

THE DEVELOPMENT OF AN ACTIVITY BASED COSTING MODEL TO QUANTIFY THE REAL COSTS OF DELIVERING WATER SERVICES IN RURAL AREAS

Report to the
Water Research Commission

by

**Wendy Matthews
Jamie de Jager
Kerry van Harmelen
Ilse Wilson
Rowan Duval**

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EXECUTIVE SUMMARY

The Activity Based Costing model

This study has developed a model and a guideline to the model to assist Water Services Authorities (WSAs) to plan for financial sustainability by identifying costs based on activities, including direct and indirect costs accruing from the different levels associated with water services provision. Ensuring sustainability of water services is part of a municipality's legislated mandate and in order to do this, appropriate tools are required to accurately determine the resources required in order to meet this objective.

The Activity Based Costing (ABC) model will assist Water Services Authorities to quantify the full cost of delivering water services in rural areas. Some of the key characteristics which are incorporated into the model are:

1. It is easy to understand and to use.
2. It allows for the ring-fencing of expenditure providing the basis for good governance.
3. It provides a tool to understanding the inner workings of the municipality and allows for transparency.
4. It makes allowances for three levels of data capture (scheme-, region- and district-level).
5. Role players and the ring-fenced entities are able to work independently on the model yet they have common threads and linkages for the unit as whole to summarise and report on.
6. The software is off-the-shelf MS Excel, which ensures access to software which is familiar.

The Activity Based Costing (ABC) model has all these features and it allows municipalities to assess whether they are getting value for the amount invested.

A further advantage of the model allowing for transparency is the ability to

identify problem areas. For example, it can identify extraordinary high costs at a particular scheme which can then be investigated.

The model which has been designed is appropriate for use by municipalities to establish and cost the activities of water services provision. It is designed for use by either local or district municipalities and is not restricted to a particular size of area or institutional boundary. The model is relatively uncomplicated and is based in MS Excel to ensure that it can be used within a rural municipal environment. It also allows for information to be imported from other accounting and software packages and allows the budget to be exported for financial reports. It incorporates Amathole DM's chart of accounts using Treasury's vote numbering system. While some costs are fairly easy to assess and relate directly to activities, such as operations and maintenance costs, many costs are indirect such as management and administration costs and are often excluded from the cost of water services.

The ABC model reflects three levels of functioning and management, and as such, the capture of budget data will be done on these three levels. The three levels are defined as scheme-level, regional-level and district-level. By the nature of the functioning within district municipalities, these three levels exist and have differing access to data for input into the model.

The ABC model is a tool which has been developed to assist WSAs to apply principles of activity based costing in their budgeting processes. It is primarily a budgeting tool which can be used in conjunction with existing financial systems to validate expenditure requests and monitor expenditure levels against budget line-items. The model does not attempt to provide a comprehensive and integrated management information system but rather a user-friendly, adaptable model which can be applied in determining ring-fenced costing of water related activities. It includes detailed line items for input which is available to inform the budgeting process. Once expenditure is captured at this level of detail, budgeting

for future years will become enhanced as the elements involved in costing activities becomes more accurate and better understood. Once the actual costs of providing water services have been determined, it is possible to determine income requirements to meet the costs of the provision of services.

Literature and model review

Existing literature and models designed to assist municipalities with water services budgeting and tariff calculation were reviewed. Previous projects undertaken to assist municipalities with modelling financial commitments and tariff calculation, including those developed by the Palmer Development Group, and Dave Still were assessed for applicability. All the models assessed appear highly effective in the context for which they were designed but they were felt to be too complex for an average municipal user.

Besides their being difficult to use, a further problem with the models reviewed is in keeping them updated. Many of them tend to be used once or twice to provide specific answers and then shelved. A model that is easy to use and provides information that is relevant on an ongoing basis is much more likely to form part of the tools that a WSA utilises on a regular basis.

The municipalities

The research team approached several rural municipalities to explore to what extent they are determining the full costs of water services provision in their areas of jurisdiction. The team came to understand the huge challenges faced by these municipalities as they often are functioning as both the Water Services Authority and the Water Services Provider (WSP) with all the relevant legislative requirements, and the operational and human resources challenges. Municipal officials need to balance a number of demands, including those of national departments, politicians, officials in other municipal departments, donors, reporting structures, customers and in many cases, under-serviced constituents.

The study gained an understanding of the operations related to water service delivery within these municipalities, but found that discussion with suitable municipal officials was difficult and data received was incomplete. It was found that most of these municipalities do not have adequate costing systems and procedures in place and are therefore neither able to budget effectively nor prioritise the spending of income from the equitable share, the municipal infrastructure grant and other sources.

Amathole District Municipality

The research team tried to engage in depth with several municipalities, initially with little success. However then contact was made with the Amathole District Municipality (DM), and the way in which it prepared and presented its water service delivery costs was assessed. It was clear that this municipality had good financial controls and an understanding of expenditure related to water services provision and the technical officials were aware of current water delivery costs. There was also evidence of good working relationships between the managers, technicians and the financial administrators. The research team worked closely with the Amathole DM as its involvement proved to be supportive of the study's aims. This municipality's systems and procedures related to budgeting and expenditure reporting has the potential for replication at other municipalities.

Key research findings and recommendations

Water Services Authorities have accepted responsibility for water services provision. Municipal officials, however, are obliged to deal with daily crisis management, political and community demands and requests, reporting requirements and human resource management in the context of delivering a range of services in a complex environment with limited resources. Most municipalities are also seriously understaffed in their water provision departments and setting up systems and procedures for management are not seen as a priority.

The ABC costing model is a management tool which can assist municipalities to provide services effectively and efficiently by improving the understanding of the cost elements and assisting in the quantification of service delivery. The model however relies on an understanding of the costing elements of water provision and the accurate input of data by key personnel with sufficient understanding of the costing elements and access to accurate information. The model takes into account the various direct cost elements which are currently being used in a municipal environment and then uses a financial driver to allocate indirect costs. This is an assumption for the generic model which could be modified for individual application where the apportionment of indirect costs is not based on financial drivers. The model relies on information provided from other systems which have determined the costs of human resources and asset replacement.

A detailed guideline has been prepared on how to use the generic model. In order to achieve customisation of the model to a particular municipal environment, the model can be modified to the municipality's particular chart of accounts and requirements by personnel with sufficient excel expertise or by the developers. It is however proposed that municipalities consider adopting the proposed line items as a standard for budgeting and reporting.

In order for the model to reach its target market, it should be introduced to WSA managers and financial staff through a workshop, followed up by individual engagement, customisation and training to adapt the model for specific activities.

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Ms Silvia Tshivhunge of the OR Tambo District Municipality;

Mr Makhaya Dungu of the Chris Hani Municipality;

Ms Martha Komape of the Madibeng Local Municipality.

In particular, the Amathole District Municipality's willingness to share their extensive work on the budgeting and expenditure reporting in the Water Services Department has been of great value to the research team, and we hope that their expertise can be shared further with other municipalities.

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ABBREVIATIONS used:

ABC	Activity Based Costing
ADM	Amathole District Municipality
CFO	Chief Financial Officer
CHDM	Chris Hani District Municipality
DM	District Municipality
DWAF	Department of Water Affairs and Forestry
ES	Equitable Share
FBW	Free Basic Water
HR	Human Resources
IDP	Integrated Development Plan
LM	Local Municipality
MFMA	Municipal Finance Management Act
MIG	Municipal Infrastructure Grant
O&M	Operations & Maintenance
PMU	Programme Management Unit
WRC	Water Research Commission
WSA	Water Service Authority
WSDP	Water Services Development Plan
WSP	Water Service Provider

DEFINITIONS:

Actual Cost is a historical figure of the total of recorded and accounted-for expenditure that was incurred in the provision of a service or part thereof.

Depreciation is defined in the Concise Oxford dictionary as “reduce the recorded value of an asset over a predetermined period”.

Full Cost includes all costs normally accounted for when providing a service. Even when subsidies are applicable, these should only be applied after all the costs have been accounted for.

Income is defined in the Concise Oxford dictionary as “money received, especially on a regular basis, for work or through investments.

1 INTRODUCTION

1.1 Background

As part of their legal mandate, Water Services Authorities (WSAs) have the responsibility to ensure the sustainability of water supply in their areas of jurisdiction. For water services to be financially sustainable, all costs involved in delivering water services need to be covered. The Strategic Framework for Water Services (DWAF, 2003) states that financial sustainability includes covering the costs for enabling ongoing operation. These costs include the costs of the Water Services Authority (particularly human resource and management costs), overhead and operational costs of the Water Services Provider, ongoing water management training activities (both of municipal staff and at the project level) and support programmes by appointed service providers. International best practice also recommends the inclusion of these enabling costs in appropriate costing models.

Current legislation requires municipalities to operate in a transparent and efficient manner, especially with regard to finances. The object of the Municipal Finance Management Act (56 of 2003), is *inter alia*, to “secure sound and sustainable management of the financial affairs of municipalities and other institutions in the local sphere of government”. In order to manage their finances in a sound and sustainable manner, amongst other things, they require tools which will assist with responsible budgeting and expenditure reporting.

Municipalities need to address the challenges of their internal systems and procedures. Many of these challenges are found in the interdepartmental linkages (for example the linkages between the financial / technical / social development and water services provider directorates). Most municipalities are addressing the systems and procedural issues as they arise and not in a planned, structured manner.

The three main sources of funding to cover the costs for water supply services are the equitable share (which is meant to cover the operations and maintenance cost of providing free basic water) Municipal Infrastructure Grant (MIG) (for capital development) and revenue from water tariffs (for retail and bulk). The amount a municipality receives for its equitable share depends on the number of registered indigents in that municipality's area of jurisdiction. In many rural municipalities, there is limited revenue generated from water tariffs so they become highly dependant on their equitable share allocations. The equitable share allocation however depends on the municipality's ability to count the number of indigents in their areas. These names are entered into a detailed register which needs to be updated regularly. Maintaining the register is a difficult task and the number of indigent people in a municipality is often significantly underestimated. This makes for further problems with budgeting.

There have been large capital investments made on new infrastructure to address backlogs, and only recently is there more focus on the operations and maintenance challenges. This is evident in large portions of capital funding now being invested in existing scheme upgrades and extensions.

Water and sanitation as revenue generators are generally found in the more urban environments. In large urban or densely populated areas there is scope for effective revenue generation and the income may be substantial enough for cross subsidisation of the poorer rural areas. However, in most rural municipalities the income from these services is minimal and hardly covers the actual costs of services delivery.

When municipalities are faced with limited grant funding the criteria used for apportionment become critical. In many cases projects that have revenue generation possibilities receive priority. Overhead costs are not apportioned to the relevant departments and cost centres. Where there are limited funds available for both capital and operations and maintenance projects it is

important that proper expenditure controls are implemented for both budgeting and actual expenditure. Overhead costs must be apportioned appropriately in order to understand and manage the costs better which will assist in better resource management.

Evidence from the Amathole District Municipality (ADM) and other WSAs show that most rural municipalities have a small revenue base so it is important that they understand and control their operations and maintenance costs at a scheme level. Scheme based budgeting and expenditure management has not been done effectively in most municipalities, so the establishment of systems, procedures and controls is a new concept for developing municipalities with many schemes (from large multi village regional schemes to stand alone small schemes).

1.2 Objectives of the study

The study aimed to quantify the real cost of delivering water services in rural areas. While some costs, such as those for operations and maintenance, are fairly easy to assess, many costs are indirect such as personnel and administrative costs and are much more difficult to quantify.

Specifically the activities of this study were:-

1. To assess the real costs of, and income for, providing water services to Water Services Authorities in rural areas.
2. To develop a model and guidelines for complete water supply budgeting for use by Water Services Authorities.

The purpose of the model was to assist municipalities to evaluate, assess and record the total costs of water services provision. By so doing, the model will enable municipalities to manage their finances related to water services in a sustainable way. On a practical level, it will also help with implementing free basic water policies and practices, establishing cross-subsidy mechanisms,

analysing financial viability of different institutional models and planning for higher levels of service. It will also assist Water Services Authorities to plan for financial sustainability by calculating the total costs of water services based on activities.

1.3 Output of the study

The study has developed a model and a guideline to the model to assist WSAs to plan for financial sustainability by identifying costs based on activities, including direct and indirect costs accruing from the different levels associated with water services provision.

The Activity Based Costing model allows municipalities to quantify the full costs of delivering water services in rural areas. It also allows for transparency and the ability to identify problem areas.

2 METHODOLOGY AND STUDY PROCESS

2.1 Methodology

The study attempted to follow the action research methodology and approach, but given its time and scope, and the municipal environment, this proved more difficult than was anticipated. Action research can be considered as “learning by doing” where a group of people identify a problem, do something to resolve it, see how successful their efforts were, and learning from this plan further actions. The research team worked in close co-operation with the relevant institutions (with limited success, the OR Tambo District Municipality (DM), and with more success, the Amathole and Chris Hani DMs) during their ongoing budgeting and financial planning work.

The research also used case studies. The study analysed a mix of qualitative and quantitative data collected using interviews, observation and document analysis at the DM level. Work was initiated with the identification of five interested WSAs that use differing institutional models for water services delivery. However during the study, due to limited access to municipal personnel and data, the team moved from working with the initial five municipalities, to one (the OR Tambo DM). This was later changed to finally two DMs, namely the Amathole and Chris Hani District Municipalities.

2.2 Study Process

The methodology or approached used for this study was as follows:-

Step 1: Literature Review

The literature review focused in depth on various quantitative models available in South Africa, produced to assist Water Service Authorities and Water Service Providers to understand the relationships between capital and operational costs, tariffs and subsidies.

Step 2: Assess the existing finance models for water services

The research team was conscious of the fact that other financial models exist (done both for the WRC and other stakeholders) that could be applicable to the study. In order to avoid duplication and to incorporate other research studies, a more thorough assessment was done of three existing finance models for water services with a view to adapting aspects of relevant models to provide an appropriate model for WSAs with large rural populations.

The existing models which were reviewed did not fully meet the objectives of the research for differing reasons. It was therefore decided to develop a model which was simple in appearance, used standard software, used categories in line with already existing reporting systems and focused on costing activities separately. The model is discussed in detail in chapter 10 of this document.

Step 3: Selection of municipalities

Subsequent to the assessment of the suitability of existing models to this study's purpose, it was agreed that real financial data was needed in order to test the models further and to assist with the development of an adapted model. The team planned to select five appropriate municipalities for this purpose. The following municipalities were approached and expressed interest in the study:

- OR Tambo
- Madibeng
- Vhembe
- Maluti a Phofung
- Illembe
- Chris Hani
- Alfred Nzo

However, working with five WSAs proved too ambitious and with the guidance of the reference group, it was decided that two municipalities should initially be

engaged with in depth. These were O R Tambo DM in the Eastern Cape and Madibeng LM in the North West. In the early stages of the study, Madibeng was chosen as an example of a relatively well-functioning municipality. However during the period of engagement with the DM, it became apparent that it was no longer possible to work with the municipality in relation to this research study.

The OR Tambo DM was initially receptive to the team working closely with it, both in terms of developing and piloting the model. Through their initial section 78 assessment in terms of the Municipal Systems Act they had opted to provide water and sanitation services through an internal mechanism. However a new revised section 78 assessment was due to begin (September-December 2006) and there was insecurity regarding what their internal delivery mechanisms would be. This had an impact on the availability of resources and data for this study.

Also, once the team started the process of meeting with the relevant officials in the municipality and collecting data from them, there proved to be many more difficulties than anticipated. These included a department which was severely understaffed and almost non-functioning in terms of communication, both telephonically and by email. Added to this, the financial data initially received from the OR Tambo DM was of insufficient detail to assist with the study. The data received did not correctly distinguish between income and expenditure and was not very useful in providing information which would contribute to determining the costs associated with water services provision.

The reference group wisely advised the team to work with a municipality where the problems would not be so large and where information was more readily available, in order to both develop and to test the model. The selection of a manageable site was key to attaining results.

The research team then made contact with the Amathole District Municipality (ADM), and assessed how they prepared and presented their water service delivery costs. It was clear that the ADM had good financial controls and an understanding of expenditure related to water services provision and the technical officials were aware of current water delivery costs. There was also evidence of good working relationships between the managers, technicians and the financial administrators. It was thus decided to concentrate on interacting with the Amathole District Municipality.

Step 4: Assessing financial data received

The research team aimed to obtain financial data from the relevant municipalities, insert the information into the model and assess the outputs for applicability and whether it would address the real costs of water services provision. It was clear from the data received that the activities of water services are not costed separately, and thus, with this level of data, calculation of the real cost of water services provision was not possible.

While this exercise was not successful, it added value to the study as it gave the research team a better understanding of the level of detail to which water services expenditure is collected by municipalities, as well as the administrative systems and procedures applied when gathering data. This gave the team invaluable insight into the input potential of data into a financial model.

The team decided to review the approach of using the existing models and move towards an approach of:-

- Assessing the systems and procedures used by municipalities for preparing budgets, capturing day-to-day expenses against budget line items and reporting mechanisms,
- Reviewing the computer software used to achieve budgeting versus expenditure recording, and
- Understanding the level of input required, and at what level, taking into

account the skills and capacity of managers to prepare appropriate and effective financial reports.

Step 5: Designing of the model

At this stage of the study, the research team realised the best way forward was to develop a new costing model, using the gained knowledge of relevant model inputs and the functioning of municipalities, utilising MS Excel spreadsheets, based primarily on the Amathole DMs existing processes which were the most comprehensive and appropriate. The approach was to not only look at the modelling aspect but also at the overall systems and procedures used, of which the spreadsheet is only one component of a successful ABC system.

The overall picture and the roles and responsibilities of the different stakeholders used by the Amathole DM proved to be an excellent reference point, and as such can be recommended to other newly established water services providers as they design and implement their business models.

Step 6: Establishing relevant material for data input

After the design of the model the research team were advised to input relevant data into it to establish its validity. Two members of the team met with the Chief Finance Officer (CFO) from Amathole DM to see if their data could be used for this purpose. The CFO explained the development of Amathole's costing and budgeting processes over the past two years which has enabled them to start to engage with tariff setting as a result of an improved understanding of the costing combined with the measurement of outputs and consumption patterns measured through bulk water meters. It should be noted that Amathole have personnel from Treasury to assist in their budgeting process and that their budgeting process is highly capacitated and over an extensive period and yet they are still continually improving the process by refining their understanding of cost elements. It was agreed that the most appropriate arena to test the model would be with data from a smaller water services provider with a cluster

of schemes. The research team approached some municipalities with which there were good working relations but none proved appropriate. In order to gather the required information to input into the system, the research team would need to spend a significant amount of time working together with the municipality and its officials to meaningfully populate the model. It is felt that this exercise is beyond the scope and budget of this project and should form part of a second phase whereby the model is marketed and applied in the context of skills development and systems development at a municipal level. The model has been fully tested with generated data to ensure that linkages are correct and that reporting is an accurate representation of data inputted.

3 LITERATURE REVIEW

3.1 Introduction

The Water and Local Government sectors have been through a period of tremendous change over the last decade. Much of the literature reviewed showed how quickly the changes occurred and its impact on the research. Atkinson and Ravenscroft (2002) state that their project, looking at alternative service delivery mechanisms, proceeded quite differently from what was envisaged in the brief. They found that the requirements of section 78 of the Municipal Systems Act provided a serious incentive for the municipality to drop further investigations into possible external service providers and that during the entire project period the future role of water and sanitation committees remained unresolved.

De Coning and Sherwill (2004) in assessing the Water Policy process in South Africa conclude that significant new institutional arrangements and institution building will be required before the policies envisaged in the Water acts can be realized. They caution that the difficulties should not be underestimated and note that DWAF has established specific units and a process of planning for institutional development, support and oversight.

This review focused in depth on various quantitative models available in South Africa, produced to assist Water Service Authorities (WSAs) and Water Service Providers (WSPs) in understanding the relationships between capital and operational costs, tariffs and subsidies. Pertinent case studies have also been reviewed, particularly those in rural areas.

3.2 Existing Models

The Palmer Development Group (PDG) has produced a number of financial models for the Water Research Commission (WRC) (1999 and 2000) which incorporate a similar approach to calculating the sustainability of a municipality given its demographic and economic profile and its infrastructure development

plans. Initially only one of the models, the Palmer Development Group's (2000) District Services Model (DSM) was reviewed in detail because of these similarities. Later during the study a, more up-to-date model had been developed, namely, the Municipal Services Modelling Suite or Municipal Services Model (2003). This was assessed in detail for potential application. (This is discussed in detail in chapter 4) The DSM has been designed to assist District Councils to undertake financial analysis of infrastructure investment plans from two perspectives. In the first, the model focuses on household affordability, available subsidy and service levels to promote realistic investment decision making with respect to both capital and operating expenditures. The second perspective enables District Councils to analyse the impact on their budgets of becoming their own service providers. In this context financial viability is assessed in terms of predicted cash flows. The model is designed to assist the district councils to answer questions in five areas:

- The current situation with regard to service provision in the district
- Defining levels of service which are affordable and sustainable
- The rate at which infrastructure backlogs can be addressed
- The role the district council can play in providing the services themselves
- The manner in which services should be financed.

The DSM makes use of five settlement categories from urban to farmland and links these to census enumerator areas of the 1996 census. It uses this census as the most accurate general source of settlement data. To assist users it includes a spreadsheet which translates the census data into a format suitable for use in the model. The categories are:

- Urban; proclaimed towns or metros
- Dense Settlements; dense, unproclaimed settlements, formal or informal
- Villages; less dense, informal unproclaimed settlements
- Scattered settlements; Low density, scattered informal settlements
- Farmland; Farmland and privately held land

The model supports a range of service options for water (reticulation and bulk supply), sanitation, electricity, solid waste and roads. It includes fire protection, health and other services at a basic level. It is not clear whether the latest data from the 2001 census can be used in the model, without additional translation effort. As the model was developed before the requirements of the section 78 processes became known, the model does not attempt to directly assist in providing information for these processes. However the generic nature of the model allows it to be an effective model in assessing a municipality's financial viability and sustainability.

Section 1 of the model requires the user to input essential information which relates to the following:

- Residential consumers, current and future
- Income distribution and economic environment
- Existing services and the proposed infrastructure investment targets
- District Council's responsibility for retail and bulk services and support functions
- Willingness to pay, surplus generation and Equitable share subsidy allocation
- District Council income and expenditure (and income allocation)

Section 2 allows for default values to be replaced by actual values.

Section 3 provides the model outputs, starting with tariffs and the factors which have a major impact on tariffs:

- Capital expenditure and income
- Recurrent expenditure and income
- Household bills
- Net income from services

The model allows the user to vary the inputs which are different tariffs or tariff structures, payment levels by consumers, the infrastructure investment programme and capital and income subsidies. The ability to vary the relationships between tariffs, subsidies, investment programmes and service levels makes the model a useful tool for the WSA.

The Palmer Development Group's (2000) Regional Water Supply Services (RWSS) Model focuses on the financial viability and sustainability of the regional water services provider. It is designed to provide financial inputs into business planning and links level of service to water demand allowing the service provider to assess whether the type of service offered is affordable. The model was run on two water boards, Lepelle Northern Water and Bloem Water, and demonstrated that Lepelle would face much greater challenges, because of its increasing number of rural clients, than Bloem Water with its largely urban base. The report concludes that the model needs further refinement and to be tested in a real planning environment.

The key difference from the previous model is the focus on head office costs in the Regional Water Services Provider (RWSPs). In the DSM the head office costs are assumed to be part of the overall operational costs of the district municipality (DM) while in the RWSS model it is necessary to ensure that these costs are built into the tariff. The model's findings in relation to the key factors outlined above, support the intuitive conclusions that where these factors are weighted to large, dispersed, impoverished rural populations, the sustainability and financial viability of the RWSP is threatened. Any WSA where these factors are prevalent would be well advised to consider such impacts in its own operations and planning.

Balfour et al.'s (2005) research on the provision of Free Basic Water (FBW) in rural municipalities investigated the situation in five WSAs in the Eastern Cape and KwaZulu-Natal which were at varying stages of implementing FBW

policies.

A detailed analysis of the equitable share grant was carried out and the theoretical per capita allowance to cover the FBW provision calculated for three district municipalities. In Alfred Nzo DM the allowance per capita per month is R6.77, while it is R4.02 for uMzinyathi DM and R3.21 for Sekhukhune DM. Asset replacement costs were found not to be included in the WSA budgets with the corresponding negative implication for long term sustainability. Cost recovery was not being implemented creating problems for the future as and when more private connections are installed.

Operation and maintenance costs were determined for each area and an assessment of asset replacement costs was made. Median operating costs per capita per month of R5.84 were calculated, being made up of R3.51 for operations and support plus R2.33 for asset replacement. It showed that the equitable share does not cover the costs of providing FBW to the case study areas, ranging from a high for Alfred Nzo DM of 93% coverage of costs to between 51% and 36% for the other DMs. The reasons given for the high coverage in Alfred Nzo are accurate indigence statistics and advanced level of FBW implementation.

The study concludes that FBW implementation in rural areas is possible, but difficult. The key factors for successful implementation are:

- Good planning
- Honest assessment of the capacity constraints within the WSA and consequent contracting of experts to bridge the gaps
- Political support for the FBW policy
- Accountability.

Still (2003) et al. researched the minimum factors which constitute the monthly running costs for stand-alone community water supply schemes by visiting

more than 40 schemes. Their key observations confirm that water consumption is low, the median being less than 4 Kl per month, and that the majority of schemes utilised a flat-rate payment system with a payment rate of 70%. The mean budget cost per Kl varied widely from R4.96 in KwaZulu-Natal to 1.76 in Northern Province and R1.61 in the Eastern Cape. On the seven projects which were being charged at a metered rate, and not a flat rate, the charge per Kl was R5.70. The higher costs per kilolitre were attributed to the use of meters and bailiffs.

They also concluded that the gravity fed schemes were more cost effective than pumped schemes and that community managed schemes were generally cheaper than those managed under other arrangements. Two worrying problems were highlighted, the first being the absence of savings for asset replacement and the second being that a number of the schemes which were operating in a deficit.

The essential data required to run the model are:

- Demand data, number of connections and transmission losses
- Capital costs for mechanical, electrical and civil works
- Asset replacement costs
- Overhead costs, (Items 4,5 and 6 incorporate cost codes which DWAF uses in its O&M reporting)
- Production costs, bulk water, treatment, pumping and labour costs
- Repair and maintenance costs
- Support and mentorship costs, from the WSA or Support Services Agent

The model also requires the user to decide who should be responsible to meet the monthly costs between national government, the WSA, the WSP and any other party. Once all the costs have been assigned, only the costs allocated to the WSP are used in the tariff calculation. This distinction is important to the WSA, as its costs are therefore not covered in the tariff calculated by the

model. This model was also assessed in depth to see if it could be adapted for this study.(see chapter 4)

The Mvula Trust Help manual for rural water credit (2001) uses contingent valuation surveys to assess the households' willingness to pay for improved services. The financial model can be used to assess the financial viability of water supply schemes with financing options and/or it can be used to calculate cost and affordability for community financed upgrading of schemes to on-site connections. The key data required for the model are:

- Demographics and income
- Service levels
- Capital costs, primary infrastructure and secondary networks
- Capital subsidies and sources of finance
- Estimated water consumption
- Asset replacement costs, operating and maintenance expenditure
- Provision for non-payment

The model calculates the monthly water bills payable to the service provider and the total monthly income it requires, along with total unpaid bills. It then further assists the user in determining whether the households are able/willing to make these payments. If the model still produces unpaid amounts it indicates that certain households are still unable or unwilling to make the required payments and provides means of reducing costs or service levels. The model does not allow for free basic water as it was produced before this was introduced.

The Combined Services Model developed by DBSA (1999) in the late nineties before demarcation deals with all major urban services and not only water and sanitation. The focus is on urban municipalities and it assumes that the municipality is the service provider. The model is complex and not very user friendly. It has been developed using a similar approach to the PDG WSSM model. The model is not appropriate in a rural DM where ease of use is a prime

consideration. The DBSA is in the process of developing a new model which can be used for all services irrespective of the service provider.

DWAF'S Guide Framework & Checklist for the development of Water Services Development Plans (Revision 9, July 2005) is not a model, but contains guidelines in the financial profile which serve as a generic approach for WSAs.

It recommends the following be determined:

- Total Income (including billed income and subsidies)
- Actual income received
- Percentage of non- payment (by each customer category)
- Total non-payment
- Operating expenditure
- Capital expenditure
- Total expenditure (Sum of operating and capital expenditure)
- Equitable Share allocated to Water Services
- Surplus or Deficit

It also gives guidance on assessing the tariffs, including Free Basic Water and sales arrangements. It divides metering and billing into five categories, namely:

- Urban
- Rural dense
- Rural villages
- Rural scattered
- Rural farmland

The sound principle underlying this guide framework supports the proposed approach of the current research. The four level categorization of rural metering and billing will also be considered, although the cost benefit of going into such depth in rural areas with very low payment levels is questionable.

3.3 General Literature

Eberhard (1999) notes that domestic water use accounts for the largest share of urban water use in South Africa and suggests that an appropriate pricing policy could be used to reduce the consumption of the domestic high end users (a minority use in excess of 300 litres per capita per day (lcd)) and increase the consumption of those who are using less than 50 litres per capita per day. As most households with inadequate access to water are in the rural areas, urban water pricing policy needs to take cognizance of rural considerations. Based on the water policy goals of the National Water Act (1998) of improving social equity, ensuring ecological sustainability, ensuring financial sustainability and improving efficiency he makes the following recommendations in respect of urban water pricing:

1. Governance, retail tariffs should be determined by the WSA
2. Minimum basic water supply level be regarded as 25 lcd
3. A target of 50 lcd be set as a target minimum basic water supply
4. Capital cost subsidies should be set to cover all infrastructure required to ensure a supply of 50 lcd
5. Access to water (connection prices) should be set to zero
6. A basic consumption subsidy covering 50 lcd should be introduced for restricted supplies(The report was published prior to FBW)
7. Use of water in excess of 50 lcd be charged at a positive marginal price
8. Non-domestic users should pay at least the full costs of services provided (capital and operating)
9. Provide strong incentives to discourage domestic luxury consumption in excess of 200 lcd
10. Encourage water-use efficiency and conservation in non-domestic users
11. WSPs to invest in conservation by for example, sponsoring water saving technologies
12. Revenue sufficiency; outside of quantifiable government subsidies, revenue from tariffs (including property taxes) should fully cover costs and ensure financial sustainability

13. Water using industries, when making investments in new capacity, should face the incremental costs of expansion to the water supply system

14. Residential consumers should not cross-subsidise non-residential consumers.

In each WSA the final tariff design will be influenced by local factors, such as costs, water demand and demographics and a different starting point based on the historical factors.

Cain (1999) et al. conducted a case study in the Matatiele District to develop appropriate operation and maintenance management arrangements for rural water supply projects. They proposed that community-based water service providers cover all normal operations and maintenance costs of the project, including paying of bulk water if it was purchased from an external provider. They further proposed that the district council, as the WSA, be responsible for funding support organisations, disaster and emergency costs and long term asset replacement costs.

Feedback from the communities showed that cost recovery was very low and was viewed as the most difficult challenge facing the community-based water service providers. Only the Mvula Trust project had an emergency fund, but all the water committees were worried about major repairs and future replacement costs. The study concluded that community-based water service providers or contracted Village Water Committees were the most suitable options for small to medium sized group schemes, but that they needed to be supported by more formal arrangements with regard to staff and payment of staff. It emphasized that cost recovery levels needed to be improved and as it was before the era of FBW proposed that a “no payment, no water services” policy should be applied. It identified that support from the WSA would play a key role in the future development of the area.

Kieck (2005), writing on behalf of uThukela Water, the regional supplier for the area, highlights the difficulties experienced in trying to achieve sustainable rural water supply and sanitation, especially when impacted by poor past practices. Municipalities are constrained to keep tariff increase in line with the inflationary amount allowed by National Treasury. This has a detrimental effect on sustainability especially when the original tariffs were not set to take account of all costs. For example, the costs for running rural water schemes in the uThukela area went unrecorded until 2003. Many rural schemes do not generate any income and thus need to be cross-subsidised by large tariff increases or paid for out of subsidies, such as the equitable share. Unit costs in rural areas are much higher than those of their urban counterparts which range between R4.00 and R10.00. Due to low consumption in one scheme, the unit cost per kilolitre was R240.00. The capital infrastructure costs are higher when the planning does not take account of eventual upgrading of services from rudimentary to RDP to higher levels of services. Long term planning with phased short and medium term implementation provide the lowest life cycle costs.

He identifies that approximately 1050 communities need to be managed in the area and that to ensure scheme sustainability the following support is required:

1. One debtors clerk per 10 communities (a total of 100 for the area)
2. One plumber with assistant per 30 communities (a total of 35 pairs)
3. Communities need to join in operational clusters of 500 to 1000 families
4. Other specialist support, such as legal and customer services and laboratory services.

He identifies the emptying or replacing of VIPs as the most serious threat increasing sanitation costs. Based on a VIP lasting an average of 7 to 8 years before the pit needs to be replaced, he calculates that about 12,000 VIPs will need replacement annually in the long term at a minimum cost of R849.00 per toilet.

He provides the following reasons why rural WSAs have to increase operational expenditure:

1. The introduction of new infrastructure brings with it increased operating costs
2. WSAs which have taken over and revitalized failed schemes must now account for them in their operational costing
3. Costs of skills development
4. The costs of customer and community communication over large dispersed areas
5. Compliance with legislation, i.e. water quality assurance of boreholes and springs.

The case study of Kamiesberg Local Municipality by Atkinson and Ravenscroft (2002) sought to unpack water services management in the area by considering the following:

1. Demographics and resources
2. Current levels of service
3. O&M requirements
4. O&M costs
5. Budgeting, and
6. Equity and fairness.

They found from the budgeting process that the urban tariff covered allocated overhead costs of 2.6 times the direct water costs in addition to those direct costs and recommended that the overhead costs be dealt with in a more transparent manner in the future. The tariffs in the rural areas covered only a portion of the full O&M costs, ranging from a low of 0.2% to a high of 79%, showing that a substantial degree of cross-subsidisation was taking place from urban to rural areas.

The introduction of Generally Accepted Municipal Accounting Practice (GAMAP) and the consequent requirement of asset depreciation, even on assets funded by grants, increased the expenses in the income statement, thus requiring a further increase in tariffs. The Equitable share was being used to subsidise urban residents, presumably in now-water related services, and make up for non-payment by these residents. It was not being used to provide FBW to the rural settlements which would have used approximately 40% of that subsidy. The conclusion to be drawn from the Kamiesberg case study is that their financial position is not sustainable. The evidence from Project Consolidate indicates that a large proportion of South Africa's municipalities are in the same boat.

Roussouw and Crous (2000) researched rapid capacity building for WSAs and recommended that a district level centre be established which could channel expertise, other capacities and guidelines to communities. At community level, only minimum staff complements need be established under the mentorship of a team of experts.

The U.S. Environmental Protection Agency defines financial capacity as the financial resources of the water system, including but not limited to revenue sufficiency, credit worthiness, and fiscal controls.

3.4 Summary of literature review

Most of the models and much of the literature reviewed did not specifically attempt to ensure that all costs associated with water and sanitation services were catered for. Much research has been targeted at stand alone water schemes, for example Still et al. (2003). The recent changes in legislation and the section 78 requirements of the Municipal Systems Act have placed a much greater administrative burden on the WSAs in providing financially viable and sustainable services. The increased burden relates to knowledge and information which the WSA must have and the assessments it must undertake

before it can enter into contractual arrangements with service providers. This is particularly onerous on rural DMs which have made use of CBOs and village water committees to assist in providing water services in remote areas. The research reviewed indicated the cost effectiveness of such arrangements.

What is happening in rural DMs? Despite political willingness to accept the increased burdens the ability of many rural DMS to cope with the demands are compromised. This is evident in:

- Existing services are not keeping pace with demand
- Many schemes have failed or are no longer operating properly
- Resources are inadequate
- Income from revenue collection and subsidies is not sufficient
- The outlook for long term sustainability is negative.

In spite of the poor outlook for recurring operations, there is more than sufficient funding for capital expenditure. The President, in his State of the Nation address, took provincial and municipal governments to task for not speeding up service delivery. Each year the Minister of Finance reports under-expenditure on capital budgets. The problem with increasing capital expenditure, as Kieck (2005) points out, is that the introduction of new schemes due to increased capital expenditure exacerbates the problem of operational human resource capacity and financial shortages.

One of the problems with the models developed and reviewed in this survey is the difficulty in using them and in keeping them updated. Many of them tend to be used once or twice to provide specific answers and then shelved. A model that is easy to use and provides information that is relevant on an ongoing basis is much more likely to form part of the tools that a WSA utilises on a regular basis. National Treasury (NT) requires WSAs to report their finances, budgets and actual income and expenditure figures on a regular basis. At the outset of the research, it was thought that using the information that is required

for reporting to NT as inputs for a general model would make the model much easier to use and thus more likely to be used. On review of Treasury reports it was found that the financial information submitted to the National Treasury was consolidated and compartmentalized to an extent that it does not provide the WSA with information which can assist in costing activities. The research team are still of the opinion that there should be a linkage between the Treasury reporting requirements and the chart of accounts and this model could be particularly useful in guiding the understanding and ensuring a logical matrix of expenditure items which consolidate into the Treasury line items

4 ASSESSMENT IN DEPTH OF THREE EXISTING MODELS

The WRC reference group recommended that a thorough assessment of previous models for potential adaptation for the model being developed. This assessment looked at the three most relevant models, namely the Palmer Development Group's Municipal Services Modelling (MSM) suite, the Dave Still tariff calculation model and DWAF's Free Basic Water (FBW) Model. The following assessment criteria were applied to the models to determine whether they could be used in their current form or in a modified form to provide WSAs with a tool for both planning and reporting:

- Ease of use
- Level of detail and availability of data required
- Comprehensiveness of data input
- Quality of output data
- Application as a planning tool
- Application as a reporting tool.

All three models are highly effective in the context for which they were designed.

The Palmer Development Group Municipal Services Modeling Suite

The Palmer Development Group has prepared models for a number of applications and for a number of clients, the most useful of these for the purpose of this project are the Combined Services Model, the District Services Model, the Regional Water Services Model and the Municipal Services Model.

The Combined Services Model (CSM) was developed to create a more "user-friendly" model for managing major infrastructure services. Subsequently the Regional Water Services Supply (RWSS) (Palmer 1999) model was developed as an updated and extended version of the original model. Both these models were developed for application in major metropolitan areas, and there was a need to adjust a model for application in more rural municipalities. The District

Services Model (DSM) (Palmer 2000) was designed to assist District Municipalities with the financial analysis of their infrastructure investment plans by assisting with providing financial information for planning capital and operational expenditure, as well as assisting with making decisions about becoming their own service providers. The model supports a range of infrastructure services including water, sanitation, electricity, solid waste and roads.

In 2002, PDG revised existing financial modeling tools in the light of experience gained in their application and recent changes in powers, functions and responsibilities arising from the re-demarcation of municipalities. The resulting Municipal Services Modeling Suite (MSM) (Palmer, 2003) focuses on the financial viability and sustainability of regional water services providers. It assesses the WSP's affordability of different levels of service and is designed to provide financial inputs in regional planning. This model is essentially a combination of the other models previously developed by PDG.

The Palmer MSM suite, while being complex with many levels of input and potentially intimidating for the average user, has the most potential as a reporting tool. However, it does not have the level of input required regarding all categories of operating and maintenance costs to be of benefit for calculating the real cost of water service provision. It does not ring fence water services provision.

Dave Still Model

As part of the development of Dave Still's model, (Still *et al.*, 2003) minimum factors that constitute the monthly running costs for stand-alone community water supply schemes were researched. The model was designed to assess these costs and thereby assist a Water Services Authority or a Water Services Provider with the calculation of realistic tariffs. Dave Still's tariff model is primarily a scheme-based tariff calculation model, with the level of input

regarding water services expenses comprehensive. The model input guide (as a form of operating manual) of this model is most useful and user-friendly for managers on a scheme level.

The principal output of the Dave Still model is a tariff calculation. The result of the model calculations is a complex table of answers and a profit/loss scenario for categories of demand. Keeping in mind that the objective of the model is to set a tariff that allows for a profit rather than a loss for each category of demand, the resultant output meets the objective and is displayed quite clearly.

Free Basic Water (FBW) Model

The principal purpose of the FBW model (DWAF information kit no date) is to assess whether the equitable share contributions are sufficient to cover the costs of providing Free Basic Water. The model takes into account indigence levels, existing and planned levels of service, capital costs (including asset replacement) and foreseen operations and maintenance costs. The FBW model's primary output is an indication of the current financial balance (income vs. expenditure) and calculated FBW financial balance. The FBW financial balance provides the WSP with an indication of whether their approach to water services provision is financially viable and sustainable.

The FBW model has a good display format and a comprehensive manual, thus making it simple and easy to use, but does not incorporate the required level of detail of input data.

This exercise was most useful, as it gave the research team insight into the best characteristics of model development, where elements of the assessed models could be incorporated into the proposed model or tool being developed. It was the research team's intention to further test these models with real data from OR Tambo DM, but the level of detail of the data provided by this municipality was insufficient to do this exercise. Furthermore, it was recognised

that an understanding of a municipality's administrative procedures and institutional structure was required to design a model which would be of value for the activity-based costing exercise.

In the study various models that had been developed previously were assessed. However these do not assist the user with calculating operating expenditure to the level it was felt appropriate or they were too complex for the proposed users.

5 POLICY FRAMEWORK

It was important to recognise key South African legislation which governs both the ring-fencing of and the policies of funding water services provision. These include *inter alia*:-

1. Free Basic Water & Sanitation Services
2. Municipal Systems' Act 32 of 2000
3. Municipal Finances Management Act 56 of 2003
4. Addressing water and sanitation backlogs.

5.1 Free Basic Water & Sanitation Services

National government has strongly promoted a “free basic services” initiative, with a view to increased standards of living for all, but, particularly focusing on the indigent and other vulnerable groups. However, it is local government that is constitutionally mandated to deliver water services and the free water services policy must therefore be implemented at local government level. In order to plan for the provision of free basic services, it is imperative for municipalities to understand how much it costs to implement these. The starting point is to assess and attribute all the costs of providing existing services. After this, the municipality would be in a stronger position to determine the costs to extend the provision of free services to those who are entitled to them. Financial information is key to successful implementation of a basic services implementation approach.

5.2 Municipal Systems' Act 32 of 2000

The section 78 requirements of the Municipal Systems Act have placed greater administrative responsibility on the WSAs, particularly in providing financially viable and sustainable services. This increased responsibility relates to knowledge and information required by the WSA and the assessments it must undertake before it can enter into contractual arrangements with service providers. The intention of section 78 of the Act is to support decision-making that will result in efficient, effective, affordable and sustainable services.

Demonstrating affordability, value for money, risk transfer and benefits for the poor are particularly required if the decision is to pursue an external mechanism. Accurate allocation of the costs of the service delivery mechanisms which are linked to the activities of the WSA is most important in order to produce a complete financial assessment and influence decision-making regarding the mechanism selected.

5.3 Municipal Finances Management Act 56 of 2003

This Act aims to modernise budget, accounting and financial management practices by municipalities and establish treasury norms and standards. Municipalities are obliged to prepare annual budgets and can incur expenditure only if the budget has made allowance for this. Municipal managers are the accounting officers and need to comply with strict financial management. In order to produce meaningful and useful budgets, it is necessary for managers to produce financial estimations which will enable finance for planned activities. A good understanding of the required activities to deliver water services is therefore required as well as an allocation of resources to achieve such before costing can begin. Only if activities are clearly understood, completely and accurately costed and prioritised, will there be sufficient budget available to meet municipalities' needs.

5.4 Addressing water and sanitation backlogs

Most of the financing available to municipalities currently goes towards addressing backlogs through the Municipal Infrastructure Grant Programme. Backlog elimination should not be an exclusive focus, as long-term sustainability will be impossible unless sufficient attention and budget is given to repairs and refurbishment of existing infrastructure. Such are some of the complexities requiring consideration when budgeting for the full costs of addressing backlogs as well as planning for ongoing operational costs.

6 CHALLENGES OF WORKING WITHIN A RURAL MUNICIPAL ENVIRONMENT

There are enormous challenges when working within a rural municipal environment, considering municipalities are often functioning as both the internal delivery mechanism and the water service authority. While the challenges are not only true for the “rural” environment, for the purpose of this study, an understanding of how the complex environment in which a “rural” district municipality operates is imperative. It was important for the research team to gain an understanding of these challenges and how they are managed, to ensure that an appropriate model was developed.

As explained in chapter 2, OR Tambo DM was initially selected for this study. The challenges of working with this municipality are not unique and can be read generically for working with many other first-generation or newly established water services providers where the municipality is also the WSA. The challenges are not only for the “rural” DM scenario, but this study’s scope of work enabled the research team to appreciate more fully the complex environment in which a “rural” district municipality operates. The following section highlights these challenges based on the ORT experiences and it is necessary to take note of these challenges for both lesson-learning purposes and to gain an understanding of the environment in which the model will be applied.

6.1 The municipal environment

A municipality which is a WSA needs to function within an environment of tight legislative requirements. The responsibilities with respect to legislation including the Municipal Systems Act and the Municipal Finances Management Act are onerous. Further to this, municipalities have inherited water supply systems (bulk, treatment and reticulation), sanitation systems (sewerage, sewerage treatment works and nightsoil pail service) and, in some cases, DWAF operational staff, creating complex operational and human resource

problems. This has had a significant impact on their ability to service their communities and the time and effort invested to resolve such challenges has been extensive. Maintenance (preventative or demand driven) of water and sanitation infrastructure has been largely neglected and consequently is in poor condition. Municipalities have taken over the urban water and sanitation infrastructure systems that are often in a poor condition and require comprehensive upgrading and financial investment. Municipalities have also taken transfer of rural water and sanitation schemes, which are also generally in a poor condition and have needed repair and maintenance. This problem is exacerbated by limited repair and maintenance budgets.

Within the municipal environment, municipal officials need to balance a number of demands, including those of national departments, politicians, officials in other municipal departments, donors, reporting structures, customers and in many cases, under-serviced constituents. During the implementation of this research study, it was difficult to meet with key municipal members of staff, due to their time-consuming demands and lack of ability to prioritise this study.

6.2 Human resources

Many of the water services departments within rural municipalities are understaffed, often due their inability to attract and retain sufficiently trained and experienced staff. The result is that competent staff are overloaded and in demand. Staff are also often on the lookout for new job opportunities in other larger neighbouring towns or municipalities which affects staff morale and commitment to their work. Organograms for these departments demonstrates the level of short-staffing

6.3 Linkages and levels of information

Working relationships between key directorates within the municipality such as O&M, MIG and finance are limited. This leads to poor quality and incomplete information for budgeting purposes and, in some cases, a lack of

understanding of the business by individuals in the municipality. Further to this, managers responsible for the operational functions of water service delivery do not prepare the financial inputs into budgets which is more often centralised at the district. Thus they neither feel responsible nor are held accountable for expenditure controls and overspending, and the district-level managers, in some cases, do not have complete information required for budgeting purposes. This obviously has impact on both the effectiveness and the efficiency of the water service delivery operations and the reporting of financial matters to managers at both levels, but importantly for this study, it influences the quality of budgets prepared.

When different municipal officials are responsible for annual tasks (particularly, budgeting) from those who implement tasks, and the input process is not fully inclusive, there is potential for limited understanding and/or commitment to figures produced. The regular assessment and evaluation of expenditure against these annual budgets, verification for authorised expenditure and correct expenditure allocation (in terms of budget line items) does not seem to happen at the relevant levels. While this makes the annual budgeting exercise difficult, making sense of actual figures in the next budget cycle is almost impossible. In some cases, the finance directorate does the budgeting for the WSPs based on previous year's total expenditure with little or no detailed breakdown of line item expenditure.

6.4 Communication challenges and administrative support

The communication of financial information from the Chief Financial Officer (CFO) and/or district-level managers down through the structures to the operational units is imperative. Key information including cash flow, trial balance, asset register, cost recovery information, budget expenditure comparisons and credit control often does not filter down to local municipal managers and operations personnel.

The level of administration, with regard to filing and management information systems is underdeveloped due to staff shortages and limited commitment. More appropriate management information systems need to be developed, where managers at all levels can access the required information in a format they can understand and respond to where required. Essential documentation supporting the technical function, such as operation and maintenance manuals, standards relating to design, dimensions and material type, are not easily accessible (within an appropriate filing systems).

In many rural municipalities, communication between officials, politicians, community members and other stakeholders poses real challenges. While the research team experienced substantial frustration in making and keeping contact with key municipal officials and managers, the extent that this seemingly simple operational aspect of working within the municipal environment affects the day-to-day operation and management of water services provision cannot be underestimated. Such challenges include unreliable email and telephone systems, limited support from administrators, especially in terms of message-taking and in some cases, limited cell phone reception.

7. REVIEW OF THE AMATHOLE DISTRICT MUNICIPALITY MANAGEMENT SYSTEMS

7.1 Background Information

The research team made informal contact with the Amathole District Municipality (ADM) to discuss the study and get an understanding of how their structure influenced the complete costing of water services provision. Through this initial contact, and subsequent reporting to the project reference group, it became clear that the ADM was a municipality which could be of great value to this study.

Due to the high level of organisation with regard to systems and procedures and the extent to which compartmentalisation of service delivery is practiced in the ADM, their budgeting and expenditure controls were used extensively as a reference for the ABC assessment model designed as an outcome by this study.

The Amathole District Municipality is made up of eight local municipalities, namely:

- Buffalo City: East London, Bisho, Dimbaza,
- Amahlathi: Stutterheim, Cathcart, Keiskammahoek, Kei Road,
- Nxuba: Adelaide, Bedford,
- Nkonkobe: Alice, Fort Beaufort,
- Ngqushwa: Peddie, Hamburg,
- Great Kei: Komga, Kei Mouth, Haga Haga, Morgans Bay, Chintsa,
- Mnquma: Butterworth, Nqamakwe, Centane,
- Mbashe: Dutywa, Elliotdale, Willowvale.

Amathole District has 165 wards and has established Ward Committees in all wards. Some Ward Committees are not fully functional, as they do not hold regular meetings with communities.

The poverty rate of 61% is the second lowest of the six district municipalities in Eastern Cape and lower than the provincial municipal average of 62% (primarily due to Buffalo City's poverty levels of 46,5%).

The ADM is functioning on an overall budget in the region of R720 million (refer ADM's 2007/8 budget). Categories of income include, *inter alia*, the equitable share, MIG and various internal sources of income including service charges. More detailed financial information regarding ADM's 2007/8 budget is outlined in Annexure 2.

7.2 Amathole District Municipality budgeting process

For the first time, in the 2008/9 financial year, the ADM embarked on a scheme-level budgeting exercise. The magnitude of such expenditure recording has only been possible due to the close working relationship between the finance department and the water services department which exists in the ADM. The actual costs associated with water and sanitation provision are recorded at a scheme level and allocated a 12 digit vote number (refer Annexure 5 for full list of vote numbers). Further to this, the staff recording the vote numbers is key to the successful recording of expenditure, which in the ADM is centralised.

The information is of sufficient detail to allow the assessment of current tariffs and amendments to the tariffs to be made accordingly. In the ADM, averaging of tariffs is effected, allowing for cross subsidisation between schemes within local municipal areas.

Effective and sustainable water services provision has been currently identified as a big challenge facing the ADM. The ADM operation and maintenance of water service infrastructure has extensive challenges. These include:

1. Insufficient funding for maintenance of infrastructure requiring upgrading, replacement or large scale repair due to age and overuse.

2. The situation of the existing water services providers per the pending Section 78 assessment (2007) needs to be finalised, so that the many different roleplayers know what their roles are. The roleplayers are:
 - a. The Amathole Water Board, as a bulk services provider
 - b. The eight local municipalities that are currently functioning as interim water service providers
 - c. A total of 17 community-based organisations
 - d. The Amathole District Municipality itself, being the Water Service Authority, performing and supporting the current O&M functions.
3. A Water Management Information System needs to be established that will assist with the management of the operational and maintenance requirements and budgets.

In the 2007/8 budgeting process, the ADM has moved to scheme-based budgeting, with the creation of 59 new cost centres, each representing either a water or sanitation scheme. Included in these 59 new cost centres are VIP sanitation schemes, tanker services, borehole schemes, bulk schemes and towns.

The ADM put considerable effort into defining actual costs associated with water and sanitation at a **scheme level**. Current tariffs were assessed and amendments to the tariffs made accordingly, with cross-subsidisation between schemes within local municipal areas. It is important to consider that an amount of equitable share in excess of R130 million has been brought into account to fund water and sanitation provisioning for the unserved in the 2007/8 budget year. Key observations related to ADM's 2007/8 budgeting process include:

1. Water supply and sanitation commands the largest portion of the budget for expenditure (42%), which includes both capital and operations and maintenance budgets
2. Budgeting is scheme-based, and 2007/8 is the first year of recording actual costs against each scheme.

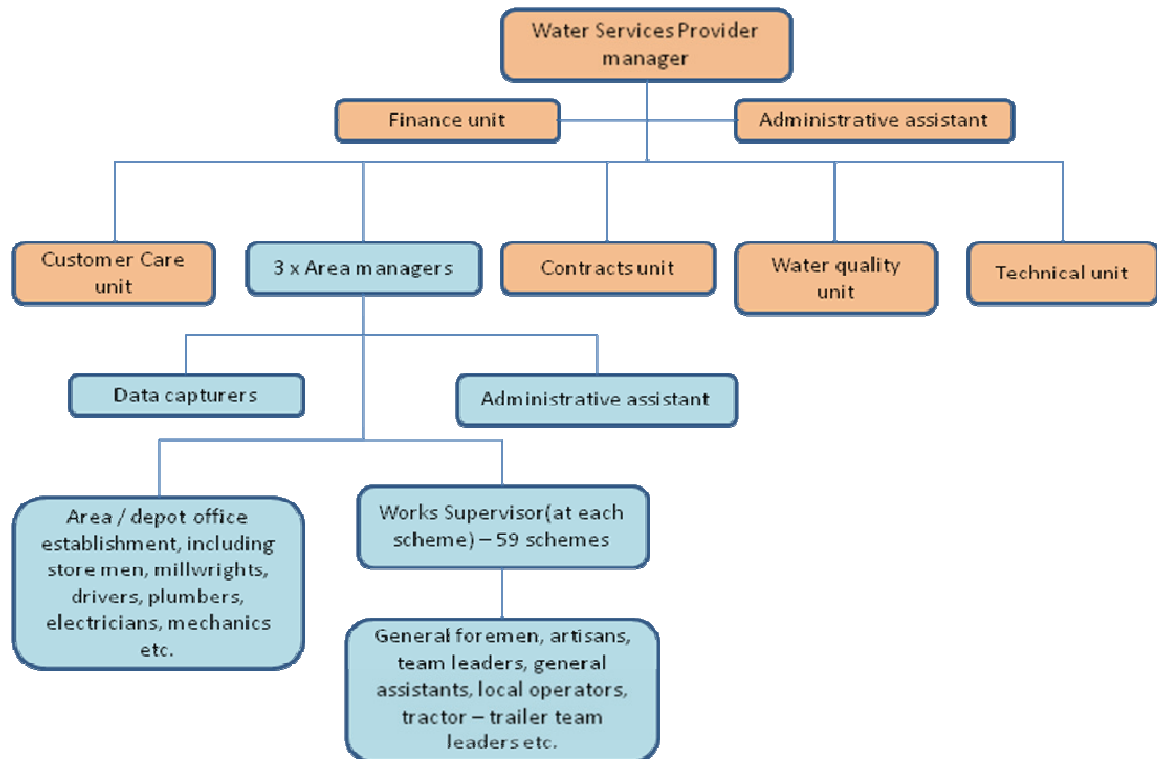
3. The funding to address O&M adequately may require review by the Department of Local Government, Housing and Traditional Affairs and other responsible sector departments of the MIG Programme regarding allocations for O&M. The current situation utilising local municipalities as interim Water Services Providers will continue until the current Section 78 assessment is complete.

7.3 Institutional Arrangements and Human Resources

The ADM currently functions as a Water Service Authority with a Water Services Provider department or unit. While the status of the WSP department within the DM is unclear, it appears to be an administrative unit or department progressing towards functioning more as a business unit

The ADM WSP department has the following structure and is well resourced with a total of 583 staff (refer Annexure 2).

Water Service Provider Department



The ADM has centralised the budgeting and expenditure reporting function at the district level. The breakdown of the functions and roles and responsibilities is indicated on the organogram above and this scenario is typical of many WSA / WSP operational structures.

The structure comprises four distinct levels of functioning, which impact on the calculation of the full costs of service provision, namely:-

1. Shared costs between the WSP department and district municipality as a whole, including shared resources and offices linkages with other departments' resources (for example, the CFO in financial recording and monitoring functions and human resources (HR) staff in staff support and payroll functions)
2. The structure at the district office (coloured brown in the organogram above), which comprises the WSP manager's office with administrative

and technical support based in East London, with centralised overheads as a contribution to the real costs

3. Three area managers' offices, with administrative and depot office resources
4. A total of 59 works supervisors' offices, also known as the scheme-based establishments, with on-site technical expertise to operate and maintain the schemes.

In the ADM's 2007/8 budget, the district and area costs are collectively included in the cost centre named "*shared resources water and sanitation*" (refer to Annexure 2).

The WSP and municipal shared costs are not indicated as a line item within the water service provision budget, but are budgeted for in the municipality's overall budget. These costs are difficult to allocate to a specific department and will remain a challenge. Determining these costs could be done by municipal officials, councillors and politicians keeping timesheets and allocating their time to a specific sector, but this is a bureaucratic and time-consuming exercise and not practical. Another way to do this would be to estimate the proportion of time these high level staff spend on water- and sanitation-related issues and calculate the cost using a percentage of "cost to company".

The scheme-based costs are being captured as separate stand-alone budgets.

7.4 Linkages with other municipal departments

The WSP department does not function in isolation, but is dependent on other municipal departments and units. These are:

1. Finance
2. Human Resources (HR)
3. The technical directorate and Programme Management Unit (PMU)
4. Local municipalities and ward councillor support.

Finance Department

As mentioned previously, there is a close working partnership between the finance department and the WSP department in the ADM. This is seen as a key success factor to the level of water service provision budgeting being performed by the municipality and is critical for the development of all-inclusive water services provision costing.

The finance department is responsible for the accounting of income and expenditure for the municipality as a whole and key to this is the recording of all expenditure against the cost centres (and vote numbers, as explained below). This makes it possible to allocate costs against all WSP functions. The finance and WSP department were together instrumental in setting up the scheme-based budgeting and expenditure recording process. The actual expenditure against budget line item reporting is done by the finance department.

Procurement and payment of service providers for water and sanitation delivery is performed by the finance department, in accordance with legislation. An order requisition system is in place which functions throughout the different levels, from the scheme to the regional to the district and finally to the finance department. This system of multi-level approvals and responsibility reduces the potential for fraud and provides for more effective and efficient functioning.

All payroll and finances linked to staff are done by the finance department, in conjunction with the HR department.

Human Resources Department

The ADM's HR department is a support department responsible for performance management, salaries and other related administrative tasks. As the ADM's WSP department has only recently been established, staff performance agreements are still being developed and require continued discussion between the two departments.

The Technical Directorate and Programme Management Unit

The technical directorate and the PMU are primarily focused on capital infrastructure development, particularly backlog eradication with respect to water and sanitation services.

It is therefore important that the water services department works closely with these two units principally for:-

1. Giving strategic input into technological choice with respect to large capital projects
2. Managing the budgeting process and working within the challenging environment which involves both the initiation of new projects to eradicate backlogs and the upgrading and refurbishment of existing infrastructure
3. Proposing extensions to existing O&M resources to maintain new works and upgrade existing technical skills.

It is clear that there is well-developed communication between these departments, which is evident in the IDP budget preparation process.

Ward Councillors and Local Municipalities

It is important that ward councillors and local municipalities work closely with the water service provision department as they are closest to communities and are indispensable in reporting service delivery problems. Linked to this is their role of incorporating community-based resources to ensure project sustainability and they are ultimately responsible for the customer satisfaction. The ward councillors report directly to their Local Municipality and can assist with customer liaison and conflict resolution at both project and ward levels.

The ward councillors are also responsible for reporting on project dynamics and progress and quality of service to the WSA. The ward councillors do not have any directly designated accountability for the services delivered, but they do play an important customer satisfaction role.

7.5 Discussion

Detailed discussion with the ADM has shown that their procedures for budgeting for water services provision are comprehensive and well developed, especially in terms of budgeting down to a scheme level. The research team thus saw the potential for furthering their work by designing the activity based costing model based on the ADM procedures. While the ADM budgeting process is centralised at the district level, it was necessary to explore the potential for scheme- and regional-level staff to be involved in the budgeting process. The detail of expenditure information at the scheme-level is then not lost. ADM have expressed their willingness to share their experiences to assist other municipalities with budgeting for the complete costs of water services provision.

The need for a well-developed working relationship between the water service department, the finance department and other departments within a municipality is a major contributor to the success of ADM's scheme-based budgeting. The importance of these relationships cannot be overstated. While a model can assist with budgeting for complete costs of water service delivery, the success of budgeting and expenditure monitoring is largely dependent on strong working relationships between the departments, particular the water services and finance departments.

It was necessary for the research team to work with another municipality, and due to historical relationships and a working knowledge of the area, the Chris Hani District Municipality (CHDM) was chosen. CHDM's existing web-based O&M Database Management System warranted some examination as a comparison with ADM's systems. The report on the CHDM is in annexure 3.

A comparison between the ADM and the CHDM was done using the latest available information. This comparison gave information such as the fact that although the ADM has many more consumers who are unserved with water

and sanitation, they are receiving less from the equitable share. However the purpose of the study was to enable a WSA to establish and cost the activities of water services provision in its municipality and is not to compare these to other WSAs. The report of the comparison is included for information purposes in annexure 4.

8 The ABC Costing Model

An Activity-Based Costing system is a cost management system developed in response to the need to obtain a better understanding of the performance of overhead costs and the relationship with “products”. According to Drury (1996), “ABC recognizes that in the long run most costs are not fixed, and it seeks to understand the forces that cause overhead costs to change over time. ABC systems assume that cash outflows are incurred to acquire a supply of resources (labour, materials, machinery) which are then consumed by activities. A link is made between activities and products by assigning costs of activities to products based on an individual product’s consumption or demand for each activity”.

The question is how this relates to the costing of the rural water and sanitation supply by municipalities. It is proposed that the principle of activity based costing is entirely appropriate in a municipal environment as a management approach to assist municipalities to apportion overhead costs to the relevant departments and cost centres in order to understand and manage the costs better which in turn will assist in better resource management and the determination and application of financing. The ultimate outcome of the system is the ability to assess whether the WSA is getting value for the amount invested and what the cost-benefit ratio of the activity is.

Assuming that a water scheme is the first level of activity and then looking at the resources which are applied to such activity it is clear that this comprises a range of direct and indirect costs. The direct costs are those costs which directly relate to the activity or scheme such as chemicals, pump operator salaries, equipment rental, etc. The model which has been developed for the study assists the user to apportion costs based on the activity at a scheme level as the first layer of activity. This is done by using the standard chart of accounts used by the municipalities which details the expenditure line item and

is completed by the official responsible for the scheme running costs.

The complexity arises when the user has to apportion the indirect costs to the scheme. Such costs in the relationship between region and scheme would include many regional costs such as regional staff responsible for managing a group of schemes, or chemicals purchased in bulk for a group of schemes.

The way in which these indirect costs are apportioned has to be based on some cost driver such as the size of the scheme, the time spent on managing the scheme's activities, the location of the scheme, etc. This can become a very complex exercise and for the purposes of the municipal environment an assumption has been made in the model that the apportionment is based on the scheme's direct cost as a proportion of the total scheme costs in one region. This factor has been calculated by the model and then used to apportion indirect costs assumed to be regional costs across the schemes. If the region has incurred direct expenditure on the scheme, provision for the inclusion of this has been made in the scheme budget. (Refer to Appendix1: Guidelines for using the ABC model.)

The percentages for apportionment can be changed if the municipality has a different apportionment simply by changing the percentages in the regional budget.

District expenditure is apportioned across the regions in a similar ratio with the result of a total cost of the district per region which could in turn be fed back to the region and apportioned across the schemes. The model has moved information in the direction of the scheme to the region and then to the district, with the assumption being that the management of the information will take place at a district level. The final stage of the model uses all the information which has been rolled up to apportion the district's costs downward, firstly by apportioning per region and finally back to the scheme level to achieve a total

cost per scheme.

Going back to final principle of an ABC system, the costs are apportioned to “products”. In the first stage, being the municipal scheme context, the “products” or services which emanate from the schemes such as the provision of a supply service can be viewed with all elements of the costing which is very useful in determining the financing of such “products” or services.

Taking into account the various elements of financing available to the municipality the second stage is to apportion income at a district level to the water services and then at a regional level, taking into account all capital and grant funding. The difference between the total costs and the total funding comprises the financing required to finance the costs or to guide cost recovery strategies. The more accurate the costing, the better the municipality will be able to manage its resources, control allocation among activities and prioritise spending for future activities.

Municipalities by nature are multifunctional, with functions ranging from grass cutting to land use planning, from the provision of services such as water, sanitation, electricity and waste collection to the facilitation of job creation. Costing of activities (by business units or departments) allows municipalities an understanding of the actual costs to operate each broad category of activities independently and assist with making informed decisions in this regard.

The rationale for activity based costing of the provision of a specific service, function or entity is multi-dimensional and, if instituted correctly, could include one or more of the following objectives:-

1. It establishes an accurate and “live” data base for the particular service, function or entity;
2. Allows for transparency for achieving efficiency and effectiveness;
3. Enables comparison with best practice;

4. Streamlines bureaucratic processes to the level of the functional entity;
5. Provides the basis for determining appropriate service delivery mechanisms (section 78 assessments);
6. Enables optimal prioritisation and budgeting;
7. Identifies actual costs associated with a particular service delivery programme;
8. Assists with meeting the requirements of the Municipal Systems Act (2000), Municipal Finance Management Act (2002) and other legislation and policy documents.

8.1 ABC Focus Areas

The following key focus areas should be assessed in this water services ABC exercise:-

1. Financial
2. Human Resources
3. Assets
4. Support Services
5. Management Reporting Systems.

The **financial** assessment provides the essence of any ABC system. The objectives of financial assessments are to:-

- Develop an income and expenditure statement for the provision of water services
- In the absence of actual cost records, establish cost estimates that would reasonably reflect the cost of operating the water services
- Identify any “hidden costs”
- Identify financial risks.

Human resources in local government are complex especially during re-structuring, under-resourcing and posts continually being filled and vacated. Re-structuring also brings different conditions of service, contributions to

pension funds and medical schemes and leave conditions that generally take time to resolve. The human resources assessment is an essential component of any costing exercise. The objectives of human resource assessments are to:-

- Determine the existing staff complement for the specified business unit or department
- Determine roles and functions of staff in relation to the specific business unit being ring-fenced (especially when personnel are functioning in more than one business unit)
- Establish total personnel costs and apportion these to activities
- Forecast future and determine current efficiencies and effectiveness of differing organograms.

Assets represent both movable and immovable property and equipment used in the water services delivery. The verification and valuing of all assets has the added advantage of improving control and promoting the effective use of the assets. The objectives of allocating assets to activities are to:-

- Identify and source all assets related to water services provision
- Reconcile assets currently used in activities with assets on asset registers and identify assets required for future activities.
- Allows for accurate financial planning (especially for operation and maintenance, upgrading and replacement of works and plant equipment).

The model makes provision for the writing off of assets over their expected useful life through the depreciation line item. Budgeting for asset replacement is beyond the scope of this model and it is assumed that this is a separate process, the results of which are fed into the model through the depreciation expense.

The identification of **support services** with respect to water services delivery is

a key component of an ABC system. All support activities and functions must be clearly identified and accounted for. Generally the support services can be in any one of the following forms:-

- Human resource support (management / operational and even secondment of staff to and from the entity)
- Technical support
- Information technology support
- Legal support
- Professional service providers support, and/or
- Outsourced functions support (e.g. billing, meter reading, specialist services, full treatment works management contracts, etc.).

The costs attached to these support services can be compared with the costs of performing the service delivery tasks in-house. The objectives of allocating the support services to relevant activities are to: -

- Identify all support activities related to a specific service delivery (e.g. water provision)
- Establish the cost of such support in order to incorporate it into the total cost of providing a specific service, such as water.

The **reporting systems** and procedures should be assessed to see whether they address all the ABC system elements, especially accounting, budget allocations and expenditure against those budgets. It is important to question whether the reports are structured in such a way as to enable the extraction of key information. Good management reports, systems and procedures promote proper planning and decision-making. In considering reporting systems and information produced in relation to providing information for an ABC system, the following should be included : -

- Review the current reports, systems and procedures
- Comment on the types of reports required
- Determine the applicability of those management reports

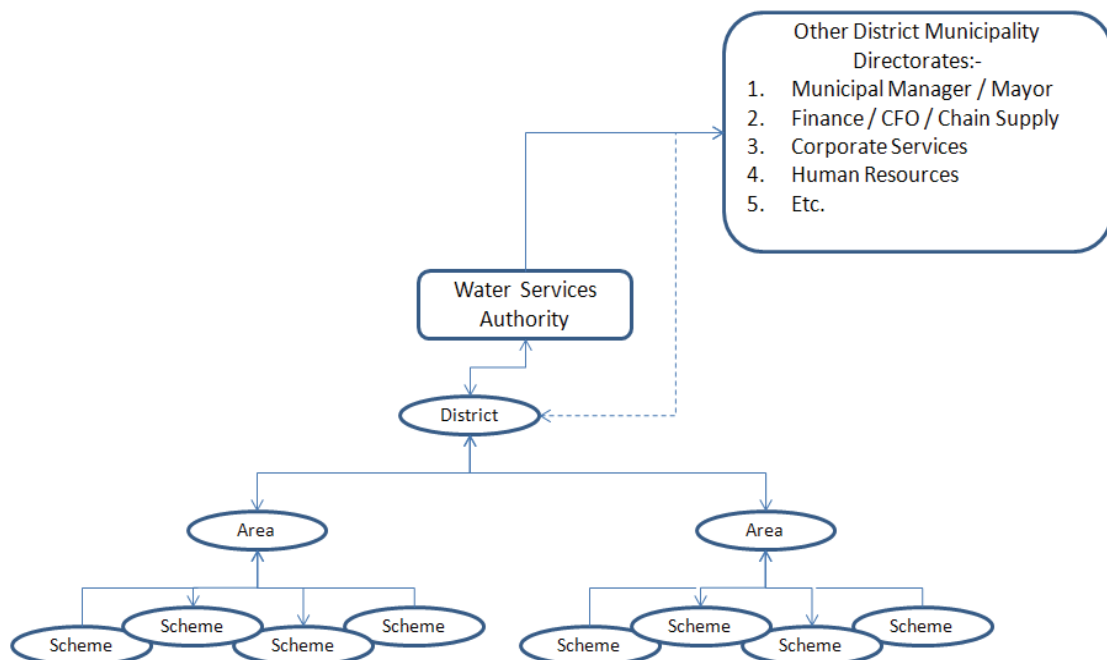
9 MODEL DEVELOPMENT

The model is intended for use by municipalities to establish and cost the activities of water services provision. It is designed for use by either local or district municipalities and is not restricted to a particular size of area or institutional boundary.

A detailed step by step guideline on how to use the model has been developed and is attached as annexure 1

9.1 Functional and Structural View

The ABC model reflects the three levels of functioning and management, and as such, capture of budget data will be done on these three levels. The three levels are defined as scheme-level, area/regional-level and district-level. By the nature of the functioning within district municipalities, these three levels exist and have differing access to data for input into the model. For the design of this budgeting model, the following typical structure is understood:



While the model is adaptable it does require an intermediate working knowledge of MS Excel spread sheeting. The three levels are characterized as:

1. **Scheme** level – this could be a stand-alone scheme at a project or village level, for example a water-works. The critical definition of this level is that this is where day-to-day operation is happening. There may be schemes that could be ring fenced. In the case of the Amathole DM, there are 59 “ring fenced units” (ranging from large water works, to small village-based projects). Each scheme should have its own dedicated staff and common objective. Budgeting is not done at scheme level, but staff at this level must be able to answer questions such as did you have enough chemicals for the year.

2. **Regional** level – this is a grouping of schemes that can be delineated by political, geographic, topographic boundaries and/or other criteria (access, locality by town, etc.). This could be a local municipality or ward boundary, centrally (or strategically) positioned towns that have access to support services or large schemes that serve many communities. It is assumed that there is a management structure in place at this level, which incurs overhead costs and may deal with procurement of service providers. In practice this level is often at that of an area manager.

3. **District** level – This is the level of the Water Services Authority or a level linked to the approval of budgets, payment of salaries and monitoring of expenditure.

9.2 ABC Model design

It is assumed that municipalities are no longer operating within the realms of incremental budgeting, but rather using zero-based budgeting. Zero-based budgeting involves costing the activities planned for the future year and years using the activities as a basis. All activities should be justified and prioritized before decisions are made regarding the resourcing of the activities. Thus,

instead of managers merely justifying percentage increases to previous years' expenditure of the budget, every function within the water services provision department is reviewed and budgeted for. While reflection is done on previous year's expenditure, in relation to the year's budget, the technique of zero-based budgeting requires the justification of every line of the budget.

The MS Excel-based ring-fencing model has been developed to assist municipalities that are providing the water services provision function, as a model to budget the activities related to water and sanitation delivery. The model is in excel format which allows for information to be imported from other accounting and software packages and also allows the budget to be exported for financial reports which for instance compare actuals with budgets. The information can be graphed and is enormously flexible in its applications.

The model provides a complete list of all possible budget line items (vote numbering), to encourage the capture all aspects of water services provision budgeting. The capture will happen at three levels, as outlined above.

The model created is based on ADM's current budgeting expenditure practice. Some of the key characteristics which were kept in mind while preparing the model are:

1. It should be easy to understand
2. It provides a tool to understanding the inner workings of the municipality
3. It will make allowances for three levels of data capture (scheme-, area- and district-level)
4. Role players and the ring-fenced entities should be able to work independently on the model yet they must have common threads and linkages for the unit as whole to summarise and report on
5. The software used should be off-the-shelf, preferably MS Excel, to ensure access to software, and familiarity.

Vote numbering system

The model has been structured to allow for the input of the scheme name and then the scheme number. If there is a pre-determined number and description, then that will be the detail entered. The model has been informed by the vote numbering system in operation at the ADM, but has only utilized the category and item codes. The first part of the vote numbering system used by the ADM is not entirely applicable to the model as it distinguishes between overhead and scheme costs. This model takes the costing to another level whereby overhead costs get apportioned to schemes. Hence a simple description of the scheme is used as the first field and the second field could be used for example by a department. The model allows for flexibility and it is important that before the model is activated, the municipality applies itself to the most appropriate structure and coding.

The expenditure in the model has been hard-coded using the categories and items per the vote number and should therefore be compatible with financial reports in existence.

There is a sequence of numbers which each represent a different category or item. These numbers are used for all paperwork relating to these categories or items, so they appear on orders, requisitions and payments. These numbers are also used in the ADM budgeting system.

A full table of the vote numbers currently being used by the ADM Water Service Provider Department is included in Appendix 4. A similar system can be modified and/or added to as a municipality requires. The vote numbering system should be as simple as possible, to limit complexity for administration staff to allocate expenses to the correct cost codes.

An example of the numbering system is as follows:

No		Description	Example (ADM)
45	AA	Department	45 = water and sanitation services provision department
01	BB	Cost Centre (overhead or scheme-level cost)	01 = overhead expenses
1	C	Budget Type (expenditure or income)	1 = expenditure
75	DD	Category (budget line item for expenditure)	75 = general expenses
005	EEE	Item (chart of account)	005 = salaries: permanent staff
00	FF	Sub Item	as required (not currently being used by ADM)

The ADM system is used for all municipal budgeting and not just the water services provision. Hence in the example AA is for the department, 45 for water. In the ABC model developed it has been assumed that the model will be used only for the water services provision department and this numbering is not included.

Model characteristics

The model is intended for use by municipalities to establish and accurately cost all activities of water services provision. The model is designed for use by either local or district municipalities and is not restricted to a particular size of area or institutional boundary.

One important requirement is that the model requires detailed planning in the setting up of what information is required (in terms of charts of accounts, scheme-level information, etc.). This also requires strategic planning with respect to getting systems and procedures in place. The information requirements must also match the financial information required by other

municipal departments. For example, the vote code for salaries and wages must be the same for technical, HR, LED, etc. and all other departments.

The model has been designed for use by all levels of data capture and analysis. Individual schemes, urban or rural areas, local municipality as well as the district (with centralised departments) can utilize it effectively.

The model focuses on budgeting related to water services for a specific, fixed period only and should be repeated annually. It is designed for managers and supervisors and the information can be inserted using zero-based budgeting. It is possible for the model, if linked to the municipality's financial system (via the vote codes), to produce accurate line item variance reports to guide future years' budgeting inputs.

The model was developed using MS Excel for Windows, and may be run using MS Excel 97 or a later version. It is recommended that the model be run on at least a 66 MHz machine with 8 Mb of RAM. For data input, the data capturer requires only an intermediate working knowledge of the MS Excel spreadsheet package.

The sheets in the model have been protected so that structure and form cannot be inadvertently changed. The input sheets are the only sheets which allow for input into the white cells, with blue lettering.

A guideline for using the activity based costing model has been developed and is included as Appendix 1. Users are referred to the guideline for detail on the model structure and functioning.

10 FINDINGS AND CONCLUSIONS

10.1 Municipal situation

The difficulties faced by “rural” municipalities have been spelled out in detail in chapter 6 of this report. There is a political willingness by municipalities to accept the responsibility of water services provision and they wish to do this effectively and efficiently. Activity Based Costing could assist them to do this but the ability of many of the officials to cope with the demands of implementing such controls is limited. While current levels of understaffing at municipalities presents a major challenge for putting such controls in place, the potential efficiencies resulting from the costing exercise and expenditure monitoring will be of great benefit.

Many key municipal officials face significant time-consuming demands from the politicians, community and their own staff, so prioritising time to dedicate to setting up systems and procedures and costing exercises proves difficult. Some municipal officials feel it is unnecessary to institute a costing model as most of their funds come from the equitable share and MIG and thus the exercise does not have any bearing on how they operate. Before the costing model can be implemented, its principles and policies must be accepted by all the relevant officials in the municipality as it requires input at several levels.

Municipalities are obliged to conduct section 78 assessments in terms of the Municipal Systems Act. A costing exercise should be key in these assessments. Currently, the most common institutional arrangement is that the water services provider functions are performed internally within a municipality. This department is generally responsible for only providing the technical aspects of water services delivery. Other departments or administrative units take responsibility for other aspects of service delivery including financial, legal, and social and human resourcing. It is therefore imperative that the actual costs of providing water services can be quantified.

Currently municipalities are concentrating on backlog elimination in order to meet targets within the set timeframes. However this should not be an exclusive focus, as long-term sustainability will be impossible unless sufficient attention and budget is given to repairs and refurbishment of existing infrastructure and to the ongoing operational costs. The costing process will provide clarity on the financial implications of these costs and will help in the planning process.

Of the seven municipalities approached to participate in the study, four did not have complete budgeting systems and procedures in place. Most have not included the overhead and support costs in their budgeting, nor do they properly address the mix between basic levels of services and higher levels of service that is common in most municipal areas.

All the municipalities investigated are seriously under-resourced mainly in middle and senior management positions, in their water service provision departments. (An example of this was Madibeng, where the resignation of one staff member made it impossible for the research to continue). Managers are required to deal with daily crisis management, political and community demands and requests, reporting requirements, human resource management and setting up of systems and procedures / management controls, etc.

10.2 Existing models and procedures

Most of the models reviewed did not specifically ensure that all costs associated with water services were captured. Also they appeared to have been developed in order to deal with specific issues and then to be shelved or at least not updated. They were also not in accessible formats or easy to use.

Discussions with Amathole DM financial staff indicated that an understanding of the cost elements of water services provision should be the starting point for all WSAs and that a budgeting model would be useful for WSAs to be able to

ring-fence their costs. However, more than this was required even before such a costing model could be implemented. Most importantly there must be good communications between the different departments of the municipality, especially between the finance and water services departments. There also need to be internal systems and procedures for management.

10.3 The ABC model

In order to get the basics right, the identification of costs based on activities is considered a critical starting point towards effective and efficient management of financial resources and meeting service delivery needs in a cost effective manner. It was therefore decided to develop a model using MS excel which will identify the costs of water services based on activities.

This budgeting model has been set up using the vote numbering system which is in use by the Amathole District Municipality and which seems to be comprehensive in addressing all the expenditure categories which a municipality might require.

The Activity Based Costing model is a tool which has been set up to assist WSAs to apply principles of activity based costing in their budgeting processes.

The costing output of the model can be used in conjunction with the existing financial systems being used by the municipality to validate expenditure requests and monitor expenditure levels against budget line-items. Once expenditure is captured at this level of detail, budgeting for future years will become more appropriate and more accurate. If the costing exercise is carried out and expenditure is captured against the budgets, there will be numerous benefits to the municipality. These include:-

- Knowledge of actual cost per scheme allowing for better management, control and efficiency checks.
- Existing services keeping pace with demand

- Schemes operating properly
- Allocation of adequate resources
- Buy-in from all (including ownership) for long term sustainability
- Extension of the costing exercise to conduct tariff assessments and the establishment and understanding co-funding and cost sharing
- Support income from revenue collection and subsidies.

It should be kept in mind that the model is an aid for budgeting and expenditure monitoring, and cannot replace the responsibilities of various operational staff and line managers. Managers will still be held accountable for expenditure controls and overspending, which has an impact on the effectiveness and efficiency of water service delivery operations. Added to this, data entered into the ABC model at the different levels will require verification and the quality of the output is only as good as the quality of the input.

The model does not attempt to provide a comprehensive and integrated management information system but rather a user-friendly, adaptable tool which can be applied in determining ring-fenced costing of water related activities.

11. RECOMMENDATIONS

As outlined in the report, the application of the costing model is not complete without paying attention to internal systems and working relationships. A roll-out of the ABC exercise needs to allocate sufficient time and resources to addressing these issues.

As evident from interaction with and information received from various municipalities as part of this study, the capacity of financial and water service provision departments is significantly diverse. Some municipalities would require higher levels of interaction and training to implement the costing exercise, and this should be built into any resulting intervention planned.

The MS excel based model has been designed to cater for various levels of technology, taking lower levels of access and basic electronic platforms into consideration. The model is available for use as is or can be used as a template onto which municipalities can build and customise.

A guideline has been prepared on how to use the model. The guideline and the model as provided are somewhat of a generic nature in order to cater for what has been assumed to be the crucial costing elements. The model however can be customised and modified to suit specific contexts.

It is envisaged that this model should be used alongside the municipalities' water information management system because it is simple, flexible and affordable. Many municipalities have invested substantial resources in sophisticated, integrated management systems which have proved onerous to get functioning and in many instances are not functioning. This model is something which a user can use for a simple project in a rural context as well as in a more technically resourced environment with information generated from a variety of systems. The model allows the information to produce

summaries and views which give an overview of costs and allows management to easily understand the costing elements of water service provision.

It is hoped that this model can provide a useful and appropriate financial technology in the development of financial systems to improve the management of service delivery.

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12.1 ANNEXURE 1

Guideline for using the Activity Based Costing Model

by

Wendy Matthews

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In particular, the Amathole District Municipality's willingness to share their extensive work on the budgeting and expenditure reporting in the Water Services Department has been of great value to the research team, and we hope that their expertise can be shared further with other municipalities.

1 Introduction

The model has been designed to assist Water Services Authorities to quantify the costs of delivering water services using activities to inform the budgeting process, which in turn will contribute towards more realistic and complete financial information which can be used to contribute to the overall budgeting and planning process as well as providing management with a tool to monitor and control expenditure. It is designed for use by either local or district municipalities and is not restricted to a particular size of area or institutional boundary.

The model makes provision for the input of data relating to direct expenditure by three levels of users as well as computing indirect costs, which are apportioned to activities. The three levels of users refer to the scheme level, the regional level and the district level. While some costs are fairly easy to assess and relate directly to activities, such as operations and maintenance costs, many costs are indirect such as management and administration costs and are often excluded from the cost of water services. This model provides a tool which combines both direct and indirect costs for the user based on information inputted from layers of participants with shared activities.

The model makes use of a series of spreadsheets linked through an automated process of macros whereby information flows from a “bottom up” process into a summarised format which can be added to at “higher levels”, thus allowing for layered input into the budget process. The model is intended to act as an aid to municipalities to collect expenditure budget data from different levels which will be rolled up through the model functionality to provide financial reports on consolidated data as well as the ability to report on activities.

Microsoft Office Excel 2003 software has been used to create the model as this software is widely compatible with software available to municipalities without the need to purchase specialised software. The model requires a familiarity by the user of the excel spreadsheet package, but does not require the user to be an expert on the package.

The objective of this guideline is to explain the application of the model and provide

instruction for its usage. The guide should be read in conjunction with the report “**The development of an activity based costing system to quantify the real costs of delivering water services in rural areas**”, which gives more detailed background and analysis which gave rise to the development of the model .

Users may contact Wendy Matthews (wendy@mvula.co.za) from The Mvula Trust for additional support on the application of the model.

2 Definitions

2.1 Scheme

The starting point for input into the model is from the activity level called the **scheme** level. This could be a treatment works, a village sanitation scheme, a town reticulation infrastructure or any unit that the municipality recognizes as a scheme cost centre.

2.2 Region

The second level is the **region**. Typically a cluster of schemes would be managed by an area manager. This level for the purposes of this costing model is called the regional level. The regional level will be responsible for managing the **schemes** which fall within its area of responsibility, but will also incur costs which relate directly to its own activities, which the model then allocates across the **schemes** in its area.

2.3 District

The third level is the **district** or water services provider level. The model makes provision for a cluster of up to 10 regions consisting of up to 20 schemes, to report to 1 District. At this level, similar to the process at the regional level, direct costs relating to the activities of the **district** are incurred. These are inputted by the **district** and the model allocates them across the **regions** and then in turn across the **schemes**.

2.4 Model

The model refers to the complete set of folders with workbooks and worksheets relating to the AB Costing model which relies on the input of data at different entry points culminating in reports which consolidate budget information by reporting unit and by reporting period.

3 Structure of the model

The model comprises 3 folders which each contain sets of workbooks with worksheets which are linked within the different folders by means of macros.

The 3 folders are named: ABC District Tool
 ABC Regional Tool
 Scheme Budget Template

The flow of information in the model is hierarchical with a district consisting of several regions and each region in turn consisting of several schemes. The model allows the district to collect and consolidate budget information from the regional level which in turn includes consolidated budget information from the scheme level. A second feature of the model is that once the district has consolidated all regional budgets, the model calculates the apportionment of the district overhead expenditure across regions and in turn the regional apportionment across schemes. The user will therefore be able to determine the full cost of each scheme, including the apportionment of regional and district costs and therefore an expanded financial view of providing water services.

The model is initiated and controlled at the district level. The district disseminates the relevant folders to the regions who in turn send out the scheme budget templates to the schemes, or where appropriate fill in the scheme template at a regional level. Once the scheme template has been completed this is saved into the regional scheme budget folder as the “scheme x – direct input” workbook. The scheme information automatically flows through to the region budget workbook.

Once all the region’s schemes have been saved in the regional scheme budget folder, the region inputs its own regional direct budget items into the region budget workbook. A report is the automatically generated in the workbook, which shows both the region’s total cost per month, including all it’s scheme expenditure as well as a divisional budget per unit (i.e. region and individual schemes separated). The region then submits its workbook to the district, which saves the region budget workbook in the folder: regional budgets of district. The regional information is automatically updated and reflected in the District 1 budget workbook. Once all the regional budgets have

been saved, the district must enter its own direct expenditure budget into the district budget workbook and reports will be generated reflecting the district total expenditure per month as well as per unit, i.e. district and regional budgets separately.

Each of the three levels of data input will be described below including descriptions of the worksheets contained in each workbook.

A diagrammatical representation of the model is presented as Figure 1. This diagram outlines the folders included in the model and the workbooks within each of the folders. The diagram also indicates the direction in which information must flow from the scheme to the region to the district in order to arrive at the final consolidated district results.

Warnings:

When opening certain workbooks, some warning signs will be displayed. The following are warning signs which the user will encounter:

Disable macros/ Enable macros

The user will be requested to disable or enable macros on various worksheets throughout the model. This is routine protection against viruses which should be detected by antivirus software. The user should click the box which says “enable macros”. This is critical for the macro function to operate and automatically perform the programmed updates.

Update / Don't update

The user will be faced with a screen after enabling the macro function which will state that the workbook contains links to other sources. The user will be requested to tick either a box which will allow for updates or a box which says “Don't update”. The user must tick the “Update” box to allow the updating to occur.

Replacing existing files

When the regional or district user saves the scheme or region workbook as one of the schemes or regions in its folder containing all schemes or regions respectively, a screen will appear: “Do you want to replace the existing file?” Yes / No. The user must click on the “Yes” tab to allow the information to be consolidated into the model

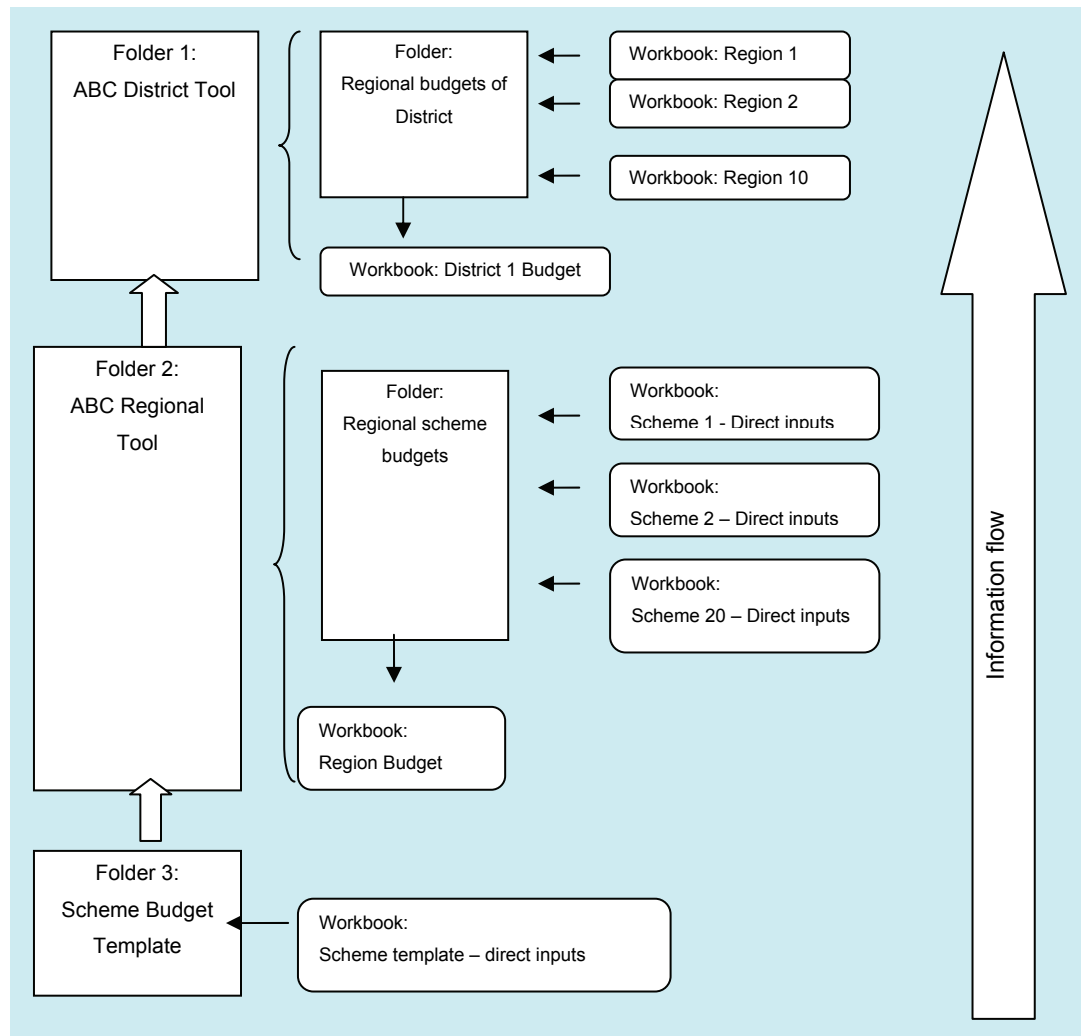


Figure 1: Diagrammatic representation of model structure

Each workbook contains a number of worksheets which are a combination of standard instructions, input worksheets and reports. A brief description of the worksheets follows, but the user is directed to the data input section to obtain a detailed

understanding of the specific worksheets related to the different levels of workbooks, i.e. at a district, region or scheme level. The structure of the worksheets contained within all the workbooks follows a standard format for the first two worksheets:

Worksheet 1: Control – For information purposes

This spreadsheet contains instructions, warning messages and headings which are linked throughout the spreadsheet. This page is for reading – **no input required**.

Worksheet 2: Index – For information purposes

The index details all the subsequent spreadsheets and has a hyperlink to each sheet which means that the user can click on the index item and will automatically be taken to the relevant worksheet. This page is for reading – **no input required**.

The worksheets which follow are customised to suit the particular level of user. It is these sheets into which data is inputted by the different users as guided by the control sheets.

NB: In each workbook there are worksheets for input by different levels, i.e. the user completing the input should only fill in the worksheet for their prescribed level.

The model has used colouring of worksheet tabs to denote data relating to different levels.

Information relating to schemes is highlighted with a red tab.

Information relating to regions is highlighted with a yellow tab.

Information relating to districts is highlighted with a blue tab.

The final worksheet (in the case of the scheme budget template) or two worksheets (in the case of the region or district budgets) in the workbooks are the outputs or reports for the workbook. These are for reporting purposes and are summaries of all the information contained in the workbook with differing views – one worksheet for the budget by month and one worksheet for the budget per unit.

NB: The sequence of data input and collection is important for the correct functioning of the model. The sequence of data input will be fully described in

the relevant data input sections. The logic and flow of information will be spelled out in greater detail in the data input section.

4 Vote numbering system

Accounting systems are based on the recording of financial information which is allocated to income and expenditure codes. The codes are often referred to as the chart of accounts which are numerical representations of income and expenditure categories which are used to represent financial transactions. This budgeting model has been structured using the vote numbering system which is currently in use by municipalities to report to Treasury and which is comprehensive in addressing all the expenditure categories which a municipality might require. If a municipality requires a different coding system, this would be possible but would require modification of the tool by the developers.

EXPENDITURE CATEGORIES AND ITEMS		
Category	Item	
05	Employment Related: Salaries and Wages	
	005	Salaries
	010	Salaries: Overtime
	015	Salaries: Temporary
	020	Bonuses
	025	Allowances: Housing
	030	Allowances: Travel
	031	Allowances: General
10	Employment Related: Social Contribution	
	005	Contributions: Group Life
	010	Contributions: Bargaining Council
	015	Contributions: Medical Aid
	020	Contributions: Pension Fund
	040	Insurance: Unemployment
40	Depreciation	
	005	Description of item
45	Repairs and Maintenance	
	005	Buildings
	032	Mechanical / Electrical
	035	Network
	040	Office Furniture and Equipment
	065	Tools and Equipment
75	General Expenses — Other (overheads)	
	005	Advertising
	035	Cost of conferences
	040	Consultants: General

Figure 2: Vote numbering system

The full list of vote numbers used is listed in Appendix 4.

5 Model Operation

Getting started

The District, i.e. the users responsible for the overall budgeting process will receive the model by CD or as an attachment by email.

The model has been designed in Microsoft Excel, 2003 version. The user must have compatible software in order to operate the model, i.e. Excel 2003 or a later version. A

working understanding of excel is necessary to operate the model.

Tip: In order for the date function in the model to work properly, the user must have the analysis toolpack loaded. In order to do this, the user must open excel, click on “tools”, then “add-ins”. Tick the box next to “analysis toolpack” as well as the box next to “analysis toolpack VBA” and then click the “ok” box.

The user is now ready to start using the model.

The user should insert the disc and then open the folder named ABC Budget Model for WSAs.

The user will have three folders listed on opening the Budget Model:

Folder 1: ABC District Tool

Folder 2: ABC Regional Tool

Folder 3: Scheme Budget Template

The district user must save the model on his/her own computer so that the information may be updated. The district user must send Folder 2 and Folder 3 to their regions, either as an email attachment or by disc.

(The regions must also have the compatible software and load the analysis toolpack as described above.)

The regions must save the folders on their computers and send the Folder: Scheme Budget Template to the schemes where data is inputted.

Once the schemes have inputted the budget information into the “scheme input by scheme” worksheet in the template, they must save the files and send them back to the region. The region will then save the scheme information into the correct folder as well as adding any direct costs for the scheme that the region occurs.

NB the region must input direct expenditure that it incurs on behalf of the region into the yellow worksheet, i.e. the worksheet called scheme input by region.

The region should then complete the input worksheet for the region's own direct

budget. Once all the regional information, including the scheme information is complete, the region must save the file and send the file to the district. The district must then save the regional information into the correct folder as well as complete the input sheet for the district's own direct budget based on the same principle as above.

Once all the district information, including the regional information is updated in the district budget workbook, the model will produce two reports for the district – district budget per month and district budget per unit. These reports are the final two worksheets in the workbook and the ultimate outputs of the model.

In the district budget per month worksheet, the report apportions the district expenditure across the regions. The district expenditure can be further apportioned per region by inputting the district expenditure into the specific region's worksheet included in the Regional Budget of District Folder.

Note:

The user must determine how best to use the model based on the flow of information and functional responsibilities within their district.

For the purposes of this guide, we have made assumptions that it is possible for the district to receive budget information from both a regional as well as a scheme level. The structure of this model allows for a hierarchy of information from 3 levels. If the district structure is such that it only requires 2 levels, the lower level, i.e. scheme level can be excluded.

The model will be of most use if the district can initially plan where their information sources are, how best to ensure efficient flow of information and then how these correlate with the three levels of the model.

Data input

Input by scheme

On receipt of the Scheme Budget template folder from the region, the scheme user must open the folder which contains a workbook called: **Scheme template direct inputs**.

The scheme user must open this workbook.

The workbook consists of six worksheets with different names and tab colours.

Worksheet 1: Control worksheet – for information

Worksheet 2: Index – for information

Worksheet 3: Scheme input by scheme (red tab) – for completion by scheme

Worksheet 4: Scheme input by region (yellow tab) – for completion by region

Worksheet 5: Scheme input by district (blue tab) – for completion by district

Worksheet 6: Scheme Budget – report for information

The **scheme** user is to input budget figures into **worksheet 3** with the red tab called **scheme input by scheme**. Input is required in the white input cells, starting with the scheme name, followed by ID number.

NB: The scheme user must not input data into any other worksheet.

Once completed by the scheme, the user must save the workbook and submit it back to the region. If the scheme can do this electronically, it can be emailed back to the region. Otherwise it can be completed manually at scheme level, faxed to the region and inputted at regional level.

At this stage a report will be generated into worksheet 6 which will show the direct costs of the scheme per month and annually.

(Worksheets 4 and 5 are for input by the region and district and will be discussed under their respective input sections.)

Explanation of worksheets in Scheme Budget template folder

Worksheet 1: Control worksheet – for information

This spreadsheet contains instructions, warning messages and any headings which are linked throughout the spreadsheet. The user should read what is on the page but is not required to input anything on this page – this page is for information.

Worksheet 2: Index – for information

The index details all the subsequent spreadsheets and has a hyperlink to each sheet which means that the user can click on the index item and will automatically be taken to the relevant worksheet. Figure 3 demonstrates the

index page for the scheme template.

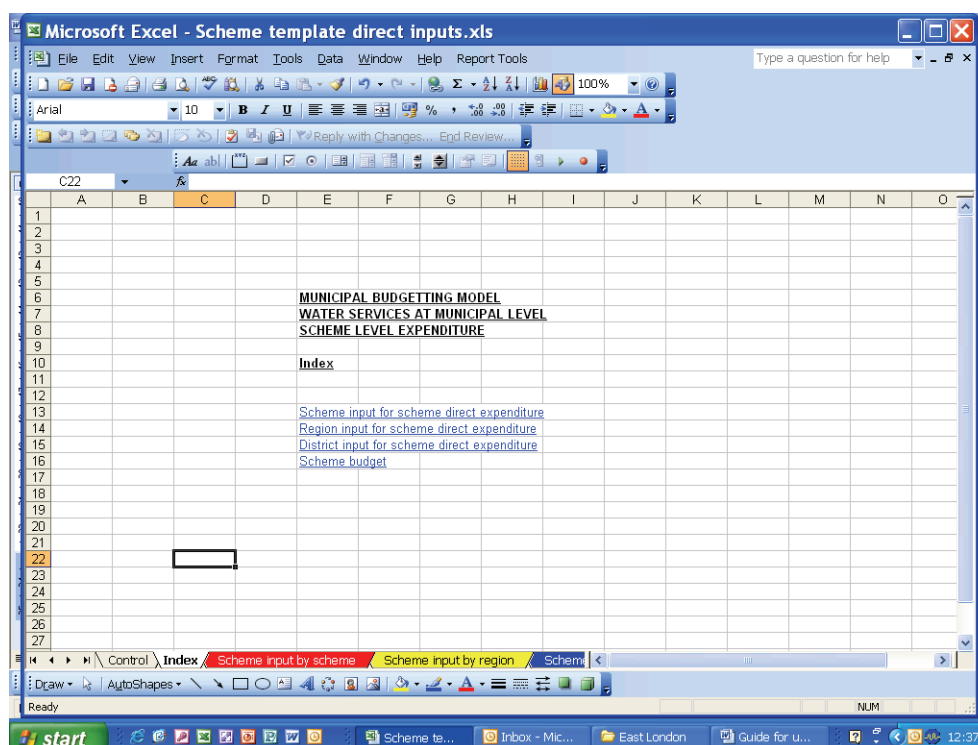


Figure 3: Worksheet 2 Index for scheme template

Worksheet 3: Scheme input by scheme (red tab) – for completion

This is the worksheet which the scheme completes with budget expenditure on the scheme. This is the **only** sheet which the **scheme** completes.

This input sheet looks as follows:

MUNICIPAL BUDGETING MODEL
WATER SERVICES AT MUNICIPAL LEVEL
SCHEME LEVEL EXPENDITURE

SCHEME INPUT

NAME OF SCHEME:
 SCHEME ID NO:
 YEAR ENDING:
 1st MONTH IN FINANCIAL YEAR:

EXPENDITURE CATEGORIES AND ITEMS

Category	Item	MONTHLY R	ANNUAL R
05	Employment Related: Salaries and Wages		
005	Salaries	2,000	24,000
010	Salaries: Overtime	20,000	240,000
015	Salaries: Temporary	10,000	120,000
020	Bonuses		

Figure 4: Worksheet 3 Scheme input sheet

The **scheme** fills in the white input cells starting with the name and number of the scheme, the year ending and the first month of the financial year. The **scheme** should then input the **monthly** budgeted expenditure figures which are next to the expenditure items.

It is assumed for the purposes of this tool that the monthly expenditure figures will be constant. If there are significant monthly variations, the scheme should take the annual expenditure figure and divide by 12 to get the monthly smoothed expenditure.

If there are expenditure items which the scheme does not incur, they should input a 0 to indicate that they have not erroneously omitted any line item.

Worksheet 4: Scheme input by region (yellow sheet) – for completion

The **region** enters the monthly expenditure it incurs directly on behalf of the **scheme** into the white input cells.

Worksheet 5: Scheme input by district (blue sheet) – for completion

The **district** inputs any direct expenditure that it may incur on the **scheme** into the scheme input by district worksheet.

Worksheet 6: Scheme Budget – report for information

This worksheet is a report which gives a monthly overview of the scheme direct expenditure and a total of the expenditure per scheme for the year. This is shown in figure 5.

The screenshot shows the 'Scheme Budget' worksheet in Microsoft Excel. The worksheet is titled 'Scheme template direct inputs.xls'. The active cell is E18, containing the formula '=Scheme input by scheme!G30+Scheme input by region!G30+Scheme input by district!G30'. The worksheet contains the following data:

		TOTAL	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08
TOTALS scheme		3,192,288	266,024	266,024	266,024	266,024	266,024	266,024	266,024	266,024	266,024	266,024

Category	Item	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
05 Employment Related: Salaries and Wages	005 Salaries	2,376,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000	248,000
	010 Salaries: Overtime	1,464,000	122,000	122,000	122,000	122,000	122,000	122,000	122,000	122,000	122,000	122,000	122,000	122,000	122,000
	015 Salaries: Temporary	720,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
	020 Bonuses	360,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
	025 Allowances: Housing	432,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000
10 Employment Related: Social Contribution	030 Allowances: Travel	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	031 Allowances: General	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	075 Redemption of leave	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	005 Contributions: Group Life	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	010 Contributions: Bargaining Council	-	-	-	-	-	-	-	-	-	-	-	-	-	-
020 Contributions: Pension Fund	015 Contributions: Medical Aid	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	020 Contributions: Pension Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Figure 5: Worksheet 6 Scheme Budget report

Input by region

The Regional Budget folder contains two items as depicted in Figure 6: A folder named **“Regional Scheme budgets”** and a workbook named **“Region Budget.”** The folder of scheme budgets is linked to the regional budget and is where the copies of scheme budgets are to be saved.

The **region budget** workbook is the consolidation of scheme budgets plus the region’s budget for its own direct costs.

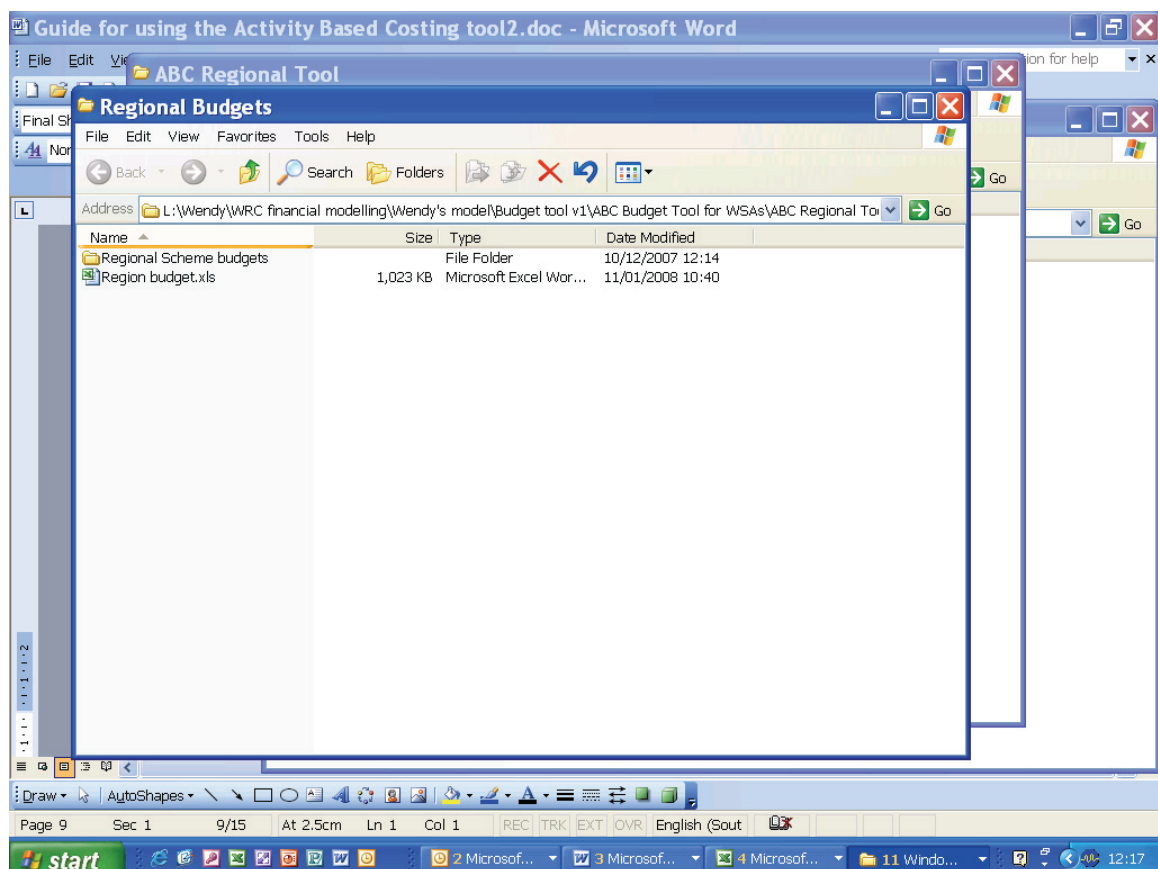


Figure: 6 – Screen of contents in ABC Regional Tool folder

Step 1: Receipt of scheme budgets from schemes

On receipt of the completed scheme budget from the scheme, the region must open the excel scheme budget template received from the scheme and then must save the workbook as one of the names listed in the folder called regional scheme budgets.

NB: It is very important for the scheme budget to be “saved as” one of the names listed as these folders listed are linked to the region budget workbook.

NB: If this step is not completed correctly, the linkages will not operate properly!!

Step 2: Regional input into scheme budget

Once the scheme workbook has been saved under the scheme budget folder in the regional model, the region can input any direct costs that it incurs on the scheme into the scheme’s budget workbook in the yellow worksheet named “**scheme input by region.**”

Note: This input should only relate to scheme expenditure. The region’s expenditure is inputted into the region’s budget as per step 3.

Step 3: District input into scheme budget

The region should ensure that all direct costs for the scheme are inputted into the scheme’s budget. This includes information relating to the scheme which is incurred at District level. The region should send the scheme budget to the District to complete the blue worksheet 5, “scheme input by District”. Examples of District expenditure on scheme could be direct salary costs, etc.

Note: This input should only relate to scheme expenditure.

Step 4: Completion of Regional Budget

After the region has collected information from the three sources and ensured that the scheme budgets are completed and saved as the scheme names in the regional scheme budget folder, the region is in a position to complete its own budget.

4.1 The regional user must open the **region budget** workbook.

The workbook consists of twenty eight worksheets with different names and tab colours.

Worksheet 1: Control worksheet – for information

Worksheet 2: Index – for information

Worksheet 3: Region input by region (yellow tab) – for completion by region

Worksheet 4: Region input by district (blue tab) – for completion by District

Worksheet 5: Region input by district (blue tab) – for completion by District

Worksheets 6 – 26: Scheme budgets (red tabs) – for information

Worksheet 27: Regional budget per month – report (for information)

Worksheet 28: Regional budget per unit – report (for information)

4.2 The **region** user is to input budget figures into **worksheet 3** with the yellow tab called **region input by region**. Input is required in the white input cells, starting with the region name, followed by ID number.

NB: The region user must not input data into any other worksheet.

Once completed by the region, the user must save the workbook and submit it back to the district.

At this stage the reports automatically generated by the model will be:

Worksheets 6 – 26, summaries of scheme budgets

Worksheet 27: Regional Budget per month

Worksheet 28: Regional Budget per unit

(Worksheets 4 and 5 are for input by the District and will be discussed under the District input section.)

Explanation of worksheets in Region Budget Workbook

Sheet 1: Control worksheet – for information

This spreadsheet contains instructions, warning messages and any headings which are linked throughout the spreadsheet. The user should read what is on the page but is not required to input anything on this page – this page is for information.

Sheet 2: Index – for information

The index details all the subsequent spreadsheets and has a hyperlink to each sheet which means that the user can click on the index item and will automatically be taken to the relevant worksheet.

Figure 7 demonstrates the index page for the region budget.

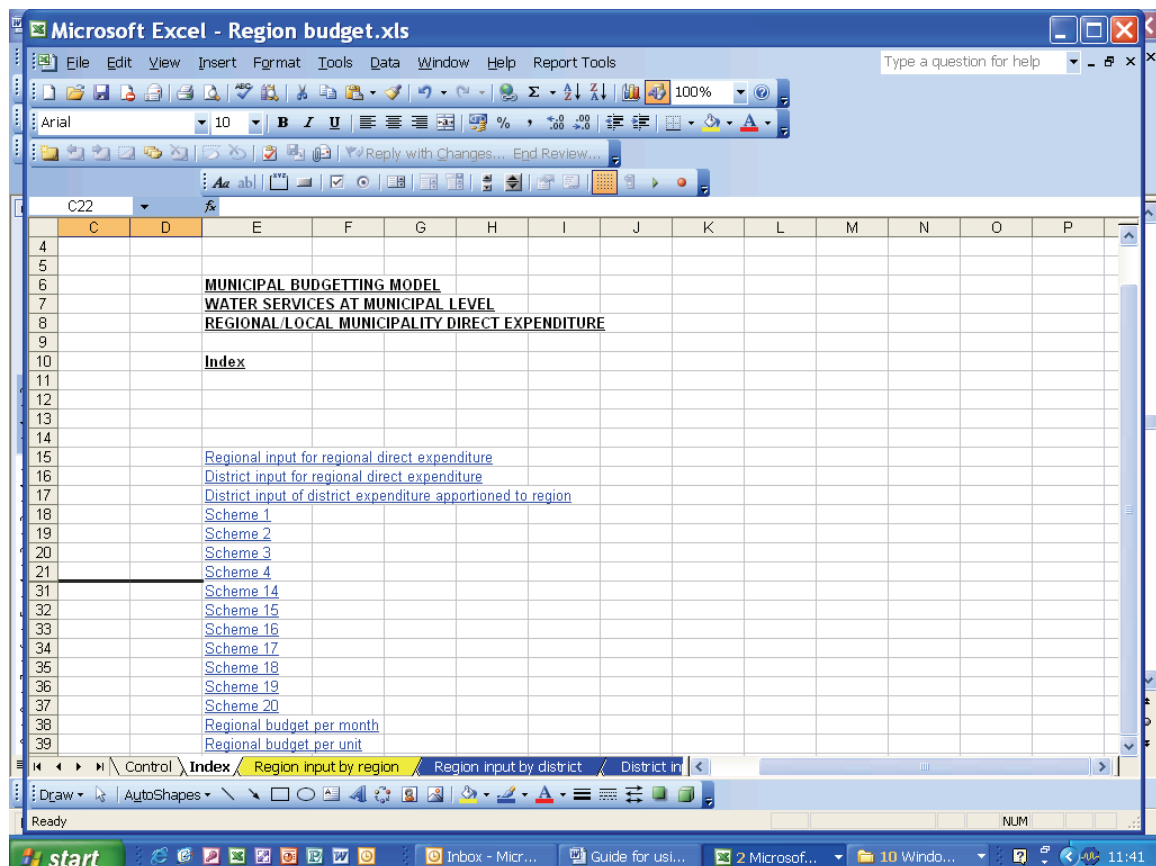


Figure 7: Index for the region budget.

Sheet 3: Region input by region (yellow tab) – for completion

This is the worksheet which the region completes with budget expenditure on the region. This is the only sheet which the region completes

The region fills in the white input cells starting with the name and number of the region, the year ending and the first month of the financial year. The region should then input the monthly budgeted expenditure figures which are next to the expenditure items.

It is assumed for the purposes of this tool that the monthly expenditure figures will be constant. If there are significant monthly variations, the region should take the annual expenditure figure and divide by 12 to get the monthly smoothed expenditure.

If there are expenditure items which the region does not incur, they should input a 0 to indicate that they have not erroneously omitted any line item.

Sheet 4: Region input by district (blue tab) – for completion

The region should send the region budget worksheet to the district for the district to input any direct expenditure that it may incur on the region into the region input by district worksheet.

Sheet 5: District input by district (blue tab) – for completion

This sheet is for the district to input the portion of its (the district's) expenditure which is allocated to the region.

For the purposes of this budgeting model, the district expenditure is apportioned using the percentage derived from each region's expenditure as a proportion of total regional expenditure – see sheet 24 in District Budget.

This sheet can only be completed by the district once all regional information has been supplied to the district and the district has prepared its own budget – i.e. after 5.2.3. The district input sheet is shown in figure 8.

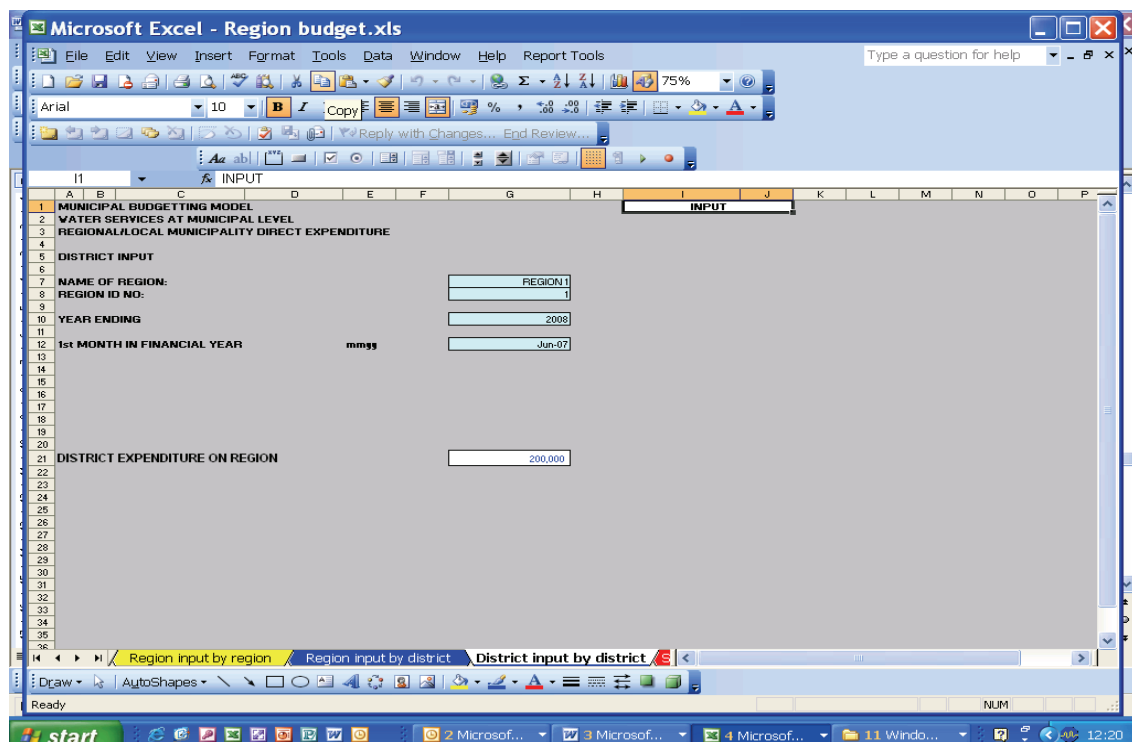


Figure 8: District input sheet

Sheets 6 – 26: Scheme budgets (red tabs) – for information

These are the scheme budgets which are linked into the regional workbook automatically from the regional scheme budget folder.

These sheets are for viewing only – no input is required for these sheets. The budget model has made provision for 20 schemes. If more schemes are required, additional sheets would have to be added and linked. This can be requested from the developer.

Sheet 27: Regional budget per month – report (for information)

This worksheet is a report which gives a monthly overview of the regional direct expenditure and a total of the expenditure per scheme falling under the region.

The report therefore separates the region and the scheme expenditure.

Microsoft Excel - Region budget.xls

File Edit View Insert Format Tools Data Window Help Report Tools

Type a question for help

Arial 10 B Copy % 75%

Reply with Changes... End Review

R83 \$=D\$14*O83

1	A	B	C	D	E	F	G	H	I	J	K
7	NAME OF REGION:			REGION 1							
8	SCHEME ID NO:			1							
9											
10	YEAR ENDING:			2008							
11											
12				TOTAL	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
13				R	R	R	R	R	R	R	R
14	TOTALS REGIONAL DIRECT COSTS			2,592,096	216,098	216,098	216,098	216,098	216,098	216,098	216,098
15											
16	Category	Item									
17	05	Employment Related: Salaries and Wages		2,448,000	204,000	204,000	204,000	204,000	204,000	204,000	204,000
18	10	Employment Related: Social Contribution									
19	40	Depreciation									
20	45	Repairs and Maintenance		5,400	450	450	450	450	450	450	450
21	75	General Expenses - Other (overheads)		81,720	6,810	6,810	6,810	6,810	6,810	6,810	6,810
22	75	General Expenses - Other (operations)		56,976	4,748	4,748	4,748	4,748	4,748	4,748	4,748
23											
24											
25											
26											
27											
28											
29											
30											
31											
32	TOTAL REGIONAL SCHEME EXPENDITURE			66,707,760	5,558,980	5,558,980	5,558,980	5,558,980	5,558,980	5,558,980	5,558,980
33	one			2,952,288	246,024	246,024	246,024	246,024	246,024	246,024	246,024
34	two			6,288,288	524,024	524,024	524,024	524,024	524,024	524,024	524,024
35	three			3,192,288	268,024	268,024	268,024	268,024	268,024	268,024	268,024
36	four			3,198,288	268,524	268,524	268,524	268,524	268,524	268,524	268,524
37	tooooo			3,192,288	268,024	268,024	268,024	268,024	268,024	268,024	268,024
38	six			3,192,288	268,024	268,024	268,024	268,024	268,024	268,024	268,024
39	seven			3,192,288	268,024	268,024	268,024	268,024	268,024	268,024	268,024
40	eight			3,192,288	268,024	268,024	268,024	268,024	268,024	268,024	268,024
41	nine			3,192,288	268,024	268,024	268,024	268,024	268,024	268,024	268,024

1 SCHEME 20 Regional Budget per month | | | Regional Budget per unit | | | | | | | |

Draw AutoShapes

Ready

2 Microsoft...

3 Microsoft...

4 Microsoft...

11 Windo...

NUM

12:22

Figure 9: Sheet 26 Regional budget per month

Sheet 28: Regional budget per unit – report (for information)

This worksheet is a report which gives the unit overview per expenditure category – i.e. the direct costs for each scheme or region as well as a total. This report offers reporting by activity segments/units.

MUNICIPAL BUDGETTING MODEL WATER SERVICES AT MUNICIPAL LEVEL REGIONAL/LOCAL MUNICIPALITY DIRECT EXPENDITURE		REPORT					
NAME OF REGION:		REGION 1					
SCHEME ID NO.		1					
YEAR ENDING		2008					
		TOTAL	REGION 1	one	two	three	four
		R	R	R	R	R	R
REGION TOTAL DIRECT COSTS (Region & Schemes)		69,299,856	2,592,096	2,952,288	6,288,288	3,192,288	3,198,288
Category	Item						
05	Employment Related: Salaries and Wages	64,838,000	2,448,000	2,736,000	6,072,000	2,976,000	2,982,000
10	Employment Related: Social Contribution	-	-	-	-	-	-
40	Depreciation	-	-	-	-	-	-
45	Repairs and Maintenance	167,400	5,400	8,100	8,100	8,100	8,100
75	General Expenses - Other (overheads)	2,532,320	81,720	122,588	122,588	122,588	122,588
75	General Expenses - Other (operations)	1,769,136	56,976	85,608	85,608	85,608	85,608

Figure 10: Sheet 28 Regional budget per unit

Input by District

The **ABC District Tool Folder** consists of a single folder called **District 1**.

The **District** should maintain this folder which contains all the consolidated financial information for the regions and schemes under its jurisdiction.

The **District 1** folder contains a subfolder called “Regional **Budgets of District**” as well as a stand-alone excel workbook called “**District 1 budget**”. See Figure 11.

The folder of regional budgets is linked to the district budget and is where the copies of regional budgets are to be saved.

The **District 1 budget** workbook is the consolidation of regional budgets plus the district's budget for its own direct costs and contains reports on the consolidation of all data collected throughout the model.

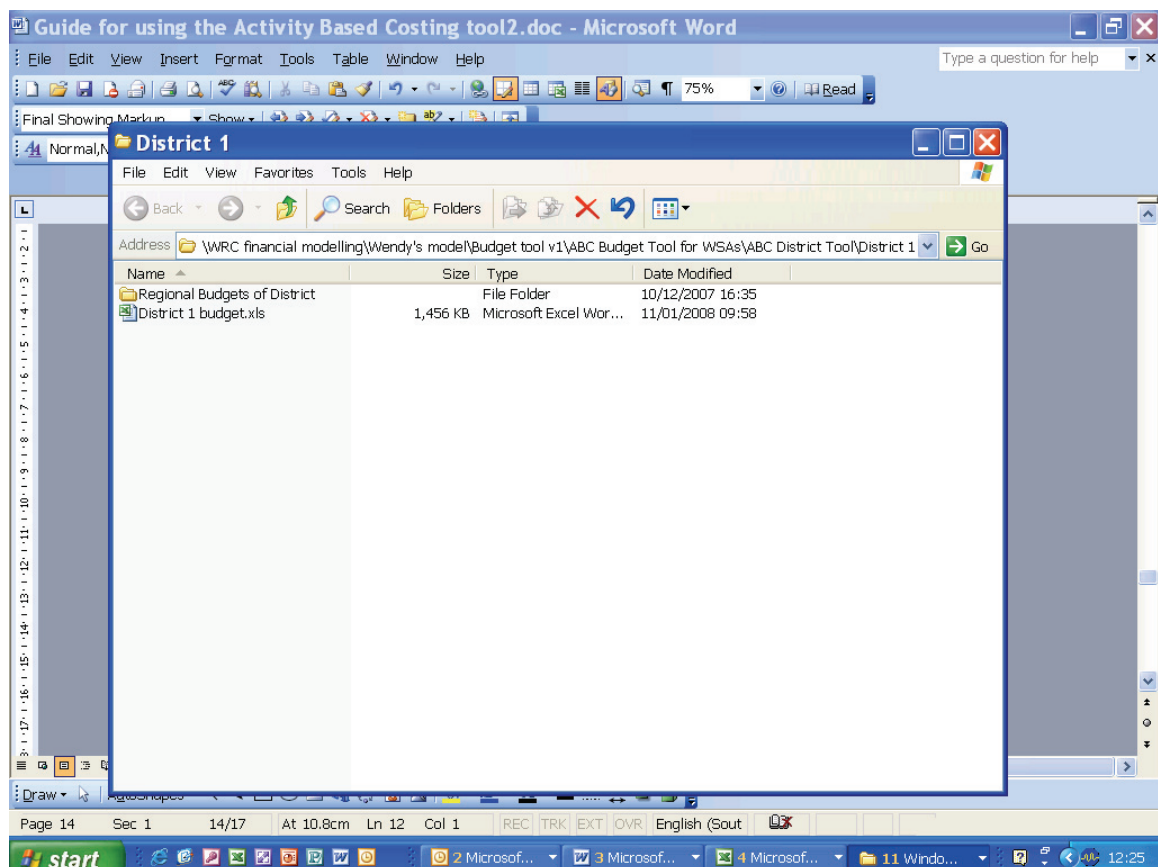


Figure 11: ABC District Tool folder screen

Step 1: Receipt of regional budgets from regions

On receipt of the completed regional budget from the region, the District user must open the excel regional budget workbook received from the region and then must save the workbook as one of the regional names listed in the folder called **Regional budgets of District**.

NB: It is very important for the region's budget to be "saved as" one of the names listed as these folders listed are linked to the District 1 budget workbook.

If this step is not completed correctly, the linkages will not operate properly!!

Step 2: District input into regional budget

Once the regional workbook has been saved under the "**regional budget of district**" folder in the District model, the **District** can input any direct costs that it incurs on the region into the region's budget workbook, the blue worksheet 4 named "**regional input by district.**"

Note: This input should only relate to regional direct expenditure incurred by the District on the region's behalf.

The District's own direct expenditure is inputted into the District 1 budget as per step 3.

The District should ignore the second input worksheet 4 in the regional budget workbook at this stage.

Step 3: Completion of District 1 Budget Workbook

The district tool uses the same structure and processes as the regional model by saving the regional budgets received as the file name for the region in the district folder.

3.1 The regions send their budgets to the district after they have finalised their scheme budgets and have produced a consolidated regional budget. The district administrator should then open the ABC District tool. The regional budget which has been received must then be "saved as" the relevant name of the regional budget file listed in the folder called "Regional Budgets of District". The structure of the regional budgets is

identical and has been linked to the district budget by macros which ensure that the standalone district budget workbook – called “District 1 budget”, is updated with all the regional changes.

3.2 The district should then open the District 1 budget worksheet – the standalone worksheet under the ABC District Tool folder.

The District 1 budget workbook consists of 25 worksheets.

Worksheet 1: Control – for information

Worksheet 2: Index – for information

Worksheet 3: District input by district (blue tab) – for completion by District

Worksheet 4: Region 1 (yellow tabs) – for information

Worksheet 5: Region 1 monthly (yellow tabs) – for information

Worksheets 6-23: Regions 2 – 10 (yellow tabs) – for information

Worksheet 24: District Budget per month– report (for information)

Worksheet 25: District Budget per unit– report (for information)

3.3 The **District** user is to input the District’s direct budget figures into **worksheet 3** with the blue tab named **District input by district**. Input is required in the white input cells, starting with the District name, followed by ID number.

After input by the District, the model will automatically generate the following reports:

Worksheets 4 – 23, summaries of regional budgets, two per region with two different views – one view per region and scheme and the other view per month.

Worksheet 24: District Budget per month

Worksheet 25: District Budget per unit

3.4 After the District has inputted its direct budgeted expenditure, the model will calculate the District apportionment per Region in the report on worksheet 24, i.e. the District Budget per month report. (See figure 13 below)

3.5 The District should then copy this amount and enter it into the particular region’s budget contained in the “**regional budgets of district**” folder, worksheet 5 – District input by District.

3.6 The model will then apportion the District expense per region across the schemes and will generate a report per region which gives the full cost of providing water services per scheme, including the District apportionment. This report is viewed in worksheet 24 of the regional budget, named Regional Budget per month. (See figure 14 below)

The apportionment in the model is based on the individual regional and scheme expenditure as a proportion of the total regional and scheme expenditure.

It might not be possible for the region/district to identify exactly how their indirect costs are divided between the various schemes. It may have to apportion these indirect costs to the different schemes by allocating a certain proportion of them to each scheme/region. The apportionment of the indirect costs is something that the region and district will have to assess on a case by case basis. In the model the apportionment is based on the individual regional/scheme expenditure as a proportion of the total regional/scheme expenditure. These proportions can be modified to use a different basis as determined by the region and district. If the basis for allocation differs, the percentage apportionment can be adjusted but should be substantiated and the basis clearly documented.

Once the district cost per region has been established, the amount should be entered onto the regional budgets – sheet 5, “District input by District”, where there is a single figure input for the district expenditure per region..(See fig 6) This amount will then be apportioned across the schemes and the regional income statement will then contain the full cost per scheme, including the district indirect expenditure allocated across schemes

After the District has collected the information from the regions and ensured that the regional budgets are completed and has inputted the direct regional expenditure that it incurs on behalf of the region, it must save the file as the region name under the “regional budgets of district” folder, which is located in the ABC District Tool folder.

The district budget has the following worksheets:

Sheet 1: Control worksheet – for information

This spreadsheet contains instructions, warning messages and any headings which are linked throughout the spreadsheet. The district should read what is on the page but is not required to input anything on this page – this page is for information.

Sheet 2: Index – for information

The index details all the subsequent spreadsheets and has a hyperlink to each sheet which means that the user can click on the index item and will automatically be taken to the relevant worksheet.

Sheet 3: District input by district (blue tab) – for completion

The district fills in the white input cells starting with the name and number of the district, the year ending and the first month of the financial year. The district should then input the monthly budgeted expenditure figures which are next to the expenditure items.

It is assumed for the purposes of this tool that the monthly expenditure figures will be constant. If there are significant monthly variations, the district should take the annual expenditure figure and divide by 12 to get the monthly smoothed expenditure.

If there are expenditure items which the district does not incur, they should input a 0 to indicate that they have not erroneously omitted any line item.

Sheets 4-23: Regional reports – for information

These reports are copies of the individual regional reports with the two views, i.e. per month and per segment, i.e. region and scheme.

These reports are linked to the individual regional reports under the “Regional Budgets of District” folder.

For the purposes of this tool, provision has been made for 10 regions under a district. This could be expanded if required.

Sheet 24: District Budget per month – report – for information

This worksheet is a report which gives a monthly overview of the district direct expenditure and a total of the expenditure per region falling under the district. The report therefore separates the district and the regional expenditure.

			Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08
		R	R	R	R	R	R	R	R	R
TOTALS DISTRICT DIRECT COSTS		24,074,448	2,006,204	2,006,204	2,006,204	2,006,204	2,006,204	2,006,204	2,006,204	2,006,204
TOTAL REGIONAL SCHEME EXPENDITURE		692,990,560	57,749,880	57,749,880	57,749,880	57,749,880	57,749,880	57,749,880	57,749,880	57,749,880
REGION 1		69,299,856	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988
REGION 2		69,299,856	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988
REGION 3		69,299,856	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988
REGION 4		69,299,856	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988
REGION 5		69,299,856	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988
REGION 6		69,299,856	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988
REGION 7		69,299,856	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988
REGION 8		69,299,856	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988
REGION 9		69,299,856	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988
REGION 10		69,299,856	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988	5,774,988
TOTAL DISTRICT EXPENDITURE		717,073,008	59,756,084	59,756,084	59,756,084	59,756,084	59,756,084	59,756,084	59,756,084	59,756,084

Figure 12 – Sheet 24 Example of District Budget per month report

The district expenditure in this report is apportioned across the regions as can be seen in Figure 13. The ratio for the apportionment in the model is based on the individual regional expenditure in proportion to the total regional expenditure, multiplied by the district expenditure.

If a different apportionment is required, the model can either be adjusted for this, or the figures could be inputted ignoring the calculation formula.

MUNICIPAL BUDGETTING MODEL									
WATER SERVICES AT MUNICIPAL LEVEL									
DISTRICT EXPENDITURE									
NAME: DISTRICT 1									
ID NO: D1									
YEAR ENDING 2008									
TOTAL									
R									
Mar-08 Apr-08 May-08									
R R R R									
TOTALS DISTRICT DIRECT COSTS 24,074,448 2,006,204 2,006,204 2,006,204									
TOTAL REGIONAL SCHEME EXPENDITURE 632,930,560 57,749,080 57,749,080 57,749,080									
PERCENTAGE									
DISTRICT EXPENSE APPORTIONMENT									
TOTAL DISTRICT EXPENSE									
717,073,008 59,756,084 59,756,084 59,756,084									
100% 24,074,448 717,073,008									
REGION 1	63,293,056	5,774,908	5,774,908	5,774,908	10%	2,407,445	71,707,301		
REGION 2	63,293,056	5,774,908	5,774,908	5,774,908	10%	2,407,445	71,707,301		
REGION 3	63,293,056	5,774,908	5,774,908	5,774,908	10%	2,407,445	71,707,301		
REGION 4	63,293,056	5,774,908	5,774,908	5,774,908	10%	2,407,445	71,707,301		
REGION 5	63,293,056	5,774,908	5,774,908	5,774,908	10%	2,407,445	71,707,301		
REGION 6	63,293,056	5,774,908	5,774,908	5,774,908	10%	2,407,445	71,707,301		
REGION 7	63,293,056	5,774,908	5,774,908	5,774,908	10%	2,407,445	71,707,301		
REGION 8	63,293,056	5,774,908	5,774,908	5,774,908	10%	2,407,445	71,707,301		
REGION 9	63,293,056	5,774,908	5,774,908	5,774,908	10%	2,407,445	71,707,301		
REGION 10	63,293,056	5,774,908	5,774,908	5,774,908	10%	2,407,445	71,707,301		

Figure 13- diagram of allocation of district expenditure across regions.

Once the district expense per region has been established, the user can then add this information into the individual region's budget under the regional budget folder – see figure 15.

Sheet 25: District budget per unit – report – for information

This worksheet is a report which gives the unit overview per expenditure category – i.e. the direct costs for each region or district, as well as a total. This report offers reporting by activity segments. See figure 14.

Microsoft Excel - District 1 budget.xls

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1	MUNICIPAL BUDGETTING MODEL								
2	WATER SERVICES AT MUNICIPAL LEVEL								
3	DISTRICT EXPENDITURE								
4									
5									
6									
7	NAME:	DISTRICT 1							
8	ID NO:	D1							
9	YEAR ENDING	2008							
10				TOTAL	DISTRICT 1	REGION 1	REGION 2	REGION 3	REGION 4
11				R	R	R	R	R	R
12				717,073,008	24,074,448	69,299,856	69,299,856	69,299,856	69,299,856
13									
14	DISTRICT 1 TOTAL DIRECT COSTS (Region & Schemes)								
15									
16	Category	Item							
17	705	Employment Related: Salaries and Wages		672,300,000	24,000,000	64,830,000	64,830,000	64,830,000	64,830,000
18	710	Employment Related: Social Contribution		-	-	-	-	-	-
19	714	Depreciation		-	-	-	-	-	-
20	715	Repairs and Maintenance		1,676,700	2,700	167,400	167,400	167,400	167,400
21	716	General Expenses - Other (overheads)		25,376,460	43,260	2,533,320	2,533,320	2,533,320	2,533,320
22	717	General Expenses - Other (operations)		17,719,848	28,488	1,769,136	1,769,136	1,769,136	1,769,136
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REG 10 Monthly District Budget per month District Budget per unit

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Figure 14 –Sheet 25 District budget per unit report

12.2 ANNEXURE 2

AMATHOLE DISTRICT MUNICIPALITY FINANCIALS

12.2.1 Budget (2007/8 financial year)

Income

Council required an overall budget of **R 723 641 534** to perform its functions during the 2007/08 financial year

Sources of funding are:-

External Income

The Division of Revenue Act of 2007 (DORA) includes the following funding for 2007/08:

Equitable Share	R 137 639 000
Replacement of Levy Income Grant	R 146 314 000
DWAF Operating and Transfer Subsidy	R 18 359 000
Municipal Infrastructure Grant (MIG)	R 172 497 000
Public Transport Infrastructure & Systems Grant	R 21 000 000
Municipal Systems Improvement Grant (MSIG)	R 1 000 000
Financial Management Grant (FMG)	R 500 000

Internal Income

The internal sources of income being:

➤ Service Charges: Water	R 47 458 384
➤ Service Charges: Sanitation	R 48 969 704
➤ Rent of Facilities	R 123 767
➤ Interest on investment	R 3 083 782
➤ Municipal Health Subsidy	R 6 000 000
➤ Primary Health Care Subsidy	R 11 041 532
➤ Prior Year Income	R 35 337 530
➤ Other Income	R 693 934
➤ Admin Fee Recovery	R 600 000
➤ Offset Depreciation	R 69 550 902

Other Income comprises of:

- R 505 897 interest earned on current account
- R 68 580 commission earned
- R 62 083 interest earned on loans
- R 24 374 job evaluation income
- R 33 000 abattoir fees

Expenditure

Share of Budget per Priority Function

Function	Amount	Percentage
Councillors & Support Staff	29,414,650	4.06%
Municipal Manager & Related Departments	49,073,897	6.78%
Administration (incl Calgary, Buildings, Land & Housing, Supply Chain Management, Council Support and Auxilliary Services)	50,770,161	7.02%
Budget & General	21,290,267	3.00%
Human Resources	11,337,703	1.57%
Water & Sanitation	310,371,054	42.89%
Engineering	12,615,464	1.74%
PMU Unit	5,755,830	0.80%
Municipal Health Services	5,268,346	2.11%
Fire Services	5,931,246	0.82%
Health & Protection & Disaster Management	5,401,384	0.75%
Primary Health Care	11,014,532	1.52%
MIG Allocation	172,497,000	23.84%
MSIG	1,000,000	0.14%
PTIF	21,000,000	2.90%
FMG	500,000	0.07%
Total Expenditure:	723,641,534	100.00%

Water Services Provider costs (2007).

EMPLOYMENT RELATED COSTS – SALARIES AND
WAGES

SALARIES	41,613,112
SALARIES: OVERTIME	3,581,915
SALARIES: TEMPORARY	1,650,000
SUBTOTAL: SALARIES AND WAGES	46,845,027

REPAIRS AND MAINTENANCE

BUILDINGS	219,000
MACHINERY, EQUIPMENT, MECHANICAL ELECTRICAL INFRASTRUCTURE NETWORK	4,755,421
OFFICE FURNITURE AND EQUIPMENT	3,045,000
TOOLS AND EQUIPMENT	10,000
SUBTOTAL: REPAIRS AND MAINTENANCE	10,000

GENERAL EXPENSES – OTHER

ADVERTISING	50,000
CHEMICALS	6,298,423
COST OF CONFERENCES	50,000
ELECTRICITY	3,883,595
FORTHARE TREATMENT AND DELIGATED MAN	6,760,000
COMMUNITY BASED ORGANISATIONS	1,040,649
INVENTORY ASSETS <R1000	132,000
MEDICAL EXAMINATIONS	136,000
MISCELLANEOUS EXPENSES	40,159
POSTAGE	10,000
PRINTING STATIONERY	26,335
PROTECTIVE CLOTHING	555,000
RENTALS: EQUIPMENT	245,000
RENTALS: OFFICE ACCOMODATION	327,600
RENTALS: PARKING	20,880
RENTALS: VEHICLES	288,000

SAMPLES: WATER	516,000
STAFF RECRUITMENT/RELOCATION	500,000
STORES AND MATERIALS	601,816
S&T FLY HOTEL CAR HIRE	601,154
TELEPHONE EXPENSES	336,000
TRANSPORT	3,859,200
RAW WATER PURCHASES	6,524,429
WATER RESEARCH LEVY	1,033,506
TREATED WATER PURCHASES	20,283,096
SUBTOTAL: GENERAL EXPENSES – OTHER	54,118,844

NEW CAPITAL	
CAPEX ACC AFF	8,708,000
CAPEX ACC AFF	1,300,000
GRAND TOTAL	119,011,292

All in all there are (approximately) 583 staff / personnel in the WSP directorate:-

GRADE	POSITION	NUMBER
2	WSP Manager	1
3	WSP Contracts / Assistant Director	1
3	Great Kei/Amahlathi Areas Area Managers	1
3	Ngqushwa/Nkonkobe/Nxuba Area Managers	1
3	Mnquma/Mbhashe Area Managers	1
3	Water Care Manager	1
3	Engineer: Planning & Refurbishment	1
4	WC & DM Control Technician	2
4	WMIS Support / Senior Technician	1
4	Amahlathi Works Supervisor	2
4	Maintenance Manager	1
4	Nkonkobe Works Supervisor	2
4	Mbhashe Works Supervisor	2
4	Mnquma Works Supervisor	2
4	Water Care Supervisor Western (CLV)	1
4	Water Care Supervisor Eastern (CLV)	1
5	Great Kei Works Supervisor	1
5	Great Kei Works Supervisor	1
5	Ngqushwa Works Supervisor	2
5	Nxuba Works Supervisor	2
5	WC & DM Senior Technician	1
6	Customer Care Manager	1
6	WMIS Support Technician	1
6	Service Facilitator	3
6	Water Care Supervisor Central (CLV)	1
6	Prepayment Meter Support Technician	2
6	WC & DM Senior Technician (Rural)	1
8	Service Support Manager	5
9	General Assistants	15
10	WMIS Administrative Support	2
10	Code 10 Drivers	16
11	Administrative Assistant	1
11	Administration Assistant	5
12	Storeman	3
13	Data Capturers	4
15	TLB Driver	1
15	Water / Sewerage Sampler	3
19	Storeman Assistant	3
19	Driver Assistant	16
19	General Assistants	217
19	Local Operators	29
19	Cleaner	2
7/6	Electricians	3
7/6	Pump Mechanics	3
7/6	Fillet Mechanic	1

7/6	Artisans	23
7/8	Resource Controller	1
7/8	Artisan	1
7/8	Financial Controller	1
10/9	General Foreman	32
15/14	Sewage Reticulation Team Leaders	10
15/14	Tractor/Trailer Team Leader	3
15/14	Bucket Collection Team Leader	4
15/14	Reticulation Team Leaders	2
?	Telemetry Technician	1
?	Telemetry Artisan	
?	Admin Clerk	2
?	Pump Attendants	10
?	Water Care Troubleshooter	1
?	WTW Operations	69
?	WWTW Operations	15
?	Meter Readers	42
	Total	583

12.3 ANNEXURE 3

Chris Hani District Municipality

Background Information

The Chris Hani DM has its district offices in Queenstown, and is fairly centrally located in the Eastern Cape. Chris Hani DM comprise of the following local municipalities:

- Inxuba Yethemba Municipality (EC131)
- Tsolwana Municipality (EC132)
- Inkwanca Municipality (EC133)
- Lukhanji Municipality (EC134)
- Intsika Yethu Municipality (EC135)
- Emalahleni Municipality (EC136)
- Engcobo Municipality (EC137)
- Sakhisizwe Municipality (EC138)

The Chris Hani DM is characterised by local municipalities which vary significantly in population size, geographic conditions and levels of urbanisation. The population of this district municipality is estimated to be in the region of 930,000. Of this, according to the municipality's Integrated Development Plan (IDP), 71% live in rural areas and 33% of the residents have no income.

Water and sanitation service backlogs

It is estimated that currently 58% of the population of Chris Hani DM has access to water services, while 49% has access to sanitation services. A detailed breakdown of the population served and unserved with water and sanitation is attached.

The Chris Hani DM is currently addressing the backlog in water and sanitation

infrastructure through a number of new projects. The DM's Water Services Development Plan (2005) estimated that it would take at least 10 years and approximately R1 billion to fully address the backlog. The WSDP presents a number of possible developmental scenarios, the most viable of which, given the available and potential resources and capacity, envisages increasing resources so that the backlogs are addressed within 10 years, relying on DWAF, MIG and equitable share allocations and further requiring a total of R93 million per year between 2009 & 2015. Chris Hani DM needs to find this alternate funding in order for it to increase its rate of delivery. However, to date such funding has not been sourced.

Institutional Arrangements

The Chris Hani DM is responsible for performing the full water and sanitation delivery function for the district. In this district municipality, four local municipalities (Lukhanji, Intsika Yethu, Emalahleni and Engcobo) are rural by nature, and in these the DM functions as the WSP. In the remaining four LMs (Inxuba Yethemba, Tsolwana, Inkwanca and Sakhisizwe), it is intended that the major towns in the areas operate as the WSP for the LM. In these cases, the towns operating as WSPs submit a business plan and receive a budget from the DM. These municipalities have entered into a contract with the district municipality – a “service level agreement”. The local municipalities report directly against their service level agreement, and as such, are operating in a classically ring-fenced manner. Income for water services provision for these LMs is key, and is sourced through the MIG and equitable share programme (through the DM) and through revenue collection at the urban and peri-urban level.

It should be noted that there is no legal obligation for a local municipality, in the case of the town-based WSPs, to enter into this service level agreement with the district. In the absence of an agreement, it will be necessary for the local municipality staff and assets to be transferred to the district municipality.

However, if service provider agreements are established for the local municipalities to perform the function on behalf of the district, it should be for the full geographic area of the local municipality, to address the rural and urban split.

The rural LMs are serviced fully by the DM as the WSP, and it functions in a way similar to the ADM. The approach is more departmental in nature, and the only expenditure recording is done through the web based system. Due to limited resources in the Chris Hani DM, they are currently making use of appointed support services agents for these four rural LMs.

Water services provision costing

The Chris Hani DM has in the past allocated a major proportion of their capital and operational budget to addressing the water and sanitation backlog. In the 2005/6 financial year, some R370 million was allocated to water and sanitation service delivery (IDP). The Chris Hani DM has embarked on a scheme-level budgeting and expenditure exercise, relying principally on data provided by their support agents. The actual costs associated with water and sanitation is recorded at a **scheme level** through their web-based O&M Data Management System. The appointed support agents are required to capture the costs on this database, which can be then interrogated by the DM and progress reports and summaries generated.

The website for the O&M costs is public and located at:
<http://www.chrishanigis.co.za>.

The appointed services support agents are required to capture the actual expenditure against 8 codes on this database. The DM has appointed the Amatole Water Board (as an implementing agent) to support the appointment and management of the services support agents. The services support agents report and invoice directly through the Amatole Water Board.

One of the benefits of having a web-based system is that the information can be captured by many different persons at any one time. However, the quality of the input information becomes a challenge, and the Amatole Water Board is responsible for verifying the accuracy of the information. All data is submitted with compulsory reports accompanying their invoices by the services support agents.

Outsourcing of most of the water services provision function to the Amatole Water Board and services support agents has resulted in limited resources available internally within the district municipality. This has longer term ramifications in the developing of in-house capacity and skills to implement the functions.

After analysing the “public information” on the web site the following summary table was formed using WSP costs for the 2006/7 financial year.

Local Municipality	No of schemes	Total	Technical support	ISD Support	Disbursements	Personnel	Materials	Energy	Sundries	Other
Intsika Yethu	133	5,726,389	1,886,163	65,759	1,864,542	975,530	474,695	236,674		
Emalahleni	82	17,580,873	14,062,704	0	0	985,986	2,456,798	64,271	190	10925
Engcobo	25	1,077,371	136,420	1,487	12,262	887,296	39,034	872	0	0
Lukhanji	79	11,121,023	8,575,661	0	0	697,043	1,732,071	106,151	0	10098
Sakhisizwe	21	950,473	372,316	9,203	244,180	167,403	97,116	38,999	1,256	0
Tsolwana	13	2,323,719	1,897,306	0	0	113,681	301,008	0	0	11724
	353	38,779,848	26,930,569	296,449	2,120,984	3,826,938	5,100,722	446,967	24472	32747
			69.4%	0.8%	5.5%	9.9%	13.2%	1.2%	0.1%	0.1%

The 69.4% of expenditure – captured in the system – used for technical support is extensive which raises some challenges that should be addressed by the municipality.

The magnitude of such expenditure recording can only be done if there is a close working relationship between the municipality's technical department, the Amatole Water Board (as the programme managers and implementing agents) and the service providers appointed. The DM overhead costs are not distributed / allocated or captured into these scheme budgets, so it is difficult to assess the level to which the DM is incorporating all costs into expenditure, and by inference, into the budgeting process. The database is fairly new and much of the information still needs to be captured, making the analysis of the data difficult.

Effective and sustainable water services provision has been currently identified as the biggest challenge facing the Chris Hani DM. The Chris Hani DM operation and maintenance of water service infrastructure has extensive challenges, namely:

1. The funding requirements to address operation and maintenance adequately are limited, as infrastructure requires upgrading, replacement or large scale repair due to age and overuse is required
2. The situation of the existing Water Services Providers per the pending (2007) Section 78 assessment needs to be finalised, as there are many different role-players, namely:
 - a. The eight local municipalities of which 4 are currently interim water service providers and 4 (the more rural ones) are being provided for by the DM with appointed support agents providing resources and technical know how as support.
 - b. Various community-based organisations.
 - c. The Chris Hani DM itself, with is performing (and supporting) the current operations and maintenance roles and responsibilities.
 - d. The Amathole Water Board, as an implementing agent and programme manager.

Human Resources

According to the information obtained by the Municipal Demarcation Board in October 2002, all the local municipalities indicated that they had access to water and sanitation infrastructure. However, with one exception, the municipalities responded that it was insufficient. In most instances, the municipalities indicated that the water and sanitation backlog would be addressed within a 5-year or longer timeframe. Very few were able to indicate the estimated value of their assets.

Chris Hani District Municipality data

Baseline demographic information

Munic Code	Name	Population	Urban	Rural	Households	% of District Population	% of District Households	% Urban Households in Munic	% Rural Households in Munic
EC131	Inxuba Yethemba Municipality	65507	9793	3126	12919	7.0%	7.6%	75.8%	24.2%
EC132	Tsolwana Municipality	39708	1893	5867	7760	4.3%	4.5%	24.4%	75.6%
EC133	Inkwanca Municipality	21988	3260	1012	4272	2.4%	2.5%	76.3%	23.7%
EC134	Lukhanji Municipality	202235	25876	11551	37452	21.7%	21.9%	69.1%	30.8%
EC135	Intsika Yethu Municipality	234826	1520	42490	44168	25.2%	25.9%	3.4%	96.2%
EC136	Emalahleni Municipality	141672	4233	21123	25533	15.2%	15.0%	16.6%	82.7%
EC137	Engcobo Municipality	169229	1329	27129	28512	18.2%	16.7%	4.7%	95.1%
EC138	Sakhisizwe Municipality	56607	4278	5737	10015	6.1%	5.9%	42.7%	57.3%
DC Totals		931772	52182	118035	170631			30.6%	69.2%

The total population residing in the Chris Hani District Municipality is estimated as being approximately 931,772. This may be broken down as follows:

- 71% of the population resides in rural areas;
- 53.7% of the population is female;
- 7.3% of the population is elderly;
- 53.9% of the population is potentially economically active
- 54.4% of the population is under the age of 20
- 33% of the residents in Chris Hani have no income
- 20.2% employed in the community / social / personal services sector

Water and Sanitation Served and Unserved Population

Local Municipality	Total Population	Population Served Water	Population Served Sanitation	Population Unserved Water	Population Unserved Sanitation
Emalahleni	116,945	74,225	64,507	42,720	52,438
Inkwanca	20,489	19,540	12,771	949	7,718
Intsika Yethu	196,816	95,987	67,429	100,829	129,387
Inxuba Yethemba	61,058	55,257	43,113	5,801	17,945
Lukhanji	194,144	138,133	130,698	56,011	63,446
Engcobo	150,597	31,008	36,851	119,589	113,746
Sakhisizwe	54,665	40,764	36,981	13,901	17,684
Tsolwana	32,977	21,082	12,099	11,895	20,878
Chris Hani DM	827,691	475,997	404,449	351,694	423,242

Water and Sanitation Backlog

Local Municipality	Water Backlog (R)	% Water Backlog	Sanitation Backlog (R)	% Sanitation Backlog	Total Backlog (R)
Emalahleni	71,977,938	37%	34,735,548	45%	106,713,486
Inkwanca	490,466	5%	13,236,747	38%	13,727,213
Intsika Yethu	123,576,145	51%	61,478,752	66%	185,054,897
Inxuba Yethemba	3,800,000	10%	6,485,496	29%	10,285,496
Lukhanji	79,968,261	29%	32,180,123	33%	112,148,384
Engcobo	431,115,800	79%	66,953,554	76%	498,069,353
Sakhisizwe	11,385,427	25%	8,893,014	32%	20,278,441
Tsolwana	17,595,682	36%	24,972,271	63%	42,567,952
Chris Hani DM	739,909,718	42%	248,935,504	51%	988,845,222

Funding requirement to Address Water and Sanitation Backlog (from WSDP, 2005)

Year	Funding Requirement (R)	Comment:
2005/6	97,202,160	Committed MIG / DWAF /E.S Allocations
2006/7	112,320,000	Committed MIG / E.S Allocations
2008/9	128,160,000	Committed MIG Allocations
2009/10	93,023,294 (x 7)	Funding Allocation required each year to 2015/16
TOTAL	988,845,222	

The following highlights the proposed budgets for projects within Chris Hani DM for 2005/06:

Priority Area	Proposed Budget
LED and Poverty Alleviation	R8,600,000
Water & Sanitation – approved budget	R372,411,096
Infrastructure – approved budget	R71,109,497
ICT (Proposed 2005/06)	R5,500,000
ICT (Carried Over from 2004/05)	R2,150,000
Communications	R1,498,000
Primary Health Care	R4,340,000
Environmental Management & Municipal Health Services	R8,510,000
Integrated Planning	R850,000
Sound Financial Management	R15,350,000
Disaster Management	R6,200,000

The total budget for 2005/06 is as follows:

- Capital Budget – R148,749,000
- Operational Budget – R97,385,100

Minister's Authorisations for the Water and Sanitation Functions

		Water Function Section 84(1)(b)	Sanitation function 84(1)(d)
DC13	Chris Hani District Municipality	Performs its own function	Performs its own function
EC131	Inxuba Yethemba Municipality	Yes	Yes
EC132	Tsolwana Municipality	Yes	Yes
EC133	Inkwanca Municipality	Yes	Yes
EC134	Lukhanji Municipality	No	No
EC135	Intsika Yethu Municipality	No	No
EC136	Emalahleni Municipality	No	No
EC137	Engcobo Municipality	No	No
EC138	Sakhisizwe Municipality	Yes	Yes

Table 6 indicating the current performance of the water and sanitation function

	Water		Sanitation	
MDB Code	Performs the water function	Renders water on behalf of Munic	Performs the Sanitation function	Renders the sanitation function on behalf of munic
DC13	Partial	Dept. of water affairs and forestry local authorities in rural areas	No	Dept. water affairs
EC131	Yes		Yes	
EC132	Yes		Yes	
EC133	Yes		Partial	
EC134	Partial	DWAF Operates Schemes In Some Of The Rural Areas	Partial	WSSA (Private Company)
EC135	Partial	DWAF	Partial	Rural area to be addressed by IDP
EC136	Partial	DWAF In Smaller Rural Areas	Partial	Rural Area Is Not Served But Is Being Started Now.
EC137	Partial	DWAF, Chris Hani D/M (DC13)	Partial	No service yet
EC138	Yes		Yes	

Extract from the 2001/2002 operating budget for the water function

		Water	Water	Water	Water	Water	Water
MDB Code	Total Operating Budget 2002/2003	Opex Budget for Water — 2002/2003	Water % of operating budget	Actual Opex for 2001/2002	Estimated income for Water 2002/2003	Water % of total income	Actual income for Water 2001/2002
DC13	53740000	3500000	6.5%			-	
EC131	57794198	2483676	4.3%	2581931	7168044	12.4%	7168044
EC132	12798020	1765840	13.8%	1627905	1889800	14.8%	1243658
EC133	10452310	895994	8.6%	608044	1375932	13.2%	
EC134	118280930	14000000	11.8%	13507750	19500000	16.5%	16970410
EC135	40106750	3922876	9.8%	3537006	1509075	3.8%	1397292
EC136	25888392	2383407	9.2%	3670154	2399399	9.3%	448700
EC137	-2	1631159	- 81557950.0%	701449	1211359	- 60567950.0%	102083
EC138	18691745	1070080	5.7%	1127000	1838480	9.8%	746255

Extract from the 2001/2002 operating budget for the sanitation function

Expenditure and 2001/2002 operating budget for and sanitation function												
MDB Code	Total Operating Budget 2002/2003	Opex budget for sanitation 2002/2003	Sanitation	Sanitation % of operating budget	Sanitation	Actual budget for sanitation 2001/2002	Sanitation	Estimated income for sanitation 2002/2003	Sanitation % of operating income	Sanitation	Actual income for sanitation 2001/2002	Water and Sanitation
DC13	53740000		-						-			0.0%
EC131	57794198	3589743	6.2%		3559315			5930541	10.3%		5839360	22.5%
EC132	12798020	1245640	9.7%		1243108			1552150	12.1%		1141922	18.6%
EC133	10452310	791127	7.6%		364410			1682844	16.1%			0.0%
EC134	118280930	6600000	5.6%		6272733			12000000	10.1%		11819340	24.3%
EC135	40106750	1487763	3.7%		1256673			144504	0.4%		133800	3.8%
EC136	25888392	1909020	7.4%		2402575			1916196	7.4%		164103	2.4%
EC137	-2	3852772	-		279924			3772772	-		274074	-
EC138	18691745	1586705	8.5%		939215			1927595	10.3%		624640	18807850.0%
												7.3%

Staffing levels, equipment and infrastructure in Chris Hani LMs

	Water (n) of Staff	Water Access to equipment and infra- structure	Water Sufficient equipment and infra- structure	Water Estimated value of assets	Water Timeframe for addressing backlog	Sanitation (n) of Staff	Sanitation Access to equipment and infra- structure	Sanitation Sufficient equipment and infra- structure	Sanitation Estimated value of assets	Sanitation Timeframe for addressing backlog
DC13		Unanswered	Unanswered		0		Unanswered	Unanswered		6
EC131	30	Yes	No	15233385	2	19	Yes	Yes		2
EC132	12	Yes	No	676500	5	15	Yes	No	1100000	5
EC133	8	Yes	No		1	14	Yes	No		5
EC134	80	Yes	No		5	50	Yes	No		5
EC135	3	Yes	No		3	5	Yes	No		3
EC136	7	Yes	No		5	15	Yes	No		5
EC137	6	Yes	No		5	6	Yes	No		5
EC138	17	Yes	No	6500000	5	21	Yes	No	1200000	5

Chris Hani District Municipality data

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Environmental Management & Municipal Health Services	R8,510,000
Integrated Planning	R850,000
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Disaster Management	R6,200,000

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EC134	Lukhanji Municipality	No	No
EC135	Intsika Yethu Municipality	No	No
EC136	Emalahleni Municipality	No	No
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EC138	Sakhisizwe Municipality	Yes	Yes

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EC135	Partial	DWAF	Partial	Rural area to be addressed by IDP
EC136	Partial	DWAF In Smaller Rural Areas	Partial	Rural Area Is Not Served But Is Being Started Now.
EC137	Partial	DWAF, Chris Hani D/M (DC13)	Partial	No service yet
EC138	Yes		Yes	

Extract from the 2001/2002 operating budget for the water function

		Water	Water	Water	Water	Water	Water
MDB Code	Total Operating Budget 2002/2003	Opex Budget for Water — 2002/2003	Water % of operating budget	Actual Opex for 2001/2002	Estimated income for Water 2002/2003	Water % of total income	Actual income for Water 2001/2002
DC13	53740000	3500000	6.5%			-	
EC131	57794198	2483676	4.3%	2581931	7168044	12.4%	7168044
EC132	12798020	1765840	13.8%	1627905	1889800	14.8%	1243658
EC133	10452310	895994	8.6%	608044	1375932	13.2%	
EC134	118280930	14000000	11.8%	13507750	19500000	16.5%	16970410
EC135	40106750	3922876	9.8%	3537006	1509075	3.8%	1397292
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EC137	-2	1631159	- 81557950.0%	701449	1211359	- 60567950.0%	102083
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Staffing levels, equipment and infrastructure in Chris Hani LMs

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DC13		Unanswered	Unanswered		0		Unanswered	Unanswered		6
EC131	30	Yes	No	15233385	2	19	Yes	Yes		2
EC132	12	Yes	No	676500	5	15	Yes	No	1100000	5
EC133	8	Yes	No		1	14	Yes	No		5
EC134	80	Yes	No		5	50	Yes	No		5
EC135	3	Yes	No		3	5	Yes	No		3
EC136	7	Yes	No		5	15	Yes	No		5
EC137	6	Yes	No		5	6	Yes	No		5
EC138	17	Yes	No	6500000	5	21	Yes	No	1200000	5

12. 4 ANNEXURE 4

COMPARATIVE ANALYSIS OF AMATHOLE AND CHRIS HANI DISTRICT MUNICIPALITIES

The most recent available information and data was used to compile a comparison between the two municipalities which were investigated as part of this study.

	Amathole (2007/8) (Excluding Buffalo City)	Chris Hani (2006/7)	Comments
Population	966,234	827,691	Similar sized DMs
Unserved water	300,499	351,694	CHDM wants to address backlog in 10 years with govt. funding but needs additional R93 billion. ADM to spend 42% of budget on water & sanitation capital and operations & maintenance
Unserved sanitation	809,318	423,241	ADM requires a large focus on rural sanitation.
<u>Income</u>			
MIG	172,497,000	190,859,574	CHDM gets 9% more
Equitable share	137,639,000	144,187,800	Although ADM has more need for water & sanitation, they are receiving less funding
Others	413,505,534	?	ADM receives large incomes from revenue collections.
Total	723,641,534	335,047,374	CHDM is almost solely dependent on government grants
<u>Expenditure</u>			
<u>Water Services Costs</u>			
WSP costs	119,011,292 (86% of ES)	96,828,400 (67% of ES)	ADM uses more of grant funding as they have larger income from other sources, allowing them to allocate more from these sources. CHDM is totally dependent on these grants
MIG	155,095,218 (90% of MIG)	112,320,000 (78% of MIG)	

WSP o/h costs	36,267,544	no data	
	310,374,054	209,148,400	ADM spending over R100mill p.a. on water services than CHDM.
WSP costs per capita	123.17	116.99	
WSP costs for served water per capita	178.77	203.42	ADM doing WSP in-house is 13% per capita less – for more people served

Description	Amathole	Chris Hani
Scheme-based budgeting done	Yes – scheme based, in its first years of operation – still many assumptions but should get better and better	To a certain extent – web based scheme capturing of data by service providers. Only 8 categories captured and no allocations of district and regional overhead costs to schemes.
Rural-urban split	Diverse situation, incorporating largely rural areas and the urban area of Buffalo City	8 LMs – 4 largely rural, 4 urban-based
WSP Institutional arrangements	Full functioning in-house which has compelled them to develop financial systems & procedures. ADM building up a efficient water services dept	Limited resources at the district level. Appointed Amatole Water Board as implementing agent and programme managers. AWB has appointed four Services Support Agents for 4 rural LMs. Town municipalities operate with service level agreements in the remaining 4 LMs. CHDM yet to develop in-house WSP capacity
Systems and Procedures to support ring fencing	Good numbering system that is applied to all financial transactions – from ordering through procurement to allocation against right vote codes.	Rely on the web based capturing of information.
Collaboration between departments		
WSP manager	Fully involved – was instrumental in setting up systems and procedures – good handle on all budgeting and expenditure per scheme.	Mostly involved in managing service providers and crisis management
WSP Support staff	Involved throughout the procurement process – especially allocating expenditure against vote codes	Same as WSP manager
Service providers	Appointed on a project by project basis – clear job descriptions, etc.	Have tendered for a SSA per LM – rely heavily on these service providers.

Technical director	Mostly responsible for capital infrastructure development and WSP. Has close working relationship with WSP manager.	Large role to play in the waters service provision.
HR	Responsible for performance management, agreements, contracts and payroll, etc. – need to be more technical to support all technical WSP staff (especially their performance agreements).	Same as ADM – but as much of the function outsourced less workload.
CFO	Responsible for all procurement – from chemicals, fuel, etc. through to annual budget expenditure reporting per scheme. There is a close working relationship.	Mostly responsible for municipality budget expenditure – not involved much for scheme based controls.
Reporting mechanisms in place	Yes – annual budget per scheme book produced each year. CFO produces regular per scheme expenditure reports.	Rely on service provider reports and web based inputs.
Budgeting per scheme	Yes – done internally.	Yes – to a lesser extent / rely on service provider inputs.
Expenditure capture per scheme		
Overheads	Distributed from the district level through to areas and schemes (mostly based on assumptions and proportions)	Not distributed / estimated per scheme
Salaries	Distributed from the district level through to areas and schemes (mostly based on assumptions and proportions)	Not distributed / estimated per scheme
General expenses	Procurement done by the district. All expenses allocated to vote codes per scheme.	Done by the district and service providers. Not combined.

12.5 ANNEXURE 5

Vote Numbering System (per ADM)

Category	Item	Sub-Item	Title	Description
Employment Related : Salaries and Wages				
05	005	00	Salaries	
05	010	00	Salaries : Overtime	
05	015	00	Salaries : Temporary	
05	020	00	Bonuses	
05	025	00	Allowances : Housing	
05	030	00	Allowances : Travel	
05	031	00	Allowances : General	
05	075	00	Redemption of leave	
Employment Related : Social Contribution				
10	005	00	Contributions : Group life	
10	010	00	Contributions : Bargaining Council	
10	015	00	Contributions : Medical Aid	
10	020	00	Contributions : Pension Fund	
10	030	00	Contributions : SAMWU Provident fund	
10	035	00	Insurance : WCA	
10	040	00	Insurance : Unemployment	
Depreciation				
40	005	00	Description of items	
Repairs and Maintenance				
45	005	00	Buildings	
45	032	00	Mechanical / Electrical	
45	035	00	Network	
45	040	00	Office furniture and Equipment	
45	065	00	Tools and Equipment	

General Expenses – Other (overheads)				
75	005	00	Advertising	
75	035	00	Cost of Conferences	
75	040	00	Consultants : General	
75	055	00	Electricity	
75	110	00	Insurance premiums	
75	111	00	Inventory assets < R1000	
75	135	00	Licenses	
75	159	00	Medical examinations	
75	170	00	Miscellaneous Expenses	
75	185	00	Postage	
75	190	00	Printing & Stationary	
75	195	00	Protective Clothing	
75	210	00	Rentals : Equipment	
75	220	00	Rentals : Office accommodation	
75	225	00	Rentals : Parking	
75	230	00	Rentals : Vehicles	
75	246	00	Samples : Water	
75	255	00	Security services	
75	285	00	Staff Recruitment / relocation	
75	295	00	Stores and materials	
75	305	00	S&T – flights, hotel & car hire	
75	310	00	Telephone expenses	
75	330	00	Transport	
General Expenses – Other (operations)				
75	029	00	Chemicals	
75	033	00	Community Based Organisations	
75	098	00	Indigent support to consumers	
75	111	00	Inventory Assets <R1000	
75	135	00	Licenses	
75	159	00	Medical Examinations	
75	195	00	Protective clothing	
75	210	00	Rentals : Equipment	
75	220	00	Rentals : Office Accommodation	
75	270	00	Skills development levy	
75	300	00	Subscription Fees	
75	330	00	Transport	
75	337	00	Water Purchases	
75	338	00	Water research levy	