issue toilet papers; ongoing supply by the City provided in small weekly quantities that can be stored on site. Investigate option of building secure store within facility. Concern – draw attention, stuff could be stolen. Vandalism, bad element

Suggestion of CCTV camera (join up with community policing programme)

➤ Maintenance

- Caretaker responsible for:
- Minor repairs – replace tap washers, repair cistern leaks, replace bulbs, unblock pans, unblock basin traps
 - Council supply materials: jeyes fluid, tools, brooms, mops, toilet brush, plumbing pliers, shifting spanner, drain rods, spade, fire extinguisher.
 - Council also to provide basic spares - Highlighted need for stock control and reporting of spares used.
 - Training required for fixing leaks
 - Caretaker also responsible for reporting major blockages (outside lines) that could affect toilet block. Council to clean outside main lines

➤ M&E

- Daily attendance record; Activity sheet – daily
- Stock control: Spares checklist
- Monitor water consumption
- Report any incidents
- Issue condoms

- Other: It was suggested that the Health Dept should use the facility to promote other health awareness activities and as a place to hand out promotional materials, information, etc.

d) Suggestions and way forward

- There is a need for a system to be put in place for the monitoring of the emptying of night soil.
- Monitoring by the attendant to ensure that it is appropriately done and at times that are designated.

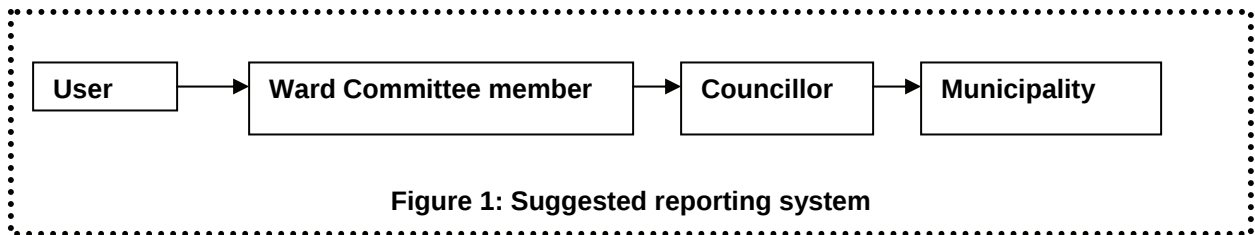
C.2: Stellenbosch Municipality

The workshop regrouped technical group representing municipal officials and users group representing community. Both groups were requested to raise issues related to the O&M of facilities based on the workshop programme presented above.

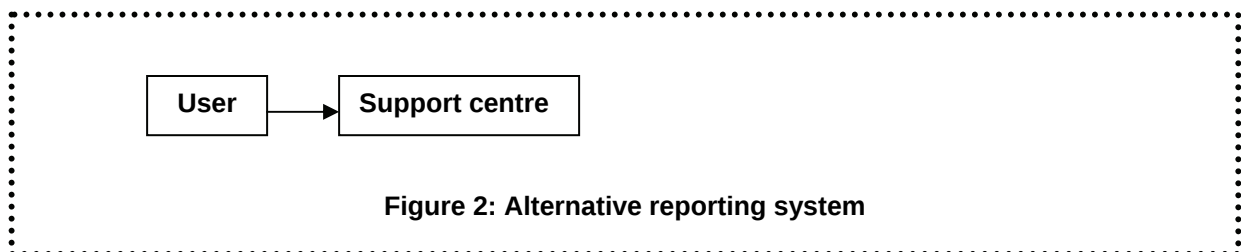
Following the same methodology, it was recorded the following outputs:

The reporting of blockages was identified as important to the operation and maintenance of ablution facilities. Two methods of reporting were identified:

a) *Use of community structures to report to the municipality*



b) *Reporting directly to the municipality (Support centre)*



C. 3 eThekwini Municipality

The workshop was attended by technical group representing the water and sanitation and health departments and the users groups representing community. The user groups were classified according to the specific watsan technology in use.

- Given the volunteer status of personnel that attend to the ablution facilities, access varies in two sections of eThekwini.
- In some areas the ablution blocks are accessible only during the day, i.e., till the early hours of the evening.
- In other sections, there is access for 24hours. The individual with the keys and toilet paper does not stay at the facility. Instead, community members can visit the volunteer any time after hours to request access and toilet paper. This is not much of an inconvenience as it is agreed upon by the community as a whole during community meetings.
- In both scenarios, provision is made for the disposal of night soil at the facilities in the morning. That is, for the facilities that are open during day hours only and for those that do not wish to use the 24 hour accessible facilities. There are enough toilet facilities available to allow dedicating one for the disposal of night soil during the morning. The night soil emptying is done on the early hours of the day and the caretaker oversee the emptying process

The facilities are the responsibility of individual beneficiaries. It is therefore the responsibility of end-users to ensure that their facilities are in a serviceable condition. Individuals seek the services of the CB contractors to ensure that O&M tasks are carried out.

The main task of the municipality is information dissemination to beneficiaries. Thereafter contractors undertake O&M.

- There are Health and Safety implications for community members undertaking O&M tasks. Contractors find themselves the most ideal people to undertake O&M tasks as there are precautions for personnel that are necessary prior to engaging them in emptying.

a) Local opportunities in O&M

Table 7: Community-Based opportunities identified

Technology	Opportunities	Tasks	Staff requirements
Ablution facility	- Caretaker - Educator/facilitator	Cleaning and taking care of minor repairs at the ablution facility Educating and facilitating	Full day job (8 hours) Full time job for ongoing process
UDS	Caretaker (contractor)	Emptying, checking/fixing urinal ...	Full day job
VIP	Cleaner (contractor)	Emptying pits	Cleaning of toilet for at least $\pm$ 15 min/ toilet/day

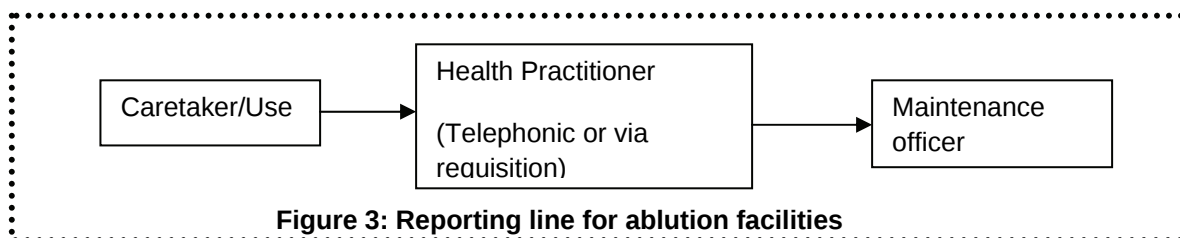
b) Targeted procurement strategies

- Individual residing within or outside the area (contractor position)
- Local residents (for cleaning jobs)
- Volunteer who shows interest in the matters of water and sanitation

c) Effective management systems, protocols and procedures

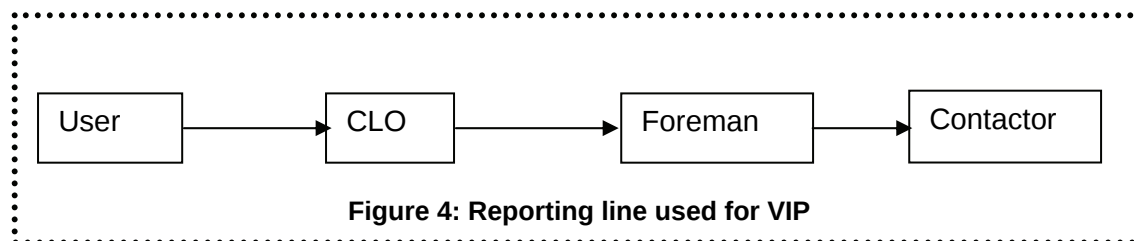
- *Reporting complaints*

The following chain is used for reporting and collecting complaints for ablution facility and operates well.



- *Reporting*

The current reporting structure works well for VIP O&M requirements. The reporting line is as follows:



d) Monitoring system in place

Health aspect is monitored by:

- SHE representative twice a week
- Municipal representative once a week

* SHE: Safety, Health and Environment

Table 8: Gaps identified and suggestions for improvements

Technology		
Ablution block	VIP	UDS
Gaps identified		
Operational structure	Refusal or resistance of beneficiaries to emptying require an agenda	Duration of the caretaker employment to be specified
Cost of O&M to be specified and broken down		Record of the caretaker income
Caretaker role as a job need clarity as well as volunteer status in terms of tasks responsibilities, procurement and selection criteria		Fixed prices for repairs to be clarified in terms of sustainability
Suggestions for improvements		
Identify skills within local community; use these skills*	Inform community, councillor and community structures about emptying	The caretaker contract should be 6 month or $\pm$ 1 year renewable
Create corporative (a suggested procurement model)	Listen to household and explain the motive for emptying	Household should be responsible for emptying and the municipality to provide only support
O&M falls under the operating budget while new facilities falls under capital budget	Request refusal note in case of refusal or resistance	The municipality should budget for O&M (specific O&M budget is required)
Caretaker ...	Create volunteer association tasked to collect community views prior emptying	

* The question arising was about the payment and supply of materials

* Due to the slow O&M response from the eThekweni health, the watsan services will be taking over the management of the ablution facilities in near future.

C.4: Alfred Nzo District Municipality

There are 2 types of VIPs in that are operational.

a) *The 1st type of VIPs is those that individuals constructed for themselves before the municipality provided toilets. The structures of these facilities are constructed using different types of materials ranging from wood to zinc depending on affordability and availability of materials.*

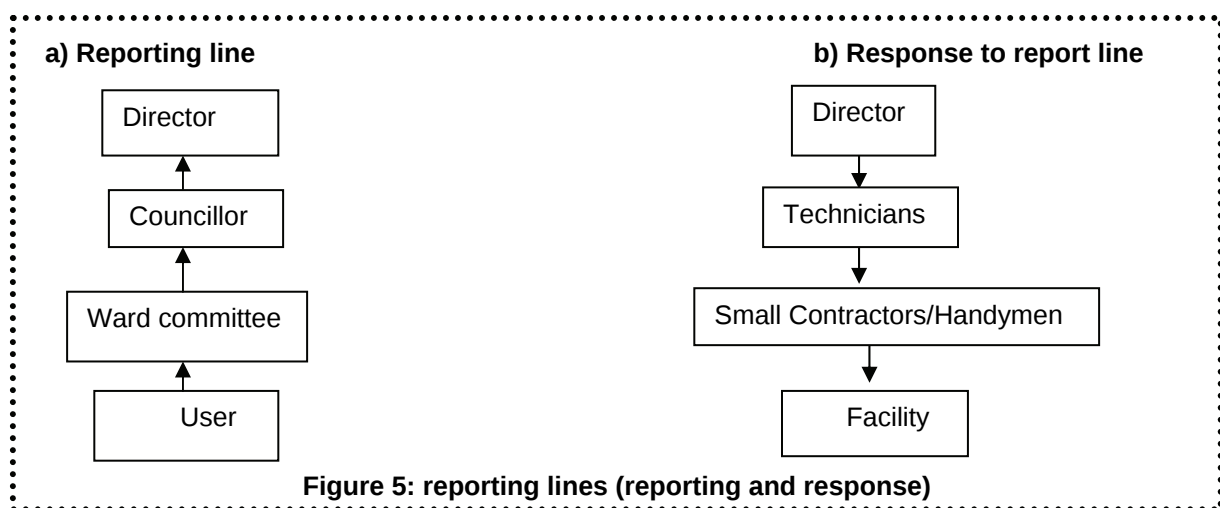
b) *The 2nd type is those that the municipality has been gradually constructing for residents since around 2004. The structures of these facilities are constructed from mainly cement and blocks and are lined.*

When and where facilities are full, residents have simply abandoned the facility and built new ones close by. Reusable materials are used to construct the new structure while the pit is simply cover.

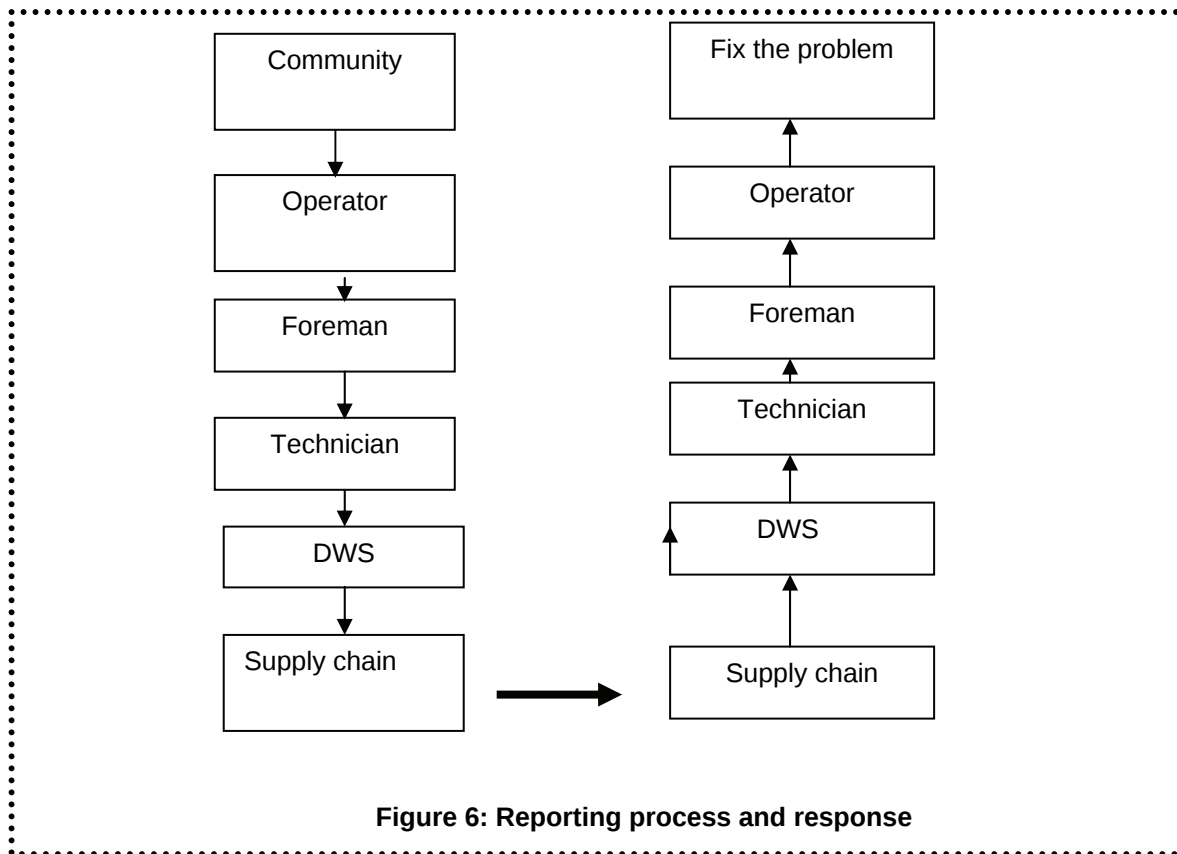
- Conventional VIPs are those that the municipality has been gradually constructing for residents since around 2004
- Non-conventional VIPs are those individuals constructed themselves before the municipality provided toilets

Toilets that are constructed are currently constructed for use by on average a family of 13 people. As most are not 'old', they have not filled up yet. Thus the tasks associated with full toilets are not considered.

Reporting: It takes up to 3 to 4 weeks to have O&M reports attended to. This is attributed to a long 2 way reporting system that is in place in the municipality. The reporting lines are as follows:



- *The reporting process for the standpipe is as follows:*



APPENDIX D: Stakeholder Validation Workshop 2

1. Introduction and Workshop Programme

1.1 Introduction and Outline of workshop

This stakeholder workshop invited further municipal collaboration to develop the guidelines for sustaining basic services delivery through an O&M approach that promotes local economic and social development. Having completed a second round of data production through local level workshops, the Community Water Supply & Sanitation (CWSS) Unit research team engaged case study stakeholders with the framework for the proposed guideline.

The workshop intended to garner from practitioners further inputs related to the shaping of knowledge tools that may best provide the information needed by the institution. At this stage, the workshop facilitated additional stakeholder inputs on mainly organisational aspects of the guideline, with the following foci:

- procurement processes (the basis and process of selection, appointment and contracts);
- management and support (interface with local level, reporting systems);
- monitoring and evaluation systems (performance, use and function);
- forward planning (budgets based on asset base, appropriate organisation and planning).

1.2 Objectives of the workshop

Workshop objectives were to:

- Provide an opportunity for participants to validate case study information.
- Provide a forum to share experience and questions with regard to integrating CB opportunities into O&M practice
- Garner inputs from practitioners regarding the essential elements of intended guideline and related information requirements

1.3 Workshop Programme and Participants

The workshop was facilitated as per scheduled programme except for the fourth session. The change to the original programme was due to the importance of the organisational structure in implementing the O&M of facilities. The last session was dedicated to shaping appropriate organisation based on managing performance, supervision and reporting.

The adjusted workshop programme is presented in the table D-1 below.

Table 9: Workshop programme

Time	Activity	Outcomes
09-00 – 09-10	Welcome and introductions	
09:10 – 09:25	Presentation of case study data	Outline of Framework and Formats
09:25 – 10:25	Presentation of current practice on selection and procurement of CB jobs and contracts Discussion of Co-operative / SMME model	Recommendations for appropriate guideline tools for the selection and procurement of local labour/contractors – A, & B
10:25 – 10:45	Tea break	
10:45 – 11:45	Presentation of current practice for managing and supporting O&M Discussion on appropriate interface structure and function	Recommendations for management and support requirements for O&M – C
11:45 – 12:30	Presentation on current practice regarding monitoring and evaluation	Recommendations of M&E systems – Reporting formats and response – D
12:30 – 13:30	Discussion and provide an example of appropriate organisation and reporting structure.	Recommendation for the appropriate organisation (organogram and reporting structure) – E
13-30 -14-00	Lunch Break	
14:15 – 15:00	Open discussion (based on the organisational structure provided) and the recommendations for the way forward.	

Presentations by the researchers were based on the research framework, prompting inputs from stakeholders that covered key areas specific to a comprehensive O&M Guideline, including:

a) *The Asset Base*, confirming the significance of :

- Planning documents and how information is fed back from operational to institutional levels;
- Technologies and levels of service are not apparently standardized, especially in shared facilities despite evidence of sharing of facilities being predominant;
- Sources of funds for O&M of basic services, and pro-active rather than reactive budgeting.

b) *Integration of Community-based Opportunities* through:

- Unbundling and Clustering of O&M Tasks;
- Partnerships between community and municipality;
- Opportunities taken up from exit strategies for local employment in the construction phase
- Standardised prices for Supplies (materials) and Services (rates).

c) *Management and Support* , particularly in respect of:

- Procurement processes
- Oversight of performance across complementary departments
- Interface between levels and M&E of use and function

d) *Institutional Knowledge* required for planning (as in point 1 above)

e) *Analysis of data for a Guideline*, including:

- Community-based Opportunities with local level inputs in sequence
- Interface arrangement covering levels of actors
- Knowledge Tools that adequately inform institutional decision-making

1.5 Group profiles

In the following table, participants to the workshop were grouped according to the watsan technology and municipality of origin.

Table 10: Profile of participants group

Technology	Participants	Position	Case study site
Ablution facility*	Heindrein Wanza	Supervisor	Stellenbosch
	Nolufefe Mdingi	Engineer	CoCT
	Dannie Klopper	Water Legislation	
	Zoelfa Manuel	Procurement officer	
	Larry Cronje	Engineer	
	Elroy Platjies	Senior EHP	
	Michael Doormsay	Maintenance officer	eThekwini
	Mzobe Pumzile	EHP	
	Siva Chetty	Deputy Head: Pollution Control Support and Risk Management; eThekwini Health Department.	
VIP + Standpipes; UD + ground tank	Teddy Gounden	Water and Sanitation education	eThekwini
	Lucky Sibiya	Water and Sanitation education	ANDM
	Naku Wandile	ANDM Sanitation	
	Gulwa Zolani	ANDM Water	

* The ablution facilities technology covers 3 case study sites as indicated; each group was involved in the facility pertaining to their respective municipality.

2. Stakeholder Focus Group outputs

2.1 Recommendations for guidelines for the selection and procurement of local labour/contractors

2.1.1 Presentation details

The presentation was basically related to:

- Current practice on selection and procurement of CB jobs and contracts
- Discussion of Co-operative / SMME model

Current practice on selection and procurement of CB jobs and contracts is based on findings from stakeholder focus group workshops that were held in the 4 case study sites, where appropriate selection, procurement and the management of are critical.

Lessons learnt from the case studies were outlined as follows:

- The understanding of procurement strategies were partially covered in all sites.
- Data provided by participants primarily limited to selection criteria
- Data generated had the commonality of the use of community structures in the selection process.
- It was in eThekweni case where more details around procurement issues were provided (outputs from eThekweni were presented as examples).

2.1.2 Tools presented

The objective of this section was to:

- Outline a procurement process (table 11) by adding details relating to the selection process, appointment and reporting.

Table 11: Procurement Process

1. Contract?	Job	Contract type	Justification
	Caretaker		
	Security		
	Pit/Vault emptier		
	Plumber		
2. How do you procure?	Phases	Who?	How?
	Select		
	Appoint		
	Supervise		

- Outline contract details (as presented in table 12)

Table 12: Contracts and TORs

Job Description	TOR
1. Position	
2. Duties and Responsibilities	
3. Deliverables	
4. Reports to	
5. Reports on	
6. How do you know the person has done their job	
7. Conditions of payment	

Notes:

In the table 11, the first section is set to outline the contract type after defining the job entitled and provide justification of the contract type selected. The section outlines the procurement process (from the assessment, appointment and supervision) and describe relevant stakeholder involved in the process.

The table 12 is used to outline the contract details which describe the job and related terms of reference (TOR). The position and related duties and responsibilities should be identified and clearly described. Afterward, deliverables (the product of the work done) should be defined as well.

The reporting line which indicates the direct individual to whom the person tasked to do the job should report to and matters that should be reported are to be clearly described.

The last 2 sections involved the evaluation of work done and related payment. The first section should provide a clear indication of job evaluation criteria and acceptance which are required before signing the job sheet which entitle to a payment.

All these parameters should be clearly indicated in a document where all term of reference such as criteria of acceptance, reporting lines etc. are written.

2.2 Plenary session outputs

2.2.1 Selection process

Table 13: Selection process

SELECTION	
Current practice	Recommendations
<u>eThekwini</u> For greater community recruitment drives, eThekwini uses the Poverty alleviation department for selection purposes. The department has established processes that communities and their structure understand and are comfortable with. (Cooperatives within the community the community)	<i>Example: (Ablution facilities) Moving from Volunteerism to Cooperative model</i> - Job: Caretaker/Educator - Description: (description roles and responsibilities well described in previous workshop outputs) - Selection - Cost - Use a data base - Data base is managed by the Sub Council Manager. - Data base enlists a pool of individuals to be taken on to undertake jobs
<u>eThekwini</u> For the selection for the Caretaker position, the key criteria of the caretaker selected are his location. The caretaker location has to reside within the vicinity of, or close to the facility. The <i>context</i> is important Other than the location, other considerations need to be made. Considerations such as: How much paid Duration of contract (in this case, a duration of 2years was recommended)	<u>CoCT</u> Combined selection (LA and the community structures) is important. The CoCT in defining criteria for selection considers experience and being a resident as important criteria
<u>CoCT</u> The CoCT has in place a data base. The database available constitutes of local residents. The data base has local preconditions.	<u>eThekwini</u> With regards the experience as part of skills requirement for criteria of selection: is it not relevant to ensure the consideration of individuals involved during construction? (as was the case once in eThekwini)
<u>eThekwini and Alfred Nzo</u> Local council involvement is important in determining the criteria of selection and the selection process	<u>Learning from other sectors</u> Solid procurement may be worth taking a leaf from. Contractor – LED – waste
<u>Alfred Nzo</u> The determination of criteria and the selection involves the calling of a meeting for all. To allow a process that is not biased, CDWs facilitate the process. CDWs are considered neutral.	<u>Link between M&E and selection criteria</u> Important – Person overseeing work carried out needs to be involved in or oversee the selection process (who is selected)

2.2.2 Procurement

Table 14: Procurement process

PROCUREMENT	
Issues	Recommendations
<u>CoCT</u> Until 3 years ago, recruitment was community orientated. New policy regarding local contracts and casual contracts The implications of a new policy put forward by the current administration regarding local contractors and casual workers may need to be factored in recruitment processes.	
<u>Alfred Nzo</u> Zonal structures form and integral part in the engagement of communities in programmes on the ground. Involvement of communities depends on the level of engagement of community	<u>Alfred Nzo</u> Zonal structures Involvement of people depends on the community -Looking at cooperatives – looking at projects This involvement of Zonal centres ensure that, Cooperatives report to Municipality – Community structures monitor thereby assisting to structure monitoring and evaluation process.

Notes:

Discussions relevant to procurement provided inputs to this phase of the conceptual framework based on current practice and challenges faced. The process clarified selection processes and procurement issues. However, there were procurement related issues (such as Appointment of CB labour/contractors, reporting in relation to procurement and Outline contract details that were not adequately covered.

Tools used (in table 11 and 12 above) did not create adequate space for the discussion of these issues.

2.3 Recommendations for management and support requirements for O&M

2.3.1 Presentation

The presentation of current practice for managing and supporting O&M focused on the following:

- Management and Support requirements
- Discussion on appropriate interface structure and function.
- Management and Support (in terms of materials & equipment, support needed to undertake the job and in terms of M&E)

Arrangements for management support are based on evidence obtained from the four case studies, where specific and joint responsibility rely on communication through reporting systems to continuously inform the O&M system if it is to be effective.

The objectives of this section were to understand:

- Relevant support for skills and training, needed to undertake jobs outlined.
- Reporting protocols and procedures outlined

a) Support in terms of materials and equipment

After clustering the tasks, identifying and defining the related job (as presented in section 2-1) relevant materials and equipment needed to undertake the job should be identified. Following this, it is requested to assign the responsibility for supplying, safe keeping and the frequency of supply. The cost, source of funding and procurement method should also be understood and established.

Following these issues, it was requested to respond to the following questions in order to understand the support needed in terms of materials and equipment:

- What materials and equipment are needed to undertake the jobs?
- Who's responsible for supplying mat & equip?
- Who taking responsibility for safe keeping of supplied materials & equipment?
- How often materials & equipment are supplied?
- The cost of materials & equipment?
- Source of funding?
- How materials & equipment are procured?

The understanding and responses to these questions will assist to establish the support needed in terms of materials and equipment needed for the identified job and the procurement process related to the supply.

b) Management support needed to undertake the job

At this stage, the management and support system looks at the supports needed to undertake the job. The support is viewed in terms of the following:

- Reporting structure (such as organogram, or reporting line etc.)
- Roster (which establish the working shift for individual involved)
- Checklist (needed to check what job to be undertaken etc.)
- Skills or training (needed to empower the individual to perform duties)
- Criteria and tasks requirements (needed for evaluation purpose)

The management support needed to undertake the job relies on the reporting system. Issues related to this are:

- *The existence of a reporting structure* which indicates:
 - Reporting on what? (matters to be reported)
 - Reporting to whom? (the responsible person to report to about what happen)
 - How often should the person report? (the frequency of reporting)
- *Other support* may be needed:
 - Roster
 - Checklist
- *Additional supports* needed were identified as:
 - Skills and training needed to undertake the job
 - Criteria and tasks (constituting a job) requirements
 - What the job entitles?
 - Specific requirements of the job?

c) Management and support in terms of M&E

Following the themes presented in the previous section, the success of O&M relies on proper M&E system. To be efficient, the M&E system should be based on the following:

- Who is checking the job done?
- Who is managing the job?
- How long it take to complete the job?
- How the work done is measured against the payment?
- What should the appropriate reporting structure for an efficient O&M?
- What should be the management and support requirements for O&M?

2.3.2 Tools

Table 15: Knowledge tools

Job (task objectives)	
What one reports on?	
What needs to be done?	
How do you know it is happening?	
Actor	
Role	
Reports to?	
Measure?	
How to measure?	

2.3.3 Current practice for managing and supporting O&M

In the best practice arrangements in eThekweni, two supervision systems that are in place are demonstrated. A brief overview of these arrangements is presented in table 16 below.

Table 16: Current practices for managing and supporting O&M

Technology	Current practice
Ablution facilities	The Municipality (Health Department, Environmental Health) deploys Environmental Health Practitioners and a Maintenance Officer to oversee social and technical aspects of O&M, including local, volunteer Caretakers selected by local committees to undertake the care of the facility.
<i>VIP/UDS</i>	The Municipality (Water Services) and CBO shares responsibility for the appointment and management of community based workers, contracted to empty vaults and pits and restore/repair facilities as needed. The Water Services Training division's inputs are embedded in the project cycle that is driven by delegated Water Services program managers.

2.3.4 Group outputs on Management model for watsan technology and related issues

Management and Support, particularly in respect of:

- Management model for watsan technology and related issues
- Requirement for managing and supporting O&M
- Oversight of performance across complementary departments

Table 17: Management model for ablution facilities (Stellenbosch)

Job (task objectives)	CLEANER – Ensure that the facility is good condition at all times
What one reports on	Cleanliness of facility daily Breakages and leakages.
What needs to be done	Ensure that the facility is cleaned and maintained against the standards set on the roster -
How do you know it is happening?	Facilities are checked constantly by the supervisor - Checked for cleanliness, no leakages and breakages. Reports from the cleaner reflect that the tasks are undertaken properly. Unfortunately there was no way of getting the users feedback on the status of and satisfaction of users.

Table 18: Management model for ablution facilities (CoCT)

Job (task objectives)	Contractor Servicing of toilets
What one reports on	Condition of toilet and infrastructure Inspection as per specification
What needs to be done	Verification will be claimed on invoice and payment controlled by the PM
How do you know it is happening?	Feedback from the community Feedback from support team reporting to the PM Feedback from contractor, CLOs and EHP

Notes:

Participants provided input as they interpreted the tools provided. Tools and structures that LAs use were not discussed. Issues raised were related to the performance indicator and payment as indicated in tables 19 and 20 below.

Table 19: Performance Management model for ablution facilities (CoCT)

Actor	Community to CLO	Contractor	Project Manager/ Representative
Role	Report on satisfaction with service	Maintain an acceptable level of service	Manage the level of service provided
Reports to?	Councillors Community rep/ forum	Project manager/ representative meeting/ ward meeting	Council ward meetings City manager Direct line manager
Measure?			
How to measure?			

Table 20: Payment method

Payment	
Issues	Recommendations
<u>CoCT</u> CoCT has previously experienced problems with payrolls and tax. For this reason it considered the employment of an external payroll company	Is it not possible to unlock Grant in Aid? Though noted that the funding is restrictive – is it not worth pursuing? DWAF to distribute money through agency. Agency distributes. Because agency is less restrictive.
<u>eThekwini</u> eThekwini highlights the cost implication of use of an agency. Employment if an agency would increase the costs on the part of the local authority.	<u>eThekwini & CoCT</u> The suggestion to establish a complementary facility next to the ablution facility can be taken into consideration. (This was identified as taking place in Indonesia) This could supplement payment as well as make the facility 'more communal'.
<u>CoCT</u> Tariff funded Parameters	
<u>COCT</u> CoCT has previously used vendors. The system function well, but they had to end up paying tax fines to SARS. No tax had been deducted. Labour broker in the past was fine. Broker was responsible for paying tax, but the brokers were expensive. Labour broker arrangement factors in paying the labour brokered and the broker.	

2.3.5 Requirement for managing and supporting O&M

Following the presentation participants suggested the following requirement for managing and supporting O&M (regardless of the technology):

- Understanding of the technology (in terms of how it works)
- Knowledge of O&M tasks involved
- Selection of appropriate individual to undertake the job
- Provide necessary skills or training to the selected individual
- Provide a management tools such as checklist, roster etc.
- Instate an efficient M&E system by clearly define the reporting line and structure and matters to be reported on and frequency.

2.3.6 Oversight of performance across complementary departments

The current reporting system (in all case study sites) makes difficult the interaction between departments. The following table gives an indication of the oversight of performance across departments on case study sites.

a) Ablution facility:

CoCT: The water and sanitation department is responsible for O&M related works. The procurement of personnel is done by the HR department while materials and equipment are procured by the supply chain department via contractors registered in the database.

Stellenbosch: The water and sanitation services are responsible for O&M; a small budget is allocated to undertake small O&M works. The main O&M works such as major blockages or breakages (in case of ablution facilities) falls under wastewater and reticulation services; and everything related to water falls under the water services. The engineering department is responsible for ordering materials and equipment needed while the supply chain is responsible for supplying it via contractors.

eThekwini: The Health department is responsible for building, O&M and M&E of the facility while the water services is responsible for major O&M works at the facility including water.

b) VIP:

eThekwini: Water and sanitation services are responsible for O&M (which is undertaken on 5 year cycle emptying model). Since it is an individual facility, the household is fully responsible of O&M related to the care of the facility. In case where the facility is full before the 5 years cycle, the household is responsible for emptying at own expense. The contractor undertakes O&M works once every 5 years. Water services in responsible for water standpipes.

ANDM: The water services and building department share responsibilities of water and sanitation. Water services undertake O&M related to water while the building department takes responsibility of building VIP and assist in distribution of Kalika (a chemical believed destroying the VIP content) to disintegrate the pit contents.

In view of the description, participants agreed that the oversight of performance is a challenging task. Given the administrative procedures, in certain case study sites it takes up to 2 weeks to solve a simple problem such as leak or breakage. It was recommended proper structures (organogram as suggested in the section below) and assignment of O&M tasks to a dedicated department which should be responsible for the procurement of materials and equipment required (as it seem to be the case of eThekweni).

2.4 Recommendations for guidelines for M&E systems - Reporting formats

2.4.1 Presentation

Following the analysis of data it was found that the central to linking the local level and off-site asset servicing requirements is an M&E system that:

- incorporates local level feedback from the operational site,
- informs improvements in preventative O&M,
- Informs public support institutions on gaps and opportunities.

The presentation focused on: Good practices M&E systems, M&E systems and Outlines for the guidelines.

a) Good practices M&E systems

Generally the Monitoring and Evaluation structures were not clearly outlined. Stellenbosch stakeholder inputs: “For the facility to be declared clean it should meet these monitoring criteria. Such a checklist should also be used by the person responsible for monitoring and evaluating the work done by the designated person”.

Table 21: Checklist for M&E of ablution facility (Stellenbosch)

<i>Criteria identified by:</i>	
User group	Technical group
Blockages	leakage
General cleanliness of walls and floors	Vandalized spares
Cleanliness of toilets after use users	Broken/blocked pipes or toilets
Leakages of pipes and taps	Urinal, window and wash basin
Vandalism	water availability
All facilities inside the ablution facility are functioning properly	Fencing
Cleanliness of toilets after use users	Doors and walls
	Floor

This “checklist” was proposed to include the following:

- day, date and time;
- description of the item,
- comments and signature

It was identified that the performance management plays a major role to support the M&E system (eThekwini VIP):

Performance management: Payment against Evaluation of work done.

The current O&M system works well for VIP due to the M&E system. A payment certificate is used to pay-off contractors for O&M tasks undertaken. Contractors are paid off after:

- The beneficiary is satisfied with the O&M work completed.
- Signing off by the CLO or the Foreman (approval of work done by relevant person representing the managing contractor).

The payment certificate is against a checklist of items which includes:

- Structure: the stability of the VIP structure
- Pit: the depth of the pit and the corresponding volume of content emptied
- Vehicle checklist
- Performance: the number of pit emptied daily based contract TOR.

eThekwini is the only case study site where a systematic link between the levels of stakeholders (to complement the inspection) and random checking associated with management as monitoring of inputs. It is in the space between levels that progressive learning based on experience of outputs takes place, and where ideas for improvements are shared.

Arrangements for monitoring eThekwini’s public Ablution facilities were described by the eThekwini Maintenance Officer as, “Monthly site visit: meeting with community and collect complaints and suggestions for improvement.

b) M&E systems

As pointed out by Shordt (2000) monitoring is best planned and carried out **on all levels** by those who will **use the information to improve systems**. These include:

- Municipal officials (programme managers and field staff),
- Intermediaries (NGOs and consultants) and community level workers (hygiene promoters, facilitators, training personnel), and
- Community members involved in providing services and important local level support of the systems they use.

c) *Outlines for guidelines*

- Local level inputs provide valuable insight into details of key preventative tasks and support required from Municipal line departments, their consultants or main contractors;
- The interface between communities and the municipality is central to linking local level and off-site asset servicing requirements. An effective M&E system will:
 - incorporate local level feedback from the site,
 - inform public support institutions on gaps and opportunities,
 - inform improvements in preventative O&M.
- Institutional decision making based on evaluating actual outcomes of inputs on a local level - where the system is operated and maintained – will take up opportunities for the most cost-effective approach to keeping assets in a serviceable condition.

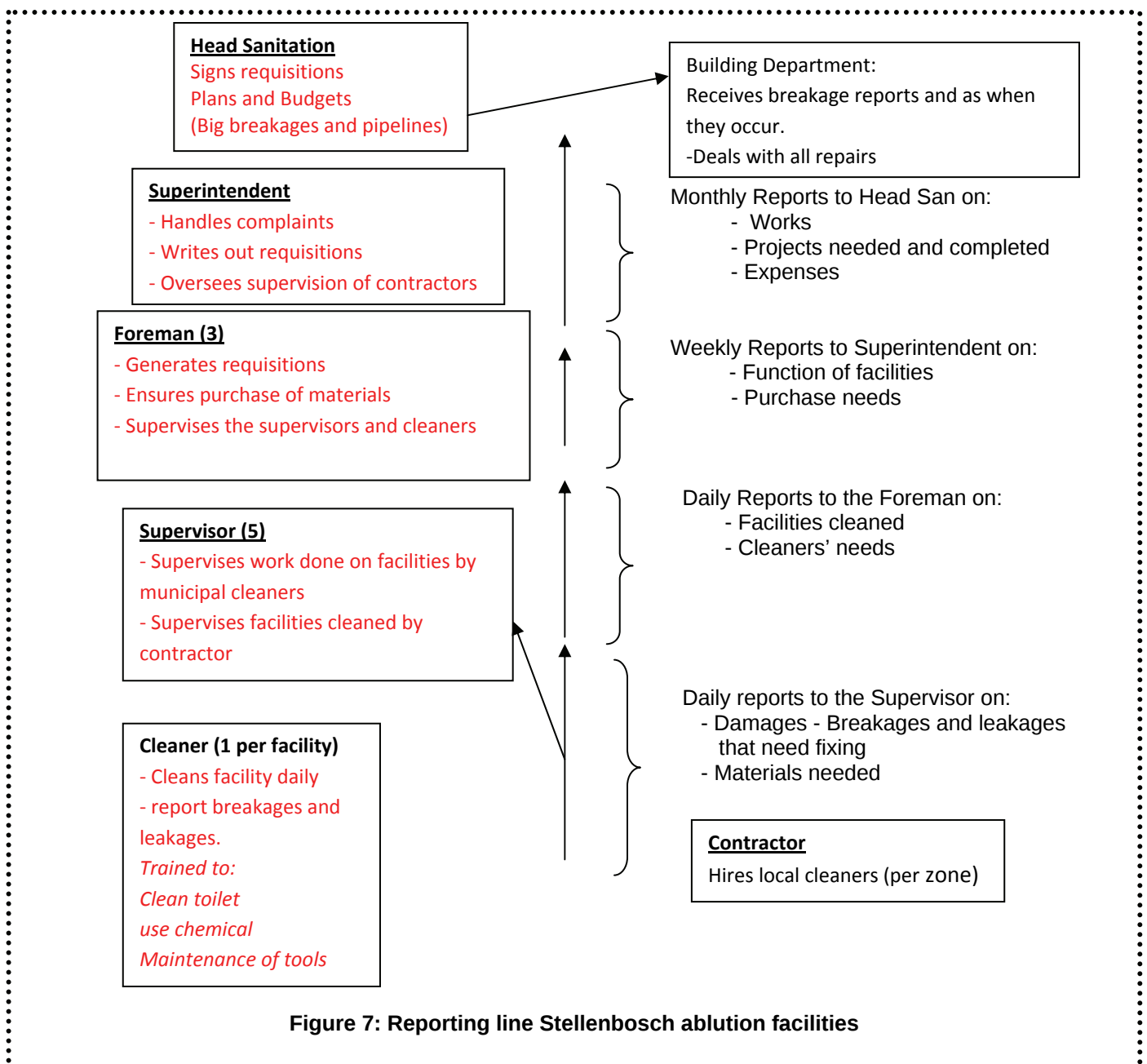
2.4.2 Group outputs

Reporting formats and responses were depicted in flow diagrams as shown in examples below:

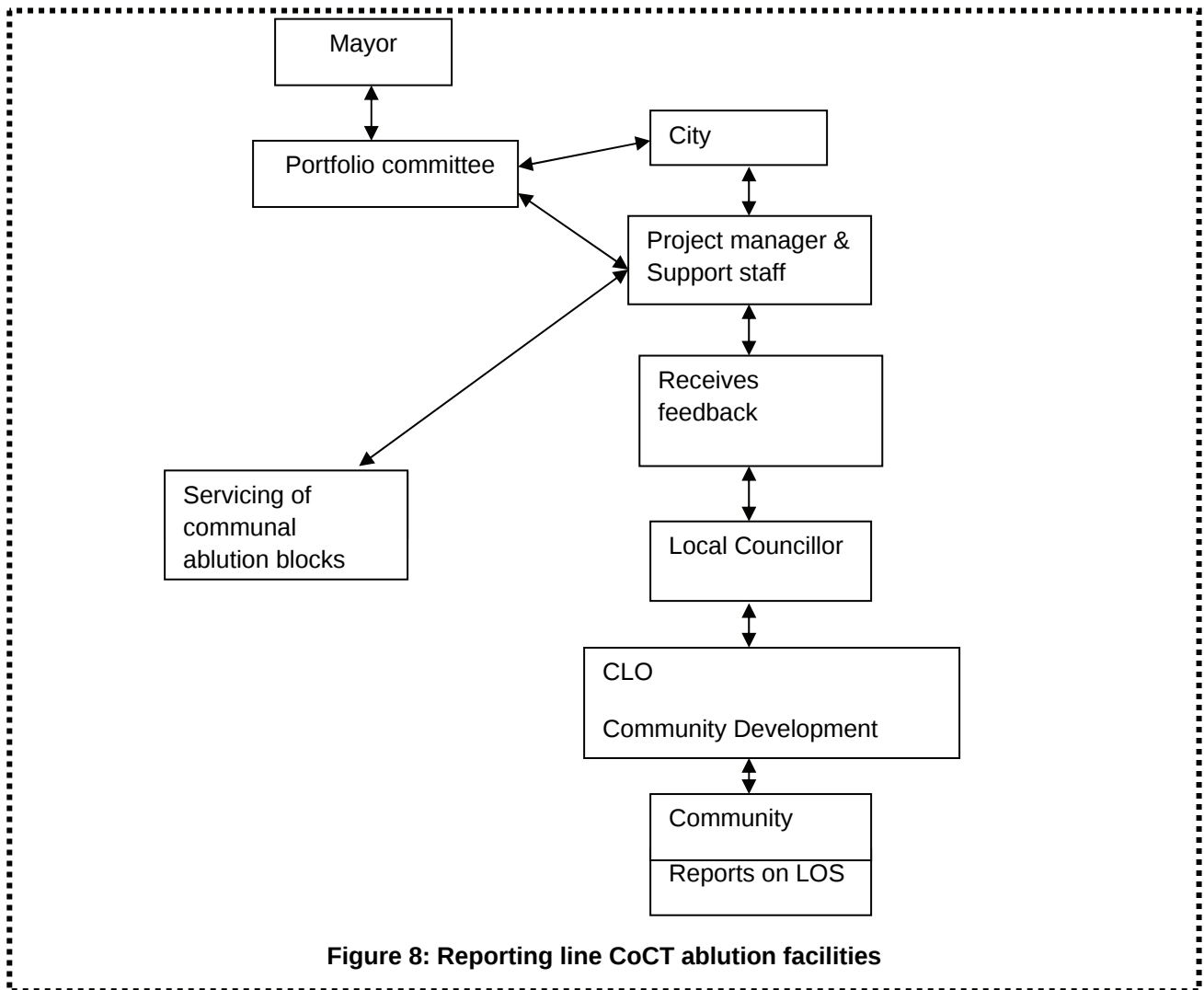
Organogram for reporting/ Ablution facilities (Stellenbosch)

Job: Cleaner.

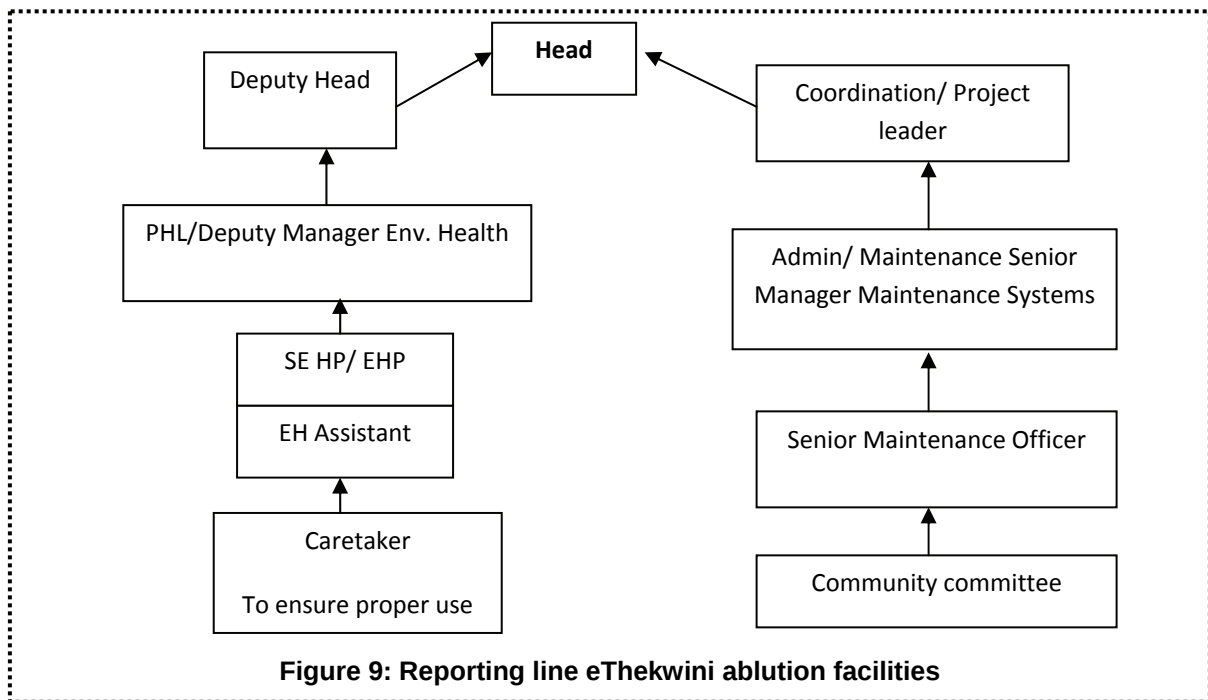
Objectives: To ensure that ablution facilities are clean after use and in good functioning order. To also report on the functioning of the toilet



Communal facilities organogram for reporting/ Ablution facilities (CoCT)



EWS Ablution facilities organogram for reporting (eThekweni)



Following the proposed organograms, there were questions about who is checking and controlling the work done and who is managing? It was generally agreed that the caretaker is responsible for undertaking the work and the EHP is responsible for checking and controlling (which falls under M&E system). Regarding who's managing the work, there was no right response and some suggested the EHP and other suggested the senior maintenance officer.

It general, it was viewed that the management has levels which should be established in order to assign specific responsibility.

EWS organogram for reporting Dry sanitation systems (VIP + standpipe and UDS + ground tank) (eThekweni)

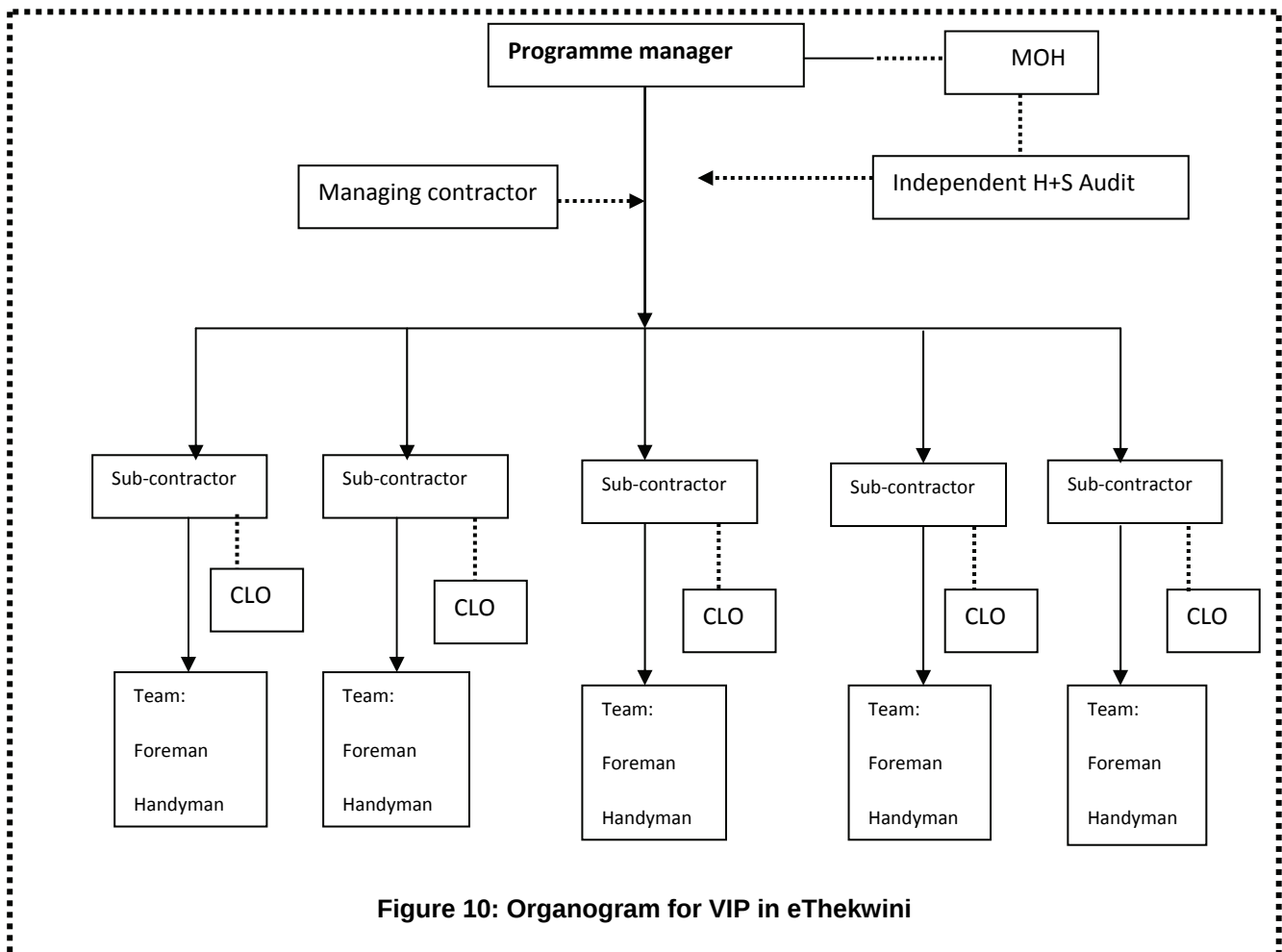


Figure 10: Organogram for VIP in eThekweni

Notes:

The municipality acts as a programme manager which duties are to oversee work done and order payment.

The managing contractor is responsible for disposal, health and safety, quality assurance and payment of sub-contractor. The payment of sub-contractor is done as per contract TOR (which clearly indicates the rate of payment per toilet emptied). Sub-contractor are required to empty at least 10 VIP or above per day as per satisfaction of the managing contractor foreman.

The independent H&S audit is performed by an appointed cabined on the behalf of the eThekweni Health Department. Sub-contractors are audited in order to ensure that there is compliance with all health and safety regulations (i.e. labours are immunised against yellow fever, cholera or any other disease that may be contracted when touching faeces).

The sub-contractor is appointed by the managing contractor (registered in the municipality database); afterward they are requested to appoint only local labours to undertake O&M job within the area of residence. The sub-contractor is assisted by the CLO whose responsibilities are to educate community and explain the need for emptying, collect complaints and report to the sub-contractor. The payment of labours is under the employer (sub-contractor) responsibility.

Local labours are appointed by the sub-contractor based on the list provided by the local councillor. The procurement process start with the councillor/ward community, after briefing about the upcoming job communities are called to register and the selection take place based on serve come first serve principle.

The labour team consists of foreman, handyman and 2 to 3 labours depending on the work load.

2.5 Performance Management

a) Performance Management models

Table 22: Performance Management model for ablution facilities (eThekweni)

Actor	Caretaker
Role	Inspector
Reports to?	EHP
Measure?	
How to measure?	

Table 23: M&E model for ablution facilities (eThekweni)

Criteria	<i>Indicator</i>	How often?	Report to whom?
Faulty functioning	No complaints	Weekly	SMO
Supplies of material			
General observation			
Caretaker is present			
Constant checklist			
Communicating with Caretaker			

Table 24: Management model for ablution facilities (eThekweni)

Job (task objectives)	Clean and hygienic facility To have an operational facility To ensure proper use of facility	Ensuring clean and safety/hygienic environment Ensuring that cleaning material is available at all times Ensuring faulty is operational at all times	
What one reports on?	Breakages, blockages, status of supply and communication, improper use and vandalism, community feedback		
What needs to be done?		Breakages – Inspection Blockages – Contractor, EHP O&M → Communication – In terms of managing the above tasks, who are the actors Improper use - Education drive	
How do you know it is happening?	(KPI – Indicators) Checklist of repairs undertaken Complaints raised	Checklist submitted to Health Department.	Programme, attendance, report
Who is checking and controlling? caretaker			
Who is managing? - SEHPP/EHP			

(Group Profile - Refer section 1.5)

Notes:

The tool provided did not create room for constructive discussion informing management systems.

Participants put forward different notions that did not clearly outline M&E models or components of models currently used.

3. Considerations and Recommendations

3.1 Overview of discussion

The final session (which was an open discussion) aimed to gain insight and foresight for constructing tools that facilitate collation of the more elusive aspects of:

- Procurement processes (process for appointments and contracts);
- Management and support (interface structures and routines);
- Monitoring and evaluation systems (performance of service providers, and the use and function of facilities).

Following inputs from case study sites and different works organised, it was found that the development of the guidelines is based on three main stages. These are namely Requirements to keep the asset in good serviceable conditions (local level), Management and Support (Interface) and Institutional knowledge (municipal level).

The first stage associated with the technology sheet consists of the following steps:

- Unbundling O&M tasks
- Assignment of responsibility for key O&M tasks unbundled
- Identify CB opportunities generated from O&M tasks identified
- Unpack procurement protocol and selection

Tools developed were tested successfully at each case study sites. It covered some issues such as specific tasks under each cluster, frequency and responsibility of each stakeholder. Based on this, it was established joint responsibility for number of tasks; this lead to the need of an interface that should indicate how community and municipality (as key stakeholders) are interacting.

The second stage associated with the programme management and M&E was set to understand the management support that is required to undertake the job. It includes oversight and performance (at the interface level), materials and equipment needed.

Tools are developed as a way of understanding the interface not as reporting structure but as functional structure that should be used for an efficiently in the management of O&M of water and sanitation infrastructure. Following the development of the interface, 2 scenarios were developed: the first were community deals directly with the municipality and the second where the municipality appoints the managing contractor to deal with O&M and community stands as beneficiary.

The last stage associated with institutional decision making deals with knowledge of asset base (as far as budget is concern for recurrent operation and preventative maintenance), appropriate organisation which establish interdepartmental collaboration and forward planning that anticipates specific requirements based on records of previous expenditures and documented experience). From this open discussion, insights with regards to considerations based on experiences were shared were made to inform recommendations and chart the way forward.

3.2 Recommendations

3.2.1 Selection and procurement

a) Rationale

The selection and procurement is a process which should be carefully considered since it may have implication on the success of the O&M. Number of issues with regard to the type of contract, duration and the payment rate were raised.

- The extent to which all the key O&M tasks related to care, collection and disposal associated with a particular technology has been identified
- The extent to which specific task and related requirements associated with O&M of Technology are targeted for community- based procurement
- The extent to which targeted procurement strategies in terms of qualification, selection, type of contract and supervision are vetted by relevant stakeholders.

Suggested considerations that need to be made prior to any appointments are:

- What type of contract should be provided?
- What should be the duration of contract?
- The payment rate

b) Recommendations

Based on considerations made it was recommended that:

- **The contract** should be a long term which may result in permanent employment
- **The duration of the contract** should be at least 2 years (rotational)
- **The payment rate** should be based on the work and performance
- **Criteria for selection** should include experience as a 'skills' criteria.
- **Exit strategies** for construction labour for uptake in O&M.

3.2.2 Interface

a) Rationale

The Interface is critical, especially if considering Cooperatives when planning projects. It is possible to involve Zonal centre in playing an oversight role to ensure that Cooperatives report to the Municipality routinely. Where Community structures to monitor Cooperatives, they would need an interface structure for monitoring and evaluation with the municipality. Hence setting up the management support interface is required in order to look at the:

- The extent to which the local technical and user structures have taken on complementary oversight and support roles related to the O &M tasks associated with a particular technology.
- The extent to which M&E system is based on reports related to the specific task and related requirements associated with the targeted procurement.

In view of this, the interface was approached differently from site to site. For instance:

- In the CoCT the officials (EHPs) and delegated Project Managers interact routinely, supplemented by interaction with representatives and meetings.
- In Alfred Nzo the existing form of Zonal structures has caused a dependence on the municipality.

b) Recommendations

Following these approaches, it was recommended that the:

- **Interface structures** are to accommodate responsible officials and user representatives as joint responsibility (municipality and community).
- **Stakeholder inputs across all levels** are advisable to determine criteria and selection processes.

3.2.3 Knowledge tools

a) Rationale

Previous municipal experience was noted and taken into account as follows:

- Until 3 years ago, recruitment was community orientated in the CoCT. The implications of a new policy put forward by the current administration regarding local contractors and casual workers may need to be factored into appointment processes.
- While CoCT has previously used vendors, they experienced problems with payrolls and inflated tax. The system functioned well, but they had to end up paying tax fines to SARS as no tax had been deducted. Use of a Labour broker in the past was fine as the Broker was responsible for paying tax, but they were expensive. For this reason the employment of an external payroll company was considered.
- eThekwini highlighted that the implication of using an agency are increased costs on the part of the local authority. As contractors there are a different set of rules that allows the municipality to manage the process.
- eThekwini cautioned that staff expectations (with benefits etc) becomes an issue that needs to be cracked.

Following these issues, it was found that the knowledge tools should be understood in order to establish:

- The extent to which O&M budget allocations are informed by specific requirements of O&M models associated with the particular technologies
- The extent to which the roles and responsibilities between the municipality, community and intermediary has been informed by specific O&M and M&E tasks and targeted procurement.

b) Recommendations

- Knowledge Tools that were recommended for collating the information required by the institution for planning should include:
 - **A Technology Sheet** collating data specific to shared or individual facilities
 - **Cost benefit analysis** of effective preventative maintenance measures
 - **Maps** that show the Wards and indicate environmental impact issues (e.g. Rivers that may be polluted).
- From budgeting point of view:
 - One suggestion for sourcing payment for O&M tasks on a local level was to establish complementary facilities next to the ablution facilities (drawn from Indonesia) to supplement payment as well as make the facility 'more communal'.
 - The CoCT suggested learning from other sectors, where local procurement for solid waste disposal may be worth taking a leaf from, for example in the Contractor – LED – Solid Waste collection models. Sources of funds were identified as a key and constant issue that stimulated speculation on pro-active strategies. It was agreed that Poverty Alleviation and Economic development departments need to be involved to explore resources that may match the intentions of direct investments into livelihoods.
 - Unlocking Grant in Aid as not for profit sources for local development and that DWAF is to distribute money through an Agency which is less restrictive were noted as potential opportunities for institutions to pursue for funds.
 - Recommended opportunities for unlocking sources of funds to support a greater scope of benefits from community-based procurement included:
 - **Skills development/** knowledge transfer funds
 - **Free Basic Sanitation** (for real)
 - **Budgets** associated with national policies and imperatives as potential sources of funding.
 - **Interdepartmental resources** to may include LED, Health and Social Development initiatives.

4. Way forward

Following the recommendations made for each stage of the guidelines, it was agreed the 3 stages described previously were relevant to CB O&M. Each step should have specific tools that should be applied regardless of the technology.

The first stage associated with unbundling O&M tasks resulted in the identification of CB opportunities. The second stage associated with the management and support and M&E resulted in the need of an interface. The CB opportunities identified, tasks assigned, responsibilities and their frequency informed the need for the interface in order to determine the function each stakeholder has to play.

The second stage, however didn't inform much as expected, it was therefore recommended the following:

4.1 Testing Guidelines

Comprehensive Guideline should be tested against its ability to assist and enable:

- **ANDM** to use eThekwini model as a test in zonal centres for VIP, including unbundling of O&M tasks, assignment of responsibility and procurement mechanisms.
- **CoCT** to test the eThekwini Health Dept's Caretaker model and toilet paper supply as part of the upgrading of Khayelitsha Ablution facilities.
- **Stellenbosch** to draw from eThekwini's fixed price for repairs and spares currently implemented with VIP, UD and water tank.

APPENDIX E: Photo Diary - WATSAN services in case study sites



Figure 11: O&M of VIP toilets



Figure 12: View of UDS toilet & 200L water yard tank



Figure 13: View of the O&M issues at the ablution facilities



Figure 14: View of the O&M issues at the standpipe