

**City Partnerships for Urban Sanitation Services in eThekweni  
Municipality South Africa**

**Institutional analysis of the eThekweni Municipality  
(including literature review)**

**Draft V1.4**

**Prepared by:**

**Pollution Research Group  
University of KwaZulu-Natal, Durban**

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## 1. Introduction and Background

The Bill & Melinda Gates Foundation (BMGF) and the UK Department for International Development (DfID) have initiated a partnership to focus on solutions for the sustainable provision of sanitation to the urban poor.

Under this partnership, they are jointly seeking proposals to test how cities can use binding service-level agreements and performance-based contracts with private sector partners to deliver city-wide and sustainable sanitation services. These services need to be equitable and provide benefits to the user, public health and the environment. In addition, there needs to be a clear mandate by the City to provide urban sanitation services to all.

The project will take place in two phases, the first of which is a 6-month research and proposal development phase. During this phase, teams (comprising of key city employees and consultants) will undertake a detailed literature review and city-specific investigation in order to understand what opportunities might exist for engaging the private sector in sanitation service delivery.

There are two key outputs from Phase 1: (i) one or more publishable studies analysing specific opportunities and policies that would enable the selected city to engage the private sector in delivering sanitation services to the poor, and (ii) a full proposal for how the city would use a larger grant to facilitate implementing the research-based policy proposal in Phase 2.

## 2. Overview of Phase 1 Proposal

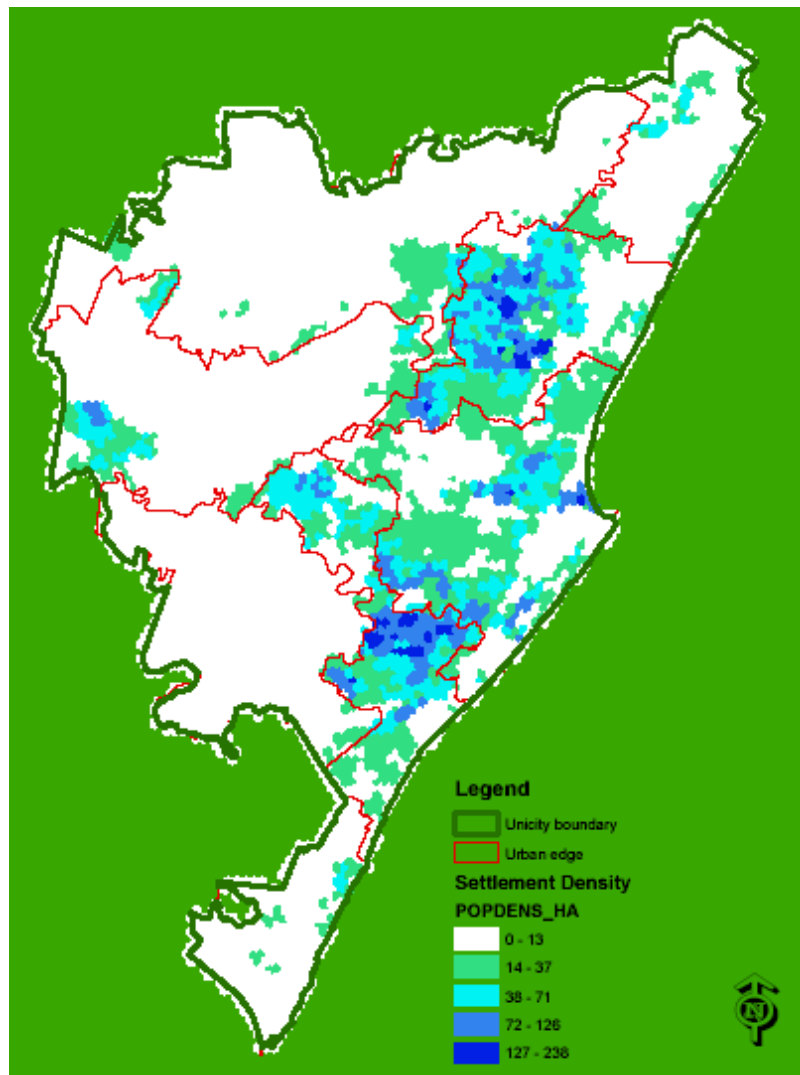
The city which will participate in this project is the City of Durban (South Africa) which is managed by the eThekweni Municipality.

### 2.1 Structure of eThekweni Municipality

eThekweni Municipal Area (EMA) is located on the eastern seaboard of South Africa within the Province of KwaZulu-Natal and covers an area of 2 297 square kilometres (see Figure 2.1). While the total area of the EMA is only 1.4% of the total area of the province, it contains just over a third of the population of KwaZulu-Natal (approximately 3.6 million people) and 60% of its economic activity.

A significant proportion of the population lives in low-income townships, including informal settlements. This makes it difficult to identify the exact number of households within the Municipality and numbers are estimated based on aerial photography. A survey carried out in 2011 identified the presence of just over 912 400 households within the EMA consisting of formal houses (54%); informal settlements including backyard shacks (34%); and rural households (12%). The diverse nature of the landscape, the mix of urban, peri-urban and rural households, and the rapidly growing migration of people to the city all pose a challenge to the Municipality in terms of provision of services such as housing, water, sanitation and electricity.

The City Manager heads the City assisted by six Deputy City Managers. The deputy city managers each lead one of the six clusters supported by technical and professional staff. The Municipality has 200 Councillors, 100 are directly elected ward councillors, and 100 are elected through proportional representation. In addition there are 17 Amakhosi (traditional leaders) within the municipal area of jurisdiction. The Amakhosi meet monthly and have structured communication channels with the municipality (eThekweni Municipality, 2014a).



**Figure 2.1: eThekweni Municipal Area showing population density (EWS, 2011)**

The city's vision is as follows: "By 2030, eThekweni will enjoy the reputation of being Africa's most caring and liveable City, where all citizens live in harmony". In order to achieve these goals, the 2014/2015 draft Integrated Development Plan (IDP) has identified 14 key development challenges and outlined an Eight Point Plan to address these challenges. These are divided into the following focus areas (eThekweni Municipality, 2014a):

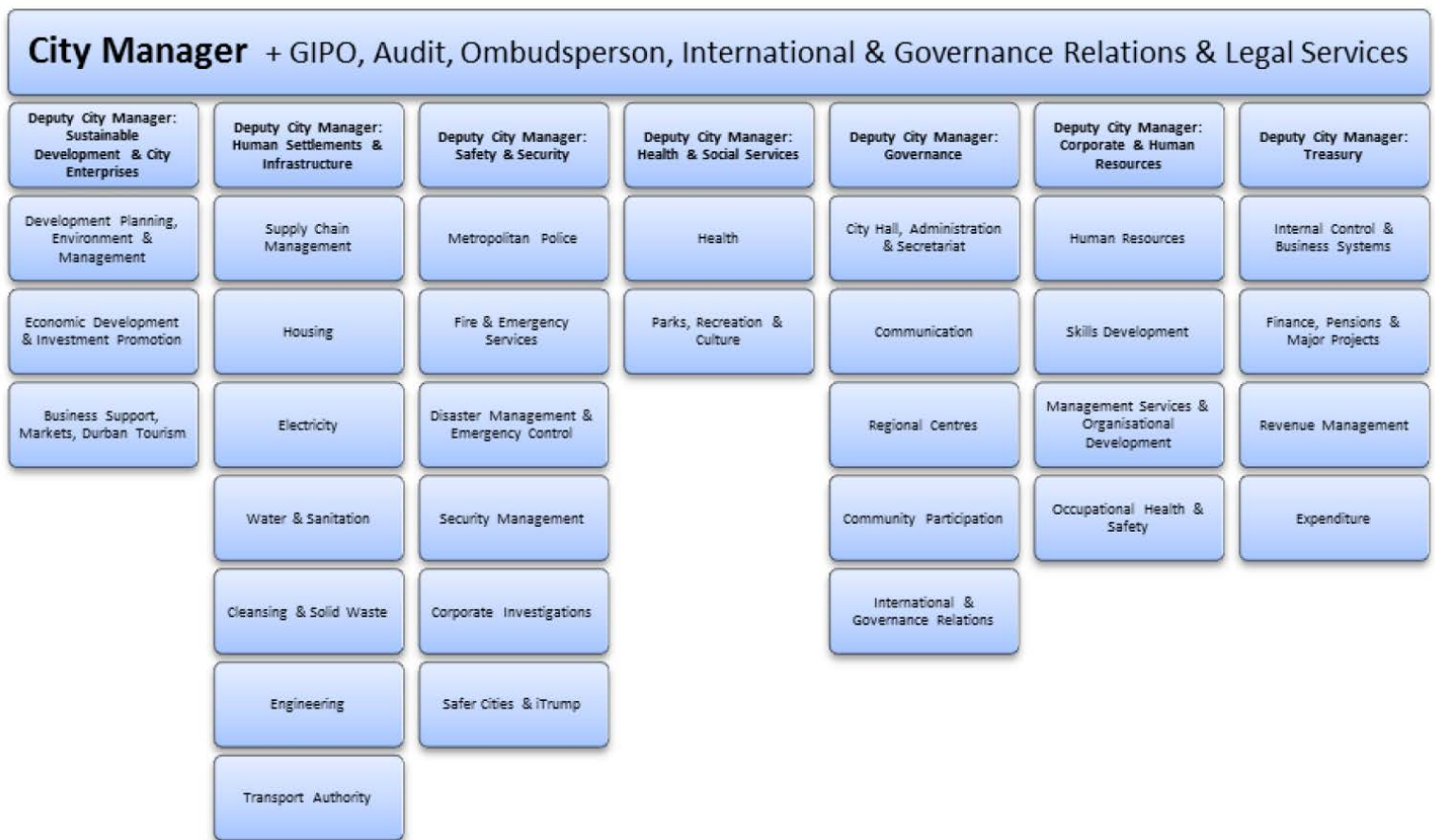
- Plan One: Develop and sustain the spatial, natural and built environment
- Plan Two: Developing a prosperous, diverse economy and employment creation
- Plan Three: Creating a quality living environment
- Plan Four: Fostering a socially equitable environment
- Plan Five: Creating a platform for growth, empowerment and skills development
- Plan Six: Embracing cultural diversity, arts and heritage
- Plan Seven: Good governance and responsive local government
- Plan Eight: Financially accountable and sustainable city

There is an elected Council which serves to facilitate the provision of infrastructure, services and support to the people of eThekweni. The City's service delivery sectors are divided into 8 Administrative Clusters, each with focused and clear roles and responsibilities (see Figure 2.2). They provide organisational support, services and infrastructure to residents across eThekweni. Each is responsible for its own planning and budget in accordance with the City's overall plan (EWS, 2014). These administrative clusters are further broken down into service units, of which the eThekweni Water and Sanitation Unit (EWS) is responsible for the delivery of water and sanitation services to the Municipality.

## 2.2 Project team

The project team is comprised of representatives from EWS together with consultants (Khanyisa Projects (Principal Agent)) in association with Partners in Development (PID)), and research organisations (University of KwaZulu-Natal's Pollution Research Group (PRG)).

- **eThekweni Water and Sanitation (EWS):** The primary responsibility for sanitation lies with EWS, which assumes responsibility for both sewerage and onsite sanitation. The aim of EWS is to provide water and sanitation services in a manner that is equitable, environmentally, socially and financially sustainable, and technically excellent.
- **Khanyisa Projects:** Khanyisa Projects have partnered with EWS for 11 years on a number of water and sanitation projects including rollout of rural water and sanitation services, communal ablution blocks, composting from sludge, and various grey water reuse initiatives.
- **Partners in Development (PID):** PID has collaborated with EWS on various aspects of faecal sludge management including pit filling rates, pit emptying methods and technologies, the deep row entrenchment of faecal sludge for beneficiation of timber and development of pit emptying technologies.
- **Pollution Research Group (PRG):** The PRG at the University of KwaZulu-Natal (UKZN) has an existing contractual relationship with the municipality, assisting with research and development activities and providing feedback loops on large scale rollout of projects.



**Figure 2.2: Organogram of eThekweni Municipality (Sutherland et al., 2013)**

### 2.3 Urine Diversion Toilets in eThekweni

Since 2002, eThekweni Metropolitan Municipality has installed over 90 000 Urine Diversion (UD) double vault toilets at households (see Figure 2.3). This technology was selected to replace Ventilated Improved Pit Latrines (VIPs) as the municipality’s basic onsite sanitation option for rural households at a density of more than 75m between household units (EWS, 2012). Traditional rural households consist of a cluster of multi-generational extended family of variable size. If the family consists of more than eight people, two UD toilets are generally supplied. It was expected that the UD systems would produce a degraded sludge which could be safely removed and buried onsite by the resident. This approach eliminated the challenges and costs encountered when servicing VIP systems, which included access to pits and sites, removal of sludge containing solid waste, and transport and disposal of sludge.

However, a number of concerns have now arisen with the operation of UD toilets. These include health risks to residents when handling possibly pathogenic sludge and dissatisfaction amongst householders over the expectation that they will remove the faecal sludge from their systems themselves while other recipients of basic sanitation receive a free service from the municipality. Dissatisfied householders may convert to a preferred waterborne system with concomitant regulatory and possible health challenges, placing an increased burden on the water supply and eliminating the possibility of source separated resource recovery.

The municipality is thus faced with the problem of identifying ways in which a safe, economically feasible UD toilet waste removal system can be provided to over 90 000 homes. Challenges include the difficulty in accessing sites and limited space for onsite burial where there are dense housing settlements. In addition, a dual stakeholder engagement process is required as these areas have both a political and tribal authority structure.

In summary, the key problems for an acceptable removal program are:

- Health and environmental risks and regulations due to removal and transport of faecal waste from households
- The costs associated with transport of waste over long distances from remote rural areas to decentralised processing plants
- Finding cost effective ways to use the toilet waste beneficially (creating value)
- Meeting the expectations of communities with regard to an acceptable waste removal system
- Identification of the right incentives that will ensure the participation of residents and a cost effective delivery process by private sector contractors
- Sustainability of local business entities working in the sanitation sector

## 2.4 Proposed Approach

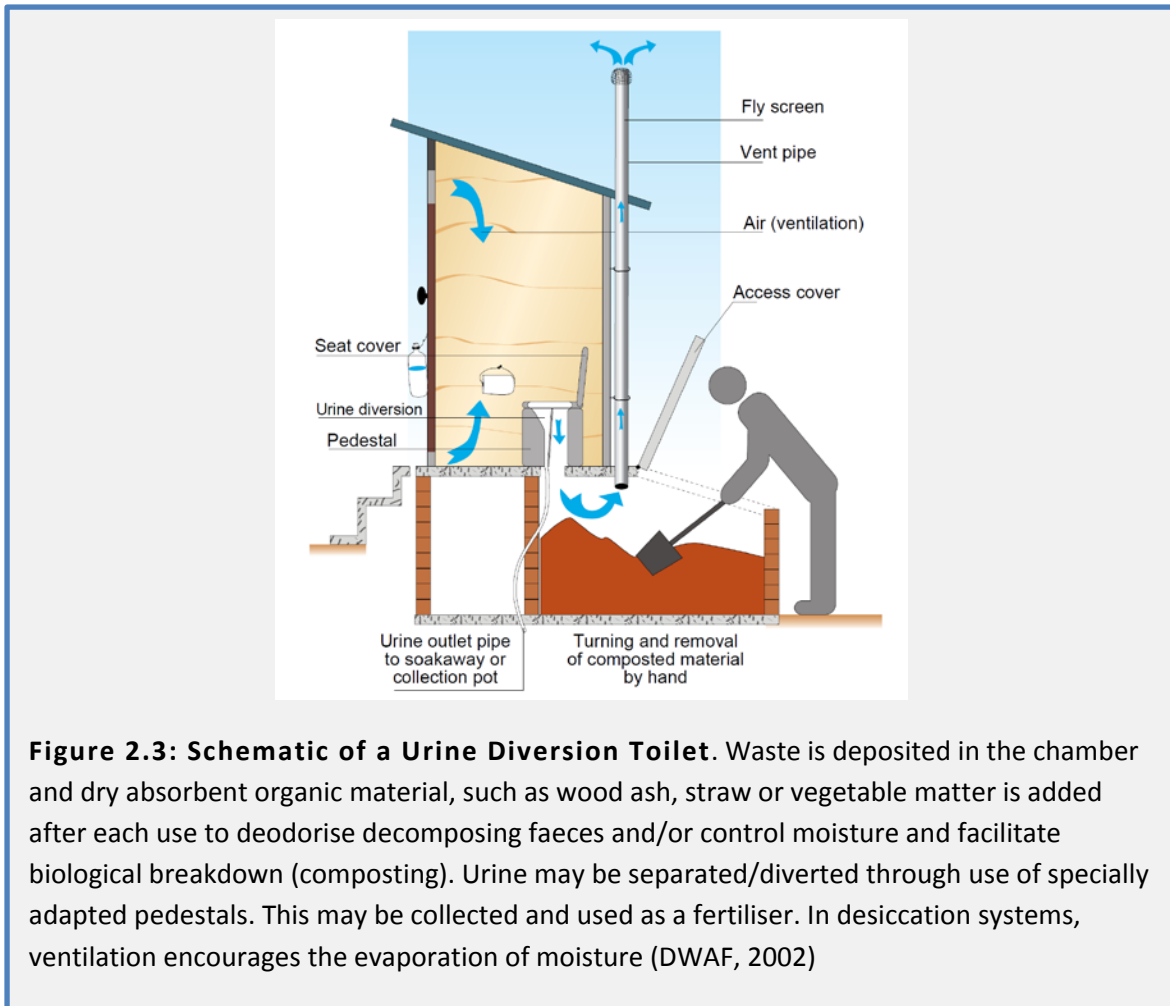
As a result of the challenges that have arisen with full UD systems, EWS has made a commitment to develop a municipality-wide initiative to co-ordinate the emptying of solids from UD toilets. This project aims to explore opportunities for the management of UD toilet products and testing various systems for removal and beneficial use using incentivised partnerships with private organisations or individuals to ensure a safe, efficient, quality service. Long term sustainability of onsite sanitation is not possible as a subsidised service unless the costs are strictly controlled through innovative partnerships and obtaining value from the waste. The following scenarios will be tested:

- **Scenario 1:** Where there is space on site, burial on site with tree promotion
- **Scenario 2:** Where there is no space on site and no land available nearby, thus requiring transport of waste to a decentralised processing plant for development of valuable agricultural products

Each process will utilise public private partnerships through service level agreements and performance based contracts in order to achieve some value from the waste products and improve the sustainability of municipal wide sanitation services.

One of the first steps in this process is to undertake an institutional analysis of the eThekweni municipality including a literature review of existing policy and regulations pertaining to water and sanitation provision. This report details the outcomes of this literature review stage.





### 3. Overview of Literature Review Report

In order to meet the first output for the project (i.e. one or more publishable studies analysing specific opportunities and policies that would enable the selected city to engage the private sector in delivering sanitation services to the poor) it is necessary to first undertake a literature review of all relevant national and city-related documents.

**Section 4** provides an overview of the policy framework with respect to the provision of water and sanitation on an international, national and local level. **Section 5** introduces the eThekweni Municipality and outlines service delivery, pro-poor policies and overall financial information. Further detail on the Water and Sanitation Unit (EWS) as the Water Services Provider is covered in **Section 6** and the relevant water and sanitation policies summarised.

**Section 7** builds on this background information to provide an overview of the decision making processes with EWS, policies related to interacting with the private sector and case studies to demonstrate capacity for conducting projects related to the rollout of water and sanitation services. Further case studies are provided in **Section 8** to demonstrate the innovative approach taken by EWS in developing sanitation services.

**Section 9** then summarises the institutional readiness of the municipality, and EWS in particular, to implement the proposed project as described in Section 2.4. Concluding remarks are provided in

**Section 10.** Information from this literature review, together with the outputs from related project deliverables will then be used to develop publishable papers

## 4. Policy Frameworks

In order to understand the policy frameworks for sanitation delivery under which the eThekweni Municipality operates, it is important to provide an overview of the legislative environment within South Africa, particularly in relation to water and sanitation.

Access to adequate sanitation is fundamental to a person's dignity and security, social and psychological well-being, public health, poverty reduction, gender equality, economic development and environmental sustainability (Tissington, 2011). Poor sanitation can lead to the spread of preventable diseases such as diarrhoea and cholera and also places stress on the weakened immune system of HIV positive people thereby affecting the quality of life of people living with AIDS. According to the World Health Organization (WHO), improved sanitation reduces diarrhoea death rates by a third, encourages children, particularly girls, to stay in school, and has persuasive economic benefits (WHO, 2011).

The access to the provision of basic water and sanitation supply is captured in various legislations, regulations, white papers and policies on both an international and local level. This section aims to highlight the key aspects of these various documents as they relate to the provision of sanitation services and how they are implemented at a local level.

### 4.1 International Agreements

The right to water and sanitation has been affirmed internationally. In July 2010, the United Nations (UN) General Assembly passed a resolution declaring "the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights." In September 2010, the UN Human Rights Council (HRC) reaffirmed this with a resolution confirming the right to water and sanitation as legally binding in international law (Human Rights Council).

A further resolution passed in 2013 (Resolution A/HRC/24/L.31) on the human right to safe drinking water and sanitation recognises "*that the human right to safe drinking water and sanitation entitles everyone, without discrimination, to have access to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic use and to have physical and affordable access to sanitation, in all spheres of life, that is safe, hygienic, secure, socially and culturally acceptable and that provides privacy and ensures dignity*" (Human Rights Council).

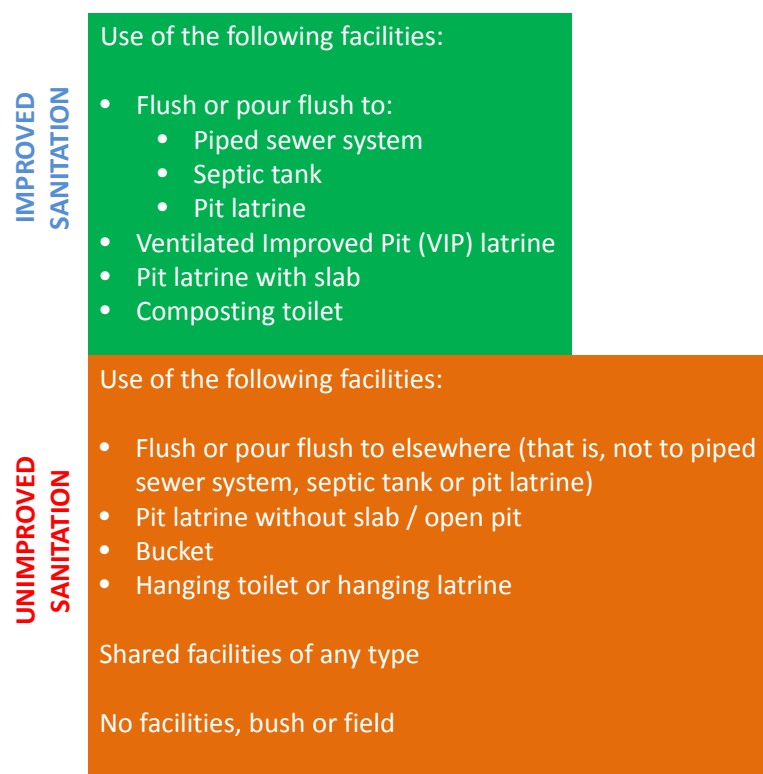
The Millennium Development Goal 7 (MDG7) Target 10 is to halve the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015 (United Nations, 2014). A report on the RIO+20 United Nations conference on sustainable development (United Nations, 2012) and the World Health Organisation (WHO) and United Nations Children's Fund's (UNICEF) Joint Monitoring Programme (JMP) for Water Supply and Sanitation states that while the world has met this target with respect to access to safe drinking water by 2010, the same is not true for access to sanitation. If current trends continue, there will still be 2.4 billion people without an improved sanitation facility (i.e. a sanitation facility that hygienically separates human excreta from human contact – see Figure 4.1 for definitions) in 2015, falling short of the MDGs sanitation target by over

half a billion people. Of this number, seven out of ten people live in rural areas (WHO and UNICEF, 2014).

In South Africa, the MDG goal set for 2015 has been met with regards to access to drinking water, with 21% of the population obtaining access since 2000 (to give a total of 95%). With regards to sanitation, South Africa is on track to meet the goals in 2015, with 19% of the population obtaining access since 2000 to give a total of 74%, just short of the target of 79% by 2015 (WHO and UNICEF, 2014).

As the target date of the MDGs, 2015, is approaching, a debate on the framework of international development beyond 2015 has been initiated. One of the main outcomes of the Rio+20 Conference was the agreement by member States to launch a process to develop a set of Sustainable Development Goals (SDGs), which will build upon the MDGs and which are *“action-oriented, concise and easy to communicate, limited in number, aspirational, global in nature and universally applicable to all countries while taking into account different national realities, capacities and levels of development and respecting national policies and priorities”* (WHO and UNICEF, 2014)

It must be borne in mind that these SDGs may results in some changes to the MDGs and the targets for water and sanitation delivery.



**Figure 4.1: Joint Monitoring Programme definition of improved and unimproved sanitation systems (JMP, 2014)**

It is interesting to note that “shared facilities of any type” (as shown in Figure 4.1) are not considered improved sanitation as this is often the most effective means of providing sanitation services to informal areas where installation of household toilets is not possible. Within eThekweni communal ablution blocks are used as an interim measure to provide water and sanitation to informal settlements until such time as the inhabitants are relocated.

Discussions held by technical experts within the JMP revealed that that shared facilities were not considered as improved sanitation services as in many cases they were not well maintained and did not generally meet the criteria for improved services. It was further felt that if shared facilities were considered to be improved sanitation, governments would no longer aim to provide sanitation services on a household level. This definition was later expanded to further define where shared facilities were acceptable (shared by no more than 5 households or 30 persons, if users know one another) and questionnaires were updated to ensure that more information on the type of shared facility was obtained (WHO and UNICEF, 2014). It is not clear as to whether shared facilities as an interim service are acceptable.

## 4.2 South African Legislation

A number of legislations and regulations, policies and white papers, as well as guideline documents, exist that relate to the provision of sanitation services within South Africa. From 1994 there has been a complete review of all the policies and practices in South Africa. Reviews have been undertaken of these documents by Still *et.al* (2009), Majoli (2010) and Tissington (2001) and a detailed review will therefore not be repeated in this report, but rather a summary to highlight the key aspects related to sanitation delivery on a national and local level. This is presented as a time line in Table 4.1 together with the responsible government department and the web site from where the document can be downloaded.

While the right to have access to adequate sanitation is not expressly provided for in the Constitution of the Republic of South Africa, 1996, there are a number of clauses which directly or indirectly imply the right to basic sanitation. In addition, the 2001 White Paper on Basic Household Sanitation explicitly acknowledges that “*government has a constitutional responsibility to ensure that all South Africans have access to adequate sanitation*”, and The Water Services Act 108 of 1997, the primary legislation relating to water and sanitation in South Africa, also refers to a “*right to basic sanitation.*”

**Table 4.1: Time line of national legislation, policy and guidelines related to water and sanitation**

Year	Policy	Responsible Dept.	Description	Reference
1994	New South Africa			
1994	White Paper on Reconstruction and Development Programme (RDP)	Parliament	Aimed at alleviating poverty and addressing the shortfalls in social services	www.gov.za
1994	White Paper on Water Supply and Sanitation Policy	DWAS <sup>1</sup>	Outlines the institutional framework for water and sanitation provision	www.dwaf.gov.za
1994	White Paper on Housing	DHS <sup>2</sup>	The first Housing Policy and Strategy for South Africa	www.dhs.gov.za
1996	Constitution of the Republic of South Africa	Minister for Justice & Constitutional Development	Sets out the rights of all people within South Africa. Section 24: “Everyone has a right to an environment that is not harmful to their health or well-being”	www.gov.za
1996	Growth, Employment and Redistribution (GEAR) programme	Department of Finance	A 5-year macroeconomic strategy aimed at strengthening economic development, broadening of employment, and redistribution of income and socioeconomic opportunities in favor of the poor.	www.treasury.gov.za
1996	National Sanitation Policy	DWAS	Paved the way for the development of a national sanitation strategy. Provided definitions of sanitation systems and services.	www.dwaf.gov.za
1997	Water Services Act 108	DWAS	Primary law relating to the accessibility and provision of water services to households and other municipal water users by local government in South Africa.	www.dwaf.gov.za
1997	Housing Act 107	DHS	Provides for a sustainable housing development process. Government has linked sanitation rollout to its housing delivery programme, through the National Housing Subsidy Scheme (NHSS).	www.dhs.gov.za
1998	National Water Act 36	DWAS	Outlines the management and protection of water resources in South Africa.	www.dwaf.gov.za
1998	Municipal Structures Act 117	CoGTA <sup>3</sup>	Outlines the different categories of municipalities, regulates the internal systems, structures and office-bearers and provides for appropriate electoral systems.	www.justice.gov.za
2000	Municipal Systems Act 32	CoGTA	Provides the mechanisms and procedures to enable municipalities to uplift their communities socially and economically, and guarantee affordable universal access to basic services, including aspects on public private partnerships.	mfma.treasury.gov.za
2000	Free Basic Services (FBS) policy		A policy to provide free basic services for the poor including water supply, sanitation, refuse removal and electricity.	www.gov.za
2001	White Paper on Basic Household Sanitation	DWAS	Sets out the framework for the provision of sustainable sanitation in South Africa, particularly for communities in low density rural areas, and in informal settlements. Led to the establishment of the National Sanitation Programme Unit in 2002.	www.dwaf.gov.za

<sup>1</sup> DWAS – Department of Water Affairs and Sanitation (formerly Department of Water Affairs (DWA) and Department of Water Affairs and Forestry (DWAF))

<sup>2</sup> DHS – Department of Human Settlements

<sup>3</sup> CoGTA - The Department of Cooperative Governance and Traditional Affairs

Year	Policy	Responsible Dept.	Description	Reference
2001	Free Basic Water (FBW) Implementation Strategy	DWAS	A strategy that guides provision of services in such a way that those who could pay were made to pay while those who could not afford to pay were provided an adequate amount of free potable water within the limits of ensuring continued financial viability of municipalities. A Free Basic Water Implementation Guideline for Local Authorities was produced to assist in the implementation of this strategy.	<a href="http://www.dwa.gov.za">www.dwa.gov.za</a>
2001	Compulsory National Standards (water conservation)	DWAS	Regulations relating to compulsory national standards and measures to conserve water	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
2001	Norms and Standards (water tariffs)	DWAS	Norms and standards in respect of tariffs for water services. A guideline document was produced by DWAF for the implementation.	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
2002	Sanitation Technology Options	DWAS	A guideline produced to assist municipalities in identifying suitable sanitation options.	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
2003	Strategic Framework for Water Services	DWAS	<i>Water is Life Sanitation is Dignity.</i> This is the national umbrella framework for the water services sector and provides a comprehensive review of policies, legislation and strategies with respect to the provision of water services in South Africa.	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
2003	Municipal Finance Management Act, Act 56	National Treasury	Aimed at securing sound and sustainable management of the fiscal and financial affairs of municipalities by establishing norms and standards for (amongst others) management of revenue, budgeting and supply chain management.	<a href="http://mfma.treasury.gov.za">mfma.treasury.gov.za</a>
2003	National Health Act 61	Parliament	Aims to regulate national health and to provide uniformity in respect of health services across the nation.	<a href="http://www.gov.za/">www.gov.za/</a>
2003	A Protocol to Manage the Potential of Groundwater Contamination from On-Site Sanitation	DWAS	Aims to ensure that reasonable measures are taken to guard against contamination of groundwater resources by inappropriately located or designed sanitation systems with a focus on dry on-site sanitation systems.	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
2003	Municipal Infrastructure Grant (MIG)	National Treasury	A municipal infrastructure funding arrangement which replaced all previous capital grants for municipal infrastructure. The vision of the MIG programme was to provide all South Africans with at least a basic level of service by the year 2013 through the provision of grant finance aimed at covering the capital cost of basic infrastructure for the poor	<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>
2004	Breaking New Ground	DHS	A comprehensive plan for the development of sustainable human settlements	<a href="http://www.dhs.gov.za">www.dhs.gov.za</a>
2004	National Water Resource Strategy	DWAS	Describes how the water resources of South Africa will be protected, used, developed, conserved, managed and controlled in accordance with the requirements of the policy and law.	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
2005	Intergovernmental Relations Framework Act 13	Parliament	The object of this Act is to provide a framework for the national government, provincial governments and local governments, and all organs of state within those governments, to facilitate co-ordination in the implementation of policy and legislation	<a href="http://www.gov.za">www.gov.za</a>

Year	Policy	Responsible Dept.	Description	Reference
2005	National Sanitation Strategy	DWAS	Has the objective to facilitate the elimination of the sanitation backlog by 2010, and discusses the roles and responsibilities in sanitation delivery, planning for sanitation, funding sanitation, implementation approaches, regulating the sanitation sector, and monitoring and evaluation.	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
2005	National Indigent Policy		Directs municipalities to develop and adopt an indigent policy to ensure that the indigent have access to services included in the FBS programme	
2005	National Health and Hygiene education strategy	Department of Health at all levels	A strategy to assist in the education of health and hygiene related to sanitation	
2005	Municipal Public Private Partnership Regulations	National Treasury	Provides details on public private partnerships and the roles of each party	<a href="http://www.ppp.gov.za">www.ppp.gov.za</a>
2007	National Norms and Standards (Housing)	DHS	National Norms and Standards for the construction of stand-alone residential dwellings financed through national housing programmes	
2007	Guidelines for the Costing of Household Sanitation Projects	DWAS	Sets out the average and ceiling costs for the different components of a sanitation system based on both estimated and reported costs for the implementation of household sanitation projects. Municipalities may use these as a guide when estimating the costs and planning the implementation of sanitation services for settlements	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
2007	Strategy for sanitation services for informal settlements	DWAS	Aims to provide guidance to municipalities to formulate an appropriate local strategy and an implementation plan for sanitation services in informal settlements, taking into account the policy principles of the Policy on Basic Household Sanitation (2001).	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
2008	National Water Services Regulation Strategy	DWAS	Outlines the national governments approach to the regulation of water services on a local level.	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
2009	Free Basic Sanitation (FBSan) Implementation Strategy	DWAS	Developed to guide Water Service Agents in “providing all citizens with free basic sanitation by 2014” and to implement their own FBSan policies in line with national policy.	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
2009	National Housing Code (revision of 2000)	DHS	Part 3 Volume 4 of the National Housing Code: Upgrading of informal settlements programme and emergency housing programme	<a href="http://www.dhs.gov.za">www.dhs.gov.za</a>
2011	Revision of the White Paper on Basic Household Sanitation	DWAS	Acknowledges that sanitation delivery has become a deeply political and contested issue, and recognises the importance of improved sanitation as a key developmental issue.	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>
2012	National Infrastructure Plan		Aims to transform the SA economic landscape while simultaneously creating new jobs, and strengthening the delivery of basic services. Identified 18 Strategic integrated projects (SIPs).	<a href="http://www.gov.za">www.gov.za</a>
2013	National Development Plan (NDP)		Aims to eliminate poverty and reduce inequality by 2030	<a href="http://www.gov.za">www.gov.za</a>
2013	National Water Resource Strategy	DWAS	An updated edition of the first NWRS published in 2004 and outlines plans for the next 10 years.	<a href="http://www.dwaf.gov.za">www.dwaf.gov.za</a>

In addition to these policy documents, the South African Water Research Commission (WRC) has also prepared a number of guideline documents for municipalities to assist in the roll out of sanitation services. Many of these documents are used by municipalities in preparing their by-laws and policies and should therefore also be taken into consideration. Some key documents include:

- Guidelines for the design, operation and maintenance of urine diversion sanitation systems (Volume 4); WRC report TT 275/06 (2006)
- Waterborne sanitation operations and maintenance guide; WRC report TT/482/11; University of Pretoria (2011)
- Guidelines for the utilisation and disposal of wastewater sludge: Volume 2 – requirements for the agricultural use of wastewater sludge; WRC report TT 262/06; Golder Associates Africa (2006)
- Research into UD/VIDP (Urine Diversion Ventilated Improved Double Pit) Toilets: Prevalence and Die-off of *Ascaris* Ova in Urine Diversion Waste; WRC report TT 356/08; University of KwaZulu-Natal (2008)
- Research into UD/VIDP (urine diversion ventilated improved double pit) toilets: Physical and health-related characteristics Of UD/VIDP vault contents; WRC report 1629/1/08; University of KwaZulu-Natal (2008)
- Scientific support for the design and operation of Ventilated improved pit latrines (VIPs) and the efficacy of Pit latrine additives; WRC report TT 357/08; University of KwaZulu-Natal (2008)
- Standards methods for the recovery and enumeration of helminth ova in wastewater, sludge, compost and urine–diversion waste in South Africa; WRC report TT 322/08; Zitholele Consulting; University of KwaZulu-Natal, and Erwat (2008)
- Tackling the challenges of full pits – Volumes 1 to 3; WRC reports 1745/1/12; 1745/2/12; 1745/3/12; Partners in Development and University of KwaZulu-Natal (2012)
- The social/cultural acceptability of using human excreta (faeces and urine) for food production in rural settlements in South Africa; WRC report no TT 310/07; CSIR Built Environment Unit (2007)
- Investigating the potential of deep row entrenchment of pit latrine and wastewater sludges for forestry and land rehabilitation purposes; WRC Report No: 1829/1/12; Partners in Development and University of KwaZulu-Natal (2012)

### 4.3 South African Government

South Africa has a three-tier system of government, i.e. national, provincial and local spheres of government. In general terms, national government is responsible for high level security functions, economic regulation and social development; the provincial government for regional economic planning, housing, environmental management, rural livelihoods and human development; and local government for basic service provision (which links closely with housing) and for creating an enabling environment for local business (Sutherland *et.al*, 2013).

The relationship between these three spheres of government is based on a system of co-operative governance defined in the Constitution. Co-operative governance requires that each sphere respects the powers and functions of other spheres, cooperates with each other and coordinates actions and legislation (SA Constitution, 1996, s. 41).



On a local level, governance takes place through municipalities such that all areas, including urban and rural, fall under local municipal control. There are three types of municipalities – metropolitan, district and local municipalities (as defined by the Municipal Demarcation Act). Metropolitan municipalities have exclusive municipal executive and legislative authority in their respective areas and there are eight metropolitan municipalities within South Africa. In the province of KwaZulu-Natal, the eThekweni Municipality, which covers the greater Durban area, is currently the only metropolitan municipality. There are 10 district municipalities and 45 local municipalities in the province.

Local government has the constitutional responsibility to provide water and sanitation services, while provincial and national government have a constitutional responsibility to support local government in a spirit of co-operative governance (DWAF, 2001).

#### 4.3.1 Water and Sanitation – National Level

On a national level, the key departments that hold responsibility for water and sanitation are (Tissington, 2011):

- **The Department of Water Affairs and Sanitation (DWAS):** The recently formed DWAS (formerly the Department of Water Affairs (DWA) and the Department of Water Affairs and Forestry (DWAF)) is the water and sanitation sector leader in South Africa. DWAS is the custodian of South Africa's water resources and of the National Water Act and the Water Services Act. Until 2009, DWAF was responsible for coordinating the involvement of national government in the sanitation sector, and the National Sanitation Programme Unit was situated within the department. This function has since been transferred to the Department of Human Settlements (DHS). DWAS is also the national regulator of the water services sector.
- **The Department of Human Settlements (DHS)** – formerly the National Department of Housing (NDoH) - is the custodian of the national Housing Act and the National Housing Programmes contained in the National Housing Code. DHS has the mandate to deliver on the National Sanitation Programme, and the National Sanitation Programme Unit is contained in this department.
- **The Department of Cooperative Governance and Traditional Affairs (CoGTA)** – formerly the Department of Provincial and Local Government (DPLG) - is the custodian of the Municipal Systems Act and the Municipal Structures Act. CoGTA's role is to coordinate and oversee the implementation of the FBS policy.
- **The Department of Health (DOH)**, in cooperation with the provinces, takes primary responsibility for coordinating the planning and interventions aimed at influencing the health and hygiene behaviour of communities and at creating a demand for sanitation services through health and hygiene awareness and education programmes.
- **National Treasury** - in terms of sanitation relates to the funding of the different departments and spheres of government for rollout of programmes.

#### 4.3.2 Water and Sanitation – Local Level

The Water Services Act sets out the regulatory framework for institutions tasked with the supply of water services and provide for different water services institutions to be established as follows:

- The water services authority (WSA) - i.e. the responsible municipality
- The water services provider (WSP) - whose role is to physically provide the water supply and sanitation services to consumers.

Further detail in is provided in the Municipal Structures Act and the 2003 Strategic Framework for Water Services.

Thus the eThekweni Municipality is the Water Services Authority (WSA) and EWS is the Water Services Provider (WSP) for the EMA and who has the responsibility of providing water and sanitation services to more than 3.6 million people within the municipal area. This includes both urban and rural areas which have resulted in a number of challenges that needed to be overcome such as provision of basic water and sanitation services to communities outside of the water-borne edge, a lack of awareness on how to use water supply and sanitation services correctly, illegal connections, blockages and vandalism.

The challenge facing the WSP in the provision of water and sanitation services is to:

- manage the conflict between different uses and users in different catchments,
- provide a means of providing access to services to those who are still without
- maintain and improve services already supplied in a sustainable manner
- provide various measures to assist those who are economically unable to meet normal service charges
- provide water services in support of all forms of economic development

All of the above need to be carried out in a manner which supports the preservation of impacted ecosystems, and in conjunction with an education and awareness programme to ensure proper use and management of water and sanitation systems.

Government policy provides for free sanitation for indigent households (the minimum level of service being a ventilated improved pit latrine) and access to free basic water. Specific funding streams are available to municipalities for these services; however the details of delivery are left up to the individual service provider.

The main strategic planning instrument for local government is the Integrated Development Plan (IDP) as required by the Municipal Systems Act (Act No. 32 of 2000, s. 25). The IDP is a single, cross-sectoral plan intended to integrate and co-ordinate all developmental activities and associated budgets within the Municipality and which includes the development of a Water Services Development Plan (WSDP).

#### **4.3.3 Funding of Sanitation Programmes**

The main sources of funding for the provision of basic sanitation in South Africa: (i) the Municipal Infrastructure Grant (MIG) for capital costs of infrastructure development, (ii) the Equitable Share (ES) for O/M costs, (iii) internal revenue generated by municipalities through tariff cross-subsidisation etc. (iv) the Urban Settlements Development Grant (USDG) and (v) the Rural Household Infrastructure Grant (RHIG).

National departments are also allocated funds to support municipalities to enhance delivery of water supply and sanitation services. This includes the RHIP aimed at improving rural water supply

and sanitation at rural level. Another programme was the Bucket Eradication Programme (BEP) which was worth R1.2 Billion over three years to eradicate the bucket system in formal areas (Department of Human Settlements, 2012).

A similar approach exists at a provincial level, whereby provinces are provided with funds to support municipalities with specific water and sanitation projects.

## 5. Water and Sanitation within eThekweni

The IDP outlines the development plans for the municipality over a five year period, and is reviewed on an annual basis. The draft review for 2014/2015 is currently available (EWS, 2014). Aspects within the IDP relevant to the delivery of water and sanitation services is the approach that is to be taken to eliminate the backlog in service delivery, the indigent policy and the water services development plan. It also includes an overview of the financial status of the municipality as a whole.

### 5.1 Service Delivery

The eThekweni Municipality continues to put significant resources and effort into infrastructure delivery, in order to eradicate existing backlogs. The most current figures reflecting the backlog of services to houses/dwellings are provided in Table 5.1 together with the range of delivery and the related timeframes for backlog eradication.

**Table 5.1: Backlog in service delivery as of June 2013 (eThekweni Municipality, 2014b)**

Basic Service	Existing Backlog (consumer units) as at 30 June 2013	Delivery ranges per annum	Timeframe to address based on current funding levels *
Water	71494	2000-2500	29-36 years
Sanitation	218248	8000-10000	22-27 years
Electricity	290393	8000-13000	22-36 years
Refuse removal	0	1500-2000	0 years <sup>1</sup>
Roads	1 118.20 kms	10-15kms	74-111 years
Housing	404192	5000-10000	40-81 years

<sup>1</sup>As new houses are built & occupied, they are provided with a solid waste service);

\* - The timeframes indicated depend on the rollout of funding / subsidies.

# - Linked to the housing delivery programme.

Some key issues relating to infrastructure delivery include:

- Limited access to basic household and community services especially in informal settlements
- Limited funding available to deal with big backlogs;
- The inability of households to pay for basic services due to high levels of poverty & unemployment
- Illegal water and electricity connections.

One of the main challenges faced by the Municipality is the provision of services to dense informal settlements which have formed due to the rapid and increasing migration of people into the city seeking job opportunities. There are an estimated 470 informal settlements spread throughout the city with between 45 and 75 dwellings per hectare housing in the region of 1.2 million people. These

dwellings (shacks) are typically built with mud, wood or corrugated iron and these areas are generally lacking in water, sanitation and electricity services.

The Municipality has realised that it will take many years to eradicate the housing backlog and in order to offer some improvement to the quality of life in informal settlements in the short term, interim measures such as ablution blocks with male and female toilets and showers, refuse removal services, pedestrian paths with storm water channels, limited road access for emergency and solid waste vehicles, fire breaks, and a labour-based maintenance programme are being rolled out to informal settlements (eThekweni Municipality, 2010).

The provision of these interim services as opposed to the provision of low income subsidised houses with services, is highly cost-effective since for each house built, one can provide up to eleven shacks with interim services. With the high backlogs in basic service provision and the severe impact on households that do not have basic services, a programme that leads to rapid delivery of these services will have significant social justice benefits (eThekweni Municipality, 2014b).

## 5.2 Indigent Policy

An indigent policy is designed to allow municipalities to target the delivery of essential services to citizens who experience a lower quality of life. These services include, *inter alia* (Human Rights Commission, 2014):

- Free Basic Water: a minimum of 6 Kl of water per household per month (since increased to 9Kl);
- Free Basic Energy: a minimum of 50 kilowatt hours or coal equivalent of ZAR55 per household per month;
- Sanitation: ventilated improved pit latrine (VIP) or toilet connected to a septic tank or to water-borne sewerage;
- Waste: collection and disposal of refuse;
- Health: access to clinics and voluntary testing and counselling.

The municipality assists residents through rates rebates and the provision of free basic services as follows:

- **Rates:**
  - Residential Properties valued at under R185 000 of property value – no rates charged (124 969 properties benefit);
  - Residential Properties valued at more than R185 000, the first R120 000 of value is not charged rates (326 172 properties)
  - Pensioners/child headed households – first R460 000 of property value – no rates charged (54 902 properties benefit);
- **Vacant land:** first R30 000 of land value- no rates charged (5 881 properties benefit)
- **Water:** no charge if less than 9Kl of water used per month (487 062 households benefiting);
- **Electricity:** first 65kWh free to poor residents using less than 150kWh per month (approximately 65 000 households benefitting);
- **Sewerage:** no charge if less than 9kL of water used per month;
- **Refuse:** stepped tariff sliding scale

### 5.3 Municipal Planning Process

Planning within the Municipality takes the form of various frameworks and these are summarised in Table 5.2.

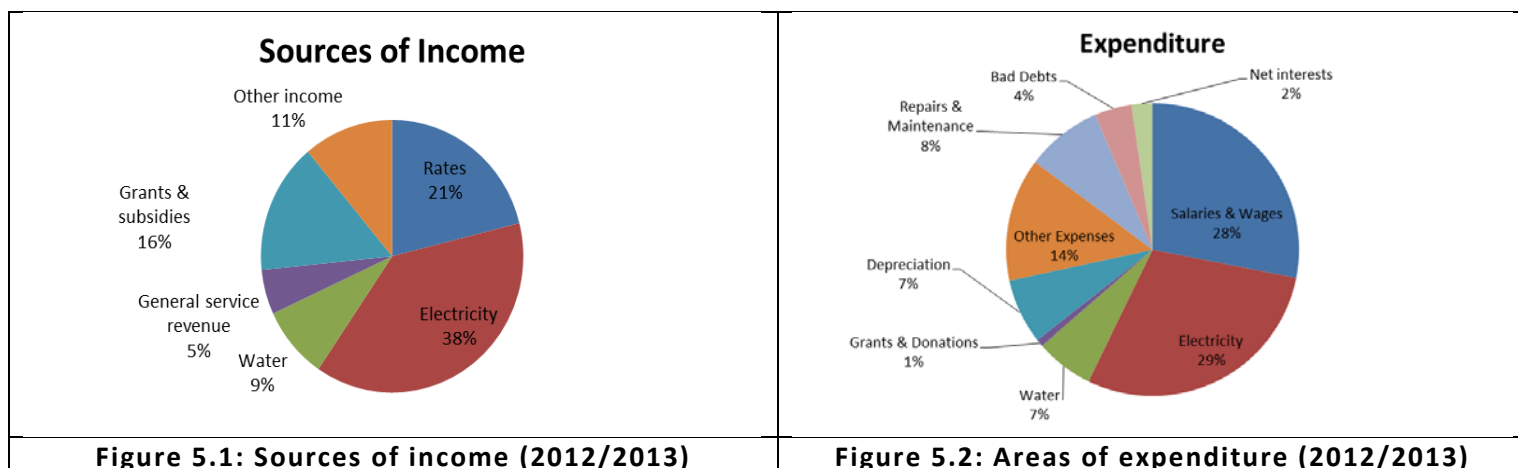
These processes and frameworks outline the strategic development direction and implementation for the municipality and assist in the planning for future development.

**Table 5.2: Purpose and scope of existing municipal plans (IDP, eThekwini Municipality, 2014)**

eThekwini Package of Plans PLAN TYPE	SCOPE	PURPOSE
Long Term Development Framework	Strategic: Economic Social and Environmental Objectives	Strategic Development Direction for the Municipality
IDP	Strategic: Operational Implementation	Strategic Implementation Direction and Imperatives for the Municipality
Spatial Development Framework	Strategic: Spatial Development	Strategic Spatial Development Intentions for the Municipality based on the LTDF and IDP
Spatial Development Plan	Strategic: Spatial Region Development	Translation of Spatial Development Intentions into Land Use, Transport, Environmental, Infrastructure implications Broad based Land Use Directives to guide Local Area Planning and LUMS, Bulk Infrastructure and Transportation Planning Directives for the Municipality
Local Area Plan	Detailed Physical Plan	Detailed Physical Planning Directives for the Municipality - Refining Land Use, Transport, Environment and Infrastructure to a level that informs the preparation of a Land Use Scheme. Also includes Urban Design Directives for Public and Privately owned Land. May include implementation proposals
Functional Area Plan	Detailed Physical Plan for special areas	Detailed Physical Planning Directives for the Municipality for areas with special environmental, economic, heritage etc characteristics. Detailed Urban Design Directives and / or Proposals. May include implementation proposals
Land Use Schemes	Legislative and statutory component which forms part of the implementation of the strategic and detailed plans.	Drive and direct development and give effect to the people's vision for the Municipality. The SDF gives effect to the intentions of the IDP and provides a framework for the formulation of an area and even site specific land used controls depending to the size of SDF area. Since eThekwini is a metro, its SDF could not be directly translated into a scheme level.

### 5.4 Finances and Monitoring

In terms of financial readiness, the overall financial situation of the Municipality is sound and healthy. Figures 5.1 and 5.2 provide an overview of the sources of income and expenditure within the Municipality. Strong collection rates in respect of property rates, water and electricity has seen the Municipality achieve high revenue growth and robust surpluses over the 2012/2013 financial year (eThekwini Municipality, 2014b).



As shown in Figures 5.1 and 5.2, water and sanitation services accounted for 9% of the total income for 2012/2013 and 7% of the total expenditure.

The Municipality has a fully developed electronic Performance Management System (PMS) in place to monitor the implementation of the IDP and track the progress made in achieving the objectives set out in the IDP. The PMS ensures increased accountability, early warning signals, learning, improvements and better decision making. Actual performance is measured against pre-determined targets via the PMS.

Legislation that governs performance management in local government includes the Municipal Systems Act (MSA), the Municipal Planning and Performance Management Regulations (MPPMR), the Municipal Finance Management Act (MFMA), the Municipal Performance Regulations for Municipal Managers and Managers directly accountable to the Municipal Manager and the Framework for Programme Performance Information (FPPI) Issued by National Treasury (eThekweni Municipality, 2014b).

## 6. eThekweni Water and Sanitation Unit

As set out in the White Paper on Basic Household Sanitation, the way in which sanitation services are provided must take into account the growing scarcity of good quality water in South Africa (DWAF, 2011).

The vision of the EWS is therefore to ensure an integrated use of resources through sustainable water management. For EWS this means providing water and sanitation services in a manner that is equitable, environmentally, socially and financially sustainable, and technically excellent. Innovative methods are used by EWS in order to meet these goals and the Millennium Development Goals (MDG) of reducing poverty through job creation, improving the health and increasing the quality of life for people living on the poverty line, while at the same time protecting and conserving natural resources.

The principles and commitment of EWS to the provision of water and sanitation services is outlined in the Customer Services Charter and the Service Level Standards:

- **Customer Services Charter:** explains the aims of EWS in the delivery of water and sewage disposal services, how the Unit may be contacted in the event that the service is not satisfactory and the corresponding responsibilities as a customer receiving water services.
- **Service Level Standards:** ensures that the public expectations of service delivery are matched by achievable and measurable performance standards. The document sets out the services offered, the response times/level of service that can be expected and provides contact details of the various offices and the Unit's call centre. It is reviewed and updated annually.

A key aspect of all the EWS initiatives is that a holistic approach is taken such that water and sanitation services are linked with health, job creation, energy and food provision. Water conservation and water demand management aspects also drive these projects.

## 6.1 Water Services Development Plan

In terms of the Water Services Act, Act 108 of 1997, clause 12 (1) every water services authority must formulate a Water Services Development Plan (WSDP) as a component of the IDP. The WSDP must *inter alia* include information on existing basic services backlogs; health and environmental impacts; consultative mechanisms to develop appropriate strategies and mechanisms to remedy backlogs; priorities and targets within defined timeframes; and a financial management strategy, including funding sources, to ensure that proposed programmes are feasible and affordable. A summary of that plan has to be submitted to the Minister of Water Affairs and the KZN Provincial Minister after a process of public participation. This WSDP and process for eThekweni was carried out in November / December 2011 and outlines the plans for the next 5 years (up to 2015; EWS, 2011).

Aspects related to water supply and sanitation delivery are highlighted in this Section. Annual reviews of the data related to water and sanitation supply are carried out and where available, the most recent data is provided.

### 6.1.1 Water supply

Water comes mainly from dammed rivers. Bulk water is purchased from Umgeni Water and distributed to customers by EWS. A water distribution network point is effectively available within 200 metres of each resident. In addition to the three water treatment plants operated by Umgeni Water, EWS operates four water works and a wastewater recycling plant which has the capacity to treat approximately 40 Ml/day of wastewater and treats it to near potable standards for industrial use.

EWS provides water to consumers via a number of different means depending on access and the type of sanitation system supplied. These include standpipes, ground tanks, semi pressure roof tanks, full pressure systems, or community ablution blocks.

Free basic water was introduced in 2000 and was initially set at 200 litres/household/day (based on 25 litres per person per day for 8 person household as WHO minimum requirement). This later became national policy in July 2001 whereby all municipalities were directed by the Department of Water Affairs to make provision for this free basic water supply.



Within EWS, the decision was taken to provide this free basic water to all consumers due to the difficulty in identifying only the poor households. Based on feedback from consumer forums, this free basic water allowance was increased to 300 liters/household/day in July 2008. Within the poorer communities, water supply was restricted via ground and roof tanks to this volume, while other consumers were charged based on a rising block tariff depending on the volume of water used. Further changes to this policy was made in July 2012, whereby only those properties with a ratable value of less than R 250 000 (USD 30 000) have access to free basic water, with all other households being charged on the rising block tariff.

The majority of the households are supplied via piped water (65%), while 23% are supplied by an ablution block or stand-pipe within 200m of the house, and 5% supplied by a ground or roof tank. There is therefore a backlog of 7%. Of the total number of households supplied with water, 37% have access to free basic water (EWS, 2014).

### **6.1.2 Sanitation Delivery**

EWS owns and operates 27 sewage treatment works. Where municipal sewerage reticulation is not available sewage disposal is generally the responsibility of individual households via the use of septic tanks, conservancy tanks, urine diversion toilets or conventional VIPs.

The latest updated survey (2013/2014) shows that in the region of 48% of households have flush toilets connected to sewerage, about 11% have flush toilets connected a septic tank, about 9% have UD toilets, about 4% have VIPs, and 8% have access to community ablution blocks, with a backlog of 20% (EWS, 2014). Durban is the only city in sub-Saharan Africa with a large number of UD toilets, mostly constructed with government subsidy in low-density semi-rural districts of the municipality (outside the urban agglomeration proper).

EWS data (2014) estimates a total of 81 000 rural and informal settlement households with UD toilets and 35 000 rural households with VIPs. More than 78 700 households have access to a community ablution block within a 200m radius.

### **6.1.3 Education and Awareness**

An extensive multi-pronged awareness and education programme, which incorporates a strong participatory approach to ensure two-way communication, has been developed to address a number of challenges including the misuse and wastage of water, high levels of non-revenue water, vandalism, a great many sewer pipe blockages and the presence of water borne diseases such as cholera. Many of these challenges were as a result of a lack of awareness and education, especially in those areas that had not previously had access to water or sanitation services.

EWS initiated an extensive awareness and education programme in 1997 which works alongside the service provision programme to ensure continuous interaction with the target communities, awareness and education in the proper use and management of the services, and to monitor the acceptance, problems and successes of the services delivered.

The target groups for the programme include poor (vulnerable) communities in both rural and peri-urban areas; women (as they typically manage the households on a day to day basis); children in peri-urban and rural schools and their educators; and vulnerable households in urban areas (child headed, pensioners, indigent). The content of the education and awareness programme is set based on the target group and types of systems installed.



A participatory approach has been developed to ensure the sustainability of services and to empower communities. The focus is on building trust in order to move from a historical situation of conflict to one which achieves a creative and constructive dialogue which is then supported by responsive actions by EWS.

Programmes developed include:

- The creation of focus groups to obtain feedback from communities in different areas as to how service delivery can be improved.
- The Raising the Citizens Voice programme which allows for the continuous strategic engagement between the Unit and civil society with a particular focus on policy issues relating to water and sanitation.
- The extensive use of radio and print media to provide information on meters and billing, free basic services, debt relief, illegal connections and individual programmes of EWS.

#### 6.1.4 Finance

The EWS capital and operating budget is informed by a Municipal Services Financial Model (MSFM). This model is used to align the capital and operating budget spend of the Municipality to achieve long term financial sustainability. The MSFM calculates the capital expenditure required over 10 years to meet service delivery targets and assesses the capital finance sources available. The model also calculates the operating expenditure required to operate and maintain infrastructure adequately and determines whether the operating revenue will be sufficient to cover this expenditure. Table 6.1 provides an overview of the approved budget for EWS for the past 4 years.

**Table 6.1: Financial budget for water and sanitation from 2010 to 2014 (EWS, 2011)**

	2010 / 2011	2011 / 2012	2012 / 2013	2013 / 2014
<b>Water</b>				
<b>Capital budget (Rms)</b>	718.6	588.9	560.8	712.5
<b>Operating budget (RMS)</b>	3 304.5	3 772.5	4 048.9	4 284.8
<b>Sanitation</b>				
<b>Capital budget (Rms)</b>	470.2	508.2	542.2	962.0
<b>Operating budget (RMS)</b>	1 168.5	1 234.9	1 324.5	1 424.0

#### 6.2 Water and Sanitation Policy

In addition to the WSDP, EWS has developed a document on "Policies and Practices for the delivery and management of water services provision". The purpose of the policy is to establish a number of service levels, which both meet the requirements for basic water and sanitation and which provide for an improved level of service to match a consumer's affordability criteria. It also ensures that the level of supply of potable water and the provision of sanitation provides a joint solution for the "domestic water cycle".

It therefore makes provision for a solution that is affordable (to both the consumer and the provider), sustainable (i.e. it is capable of being maintained and is acceptable to the community), environmentally sound (i.e. prevents pollution, improves health and meets legislative requirements), and can be undertaken within the capacity of the Municipality. Another key aspect of this policy is an outline of the pro-poor policies.

### 6.2.1 Levels of service

This policy provides for five different levels of supply for water provision, and three for the provision of sanitation (including a privately owned UD toilet). It also prescribes what types of sanitation options are not permitted.

The policy also outlines the approach to providing services to communities living in areas where there is no Municipal water borne sewerage. In these cases, the preferred option is to install ground tanks / yard taps and UD toilets. This implies that as the housing programme is rolled out, the number of UD toilets installed will increase.

### 6.2.2 Pro-poor policy

The various policies available to assist those customers that cannot afford to pay for water and sanitation services are outlined in Table 6.3.

**Table 6.3: Summary of pro-poor policy actions (EWS, 2012)**

Pro-poor policy	Description
Free basic water	Free 9kl of water per month for properties with a ratable value of less than R 250 000 (USD 30 000)
	Low pressure roof tanks have a reduced standard tariff rate per kl of consumption
	A 300 litre Electronic Bailiff Unit, linked to a flow limiter, which equates to 9kl per month can be installed at no charge
Free basic sanitation	No volume based sewage disposal charge for customers with access to the municipal waterborne sewage for the first 9 kl of water per month
	Where a Municipal waterborne sewerage system is not available, the minimum level of basic sanitation service is a urine diversion toilet which is provided at no cost to the householder but is required to be maintained by the householder.
	Existing VIP toilets are acceptable as a basic level of sanitation but, over time, will be replaced by a urine diversion type toilet. VIP type toilets will be emptied once in a 5 year period at no cost to the householder.
Debt relief	A plan initiated in August 2005 to help customers who are in arrears. Every time the current water bill is paid, the Municipality reduce some of the debt. For a water user to benefit from this scheme there are some qualifying conditions such as the property rate value must be equal to or less than R250 000 and contract has to be signed.
Social intervention	Where properties do not qualify for debt relief due to their property value being above R 250 000 but who are still poor, can be declared applicable for free basic water (9 kl/month) by a social worker.

eThekwini does not currently have an Indigent register based on any kind of poverty measure. It is being proposed that a Proxy Indigent Register is adopted to be defined as “the total number of consumer units receiving free water”. However this has some complications attached. For this reason no decision has been made in respect of such a proxy indigent register as yet (EWS, 2011).

## 7. Interaction with the Private Sector

This section aims to provide an overview of the procedure that is followed in order to engage with the private sector for the implementation of water and sanitation related projects within EWS and to provide some case study examples. The aim of this assessment is to obtain an understanding of the process required in order to implement the proposed project of supplying a service to the community to empty and dispose of waste from UD toilets.

There are four main ways in which projects can be undertaken by private parties for the municipalities. These are listed in Table 7.1. The process for receiving bids by the municipality is outlined in the Supply Chain Management Policy. Further information on each of these is provided in the following sections.

**Table 7.1: Possible processes for interaction between municipalities and private partners**

Process	Description	Length of process	Length of validity
<b>Tender process</b>	Passed by Council. National Treasury not involved	1 month	3 years
<b>Operations and Maintenance contract</b>	Process needs approval from Council and National Treasury must be informed.	4 months (minimum)	5 years (with possibility for an additional 2 years)
<b>Section 36: Deviation from Policy</b>	Can be used if there are delays but project must proceed	1 month	Month to month basis up to 12 months
<b>Public Private Partnership</b>	Extensive process. Needs approval and input from National Treasury.	18 months (minimum)	15 to 20 years

### 7.1 Supply Chain Management

Section 111 of the Municipal Finance Management Act requires each Municipality and Municipal entity to adopt and implement a supply chain management policy, which gives effect to the requirements of the Act. The act outlines the various procurement processes and steps that need to be taken when appointing private organisations to undertake projects for the municipality. It also makes provision for the establishment of a supply chain unit and outlines the responsibilities of the accounting officer in terms of reporting to council and reviewing the policy on an annual basis.

The procurement of goods and services through this policy can only be undertaken by way of (eThekwini Municipality, 2013):

- petty cash purchases, up to a transaction value of R500 (VAT included);
- written or verbal quotations for procurements of a transaction value up to R5 000 (VAT included), provided all verbal quotes are followed by a written confirmation for the successful bidder;

- formal written price quotations for procurements of a transaction value over R5 000 up to R200 000 (VAT included); and
- a competitive bidding process for:
  - procurements above a transaction value of R200 000 (VAT included); and
  - the procurement of long term contracts

In the case of the proposed project, the contract would be in excess of R 200 00 and would therefore need to follow the competitive bidding process as outlined in the policy (Sections 20 to 29).

## **7.2 Tender Process**

With the tender process, a terms of reference (TOR) is drawn up by EWS and sent out for Tenders. Documents are received, evaluated internally and passed via the Bid Adjudication (Council). National Treasury is not involved in this process as projects can only be awarded for up to 3 years.

## **7.3 Operations and Maintenance contract**

In an O&M contract, the design and contract are drawn up in-house (EWS). No terms are attached to this contract as there is no capital investment by a private party. All capital equipment is owned by the Municipality. There is no limit on the length of validity of the contract, but in general they are valid for 5 years, with the possibility of extending the contract for a further 2 years.

In order to have such a contract approved, EWS submits a report to Council for their approval and a tender document is issued. The applicants are evaluated and selected, and then approved by Council. National Treasury needs to be notified of the process as it is longer than 3 years but they do not need to be involved at each stage of the process.

The advantage of this type of contract is that EWS will be assured of the project being managed by an expert. However, the disadvantage of an O&M contract is that there can be appeals by rejected parties which can result in delays and the project stalling.

## **7.4 Deviation from procurement processes**

Under Section 36 of the Supply Chain Management Policy the accounting officer may deviate from the policy where certain conditions apply. This includes:

- in an emergency;
- if such goods or services are produced or available from a single provider only; and
- in any other exceptional case where it is impractical or impossible to follow the official procurement processes

Examples of where this may apply is when the project is being stalled by unforeseen circumstances, but that the process needs to continue to ensure service delivery to the customer, protection of capital infrastructure or protection of health and environment. Written motivation needs to be submitted.

Appointment of a provider can then be undertaken on a month to month basis for a period of up to 12 months.

## 7.5 Public-Private-Partnership (PPP)

South African law defines a public-private partnership (PPP) as a contract between a public sector institution/municipality and a private party, in which the private party assumes substantial financial, technical and operational risk in the design, financing, building and operation of a project (National Treasury, 2014).

Two types of PPPs are specifically defined:

- where the private party performs an institutional/municipal function
- where the private party acquires the use of state/municipal property for its own commercial purposes.

A PPP may also be a hybrid of these types.

Payment in any scenario involves one of three mechanisms

- the institution/municipality paying the private party for the delivery of the service, or
- the private party collecting fees or charges from users of the service, or
- a combination of these

Legislation related to PPP within South Africa includes the Municipal Financing Management Act, Act 56 of 2003; the Municipal Public Private Partnership Regulations; and the Municipal Systems Act, Act 32 of 2000.

The Municipal Finance Management Act 56 of 2003, section 120, outlines the requirements for a PPP and stipulates that a PPP can only be entered into if the municipality can show that the agreement will fulfil the following criteria:

- provide value for money to the municipality;
- be affordable for the municipality; and
- transfer appropriate technical, operational and financial risk to the private party

It also outlines all the aspects that must be covered in the feasibility stage of the process, including how the proposed agreement will meet the above criteria. Information on how the proposed project will impact on the municipality's revenue flow and budget, and the capacity of the municipality to monitor, manage and enforce agreement also need to be included. More detail on a PPP and the roles of each party are further outlined in the Municipal Public Private Partnership Regulations (2005).

The steps involved in the PPP process are described in Figure 7.1 and follows four main phases; namely (i) inception, (ii) feasibility study, (iii) procurement, and (iv) contract management. The accounting office of the municipality must first inform National Treasury of the intent to carry out a feasibility study and must keep National Treasury informed of progress and request their views and recommendations throughout the process. There is a list of approved Transaction Advisors held with National Treasury that the municipality can use, but invitations to tender can also be issued to the public.

A summary of the process as described by EWS is provided in Table 7.2.

**Table 7.2: Summary of steps in the PPP process (EWS, 2014)**

Stage	Activity	Time line
<b>Inception</b>	Two page report submitted to National Treasury	3 months
	Apply for approval to obtain a Transaction Advisor	
	Compile a terms of reference (TOR) for the Transaction Advisor	
	Tenders submitted by Transaction Advisor made up of a team of people	
	Tenders evaluation based on qualifications of the team and costs	
	Tender acceptance	
	Two page report submitted to Council and Bid adjudication committee	
	Transaction advisor appointed. Appointment letter prepared and kick-off meeting arranged to initiate feasibility study	
<b>Feasibility Study</b>	Internal project officer appointed	9 months
	Includes a needs analysis and a financial analysis	
	Project Steering Committee meetings held including National Treasury to monitor progress	
<b>Procurement</b>	Public participation and EIA process	6 months
	On acceptance of feasibility study, Transaction Advisor prepares a request for proposals for a PPP partner	
	Negotiate terms of PPP	
PPP partner obtains capital financing (under-written by EWS)		
<b>TOTAL TIME (MIN)</b>		<b>18 months</b>

In general, a PPP contract is valid for 15 to 20 years. During the negotiation stage it is essential to identify the risks to both parties and establish penalties if the agreed outputs are not met. Examples of these risks and penalties are provided in the Case Studies (Section 7.6).

After the 20 year period, the operations and management (O&M) aspects of the project are transferred to the municipality. At this stage, the municipality can either take ownership, or initiate the process to renew the PPP. At this stage, the infrastructure must be in an operational state otherwise the PPP partner is liable for all costs. In general, where a PPP is signed, the land belongs to the municipality, but this can be negotiated.

Based on Table 7.1 the minimum expected timeline for the PPP process is in the region of 18 months. However, this process can be delayed due to problems encountered in the public participation process, the environmental impact assessment (EIA) process and due to land issues.

The advantages of the PPP approach for the proposed project would therefore be:

- job creation
- application of new technology
- capital investment by private parties
- falls in line with economic policy
- promotes sustainability
- assists in the development of SMMEs and entrepreneurs
- assists in rural upliftment



# MUNICIPAL PPP PROJECT CYCLE

Reflecting Municipal Financing Management Act, Act 56 of 2003  
Municipal Public Private Partnership Regulations, and the  
Municipal Systems Act, Act 32 of 2000

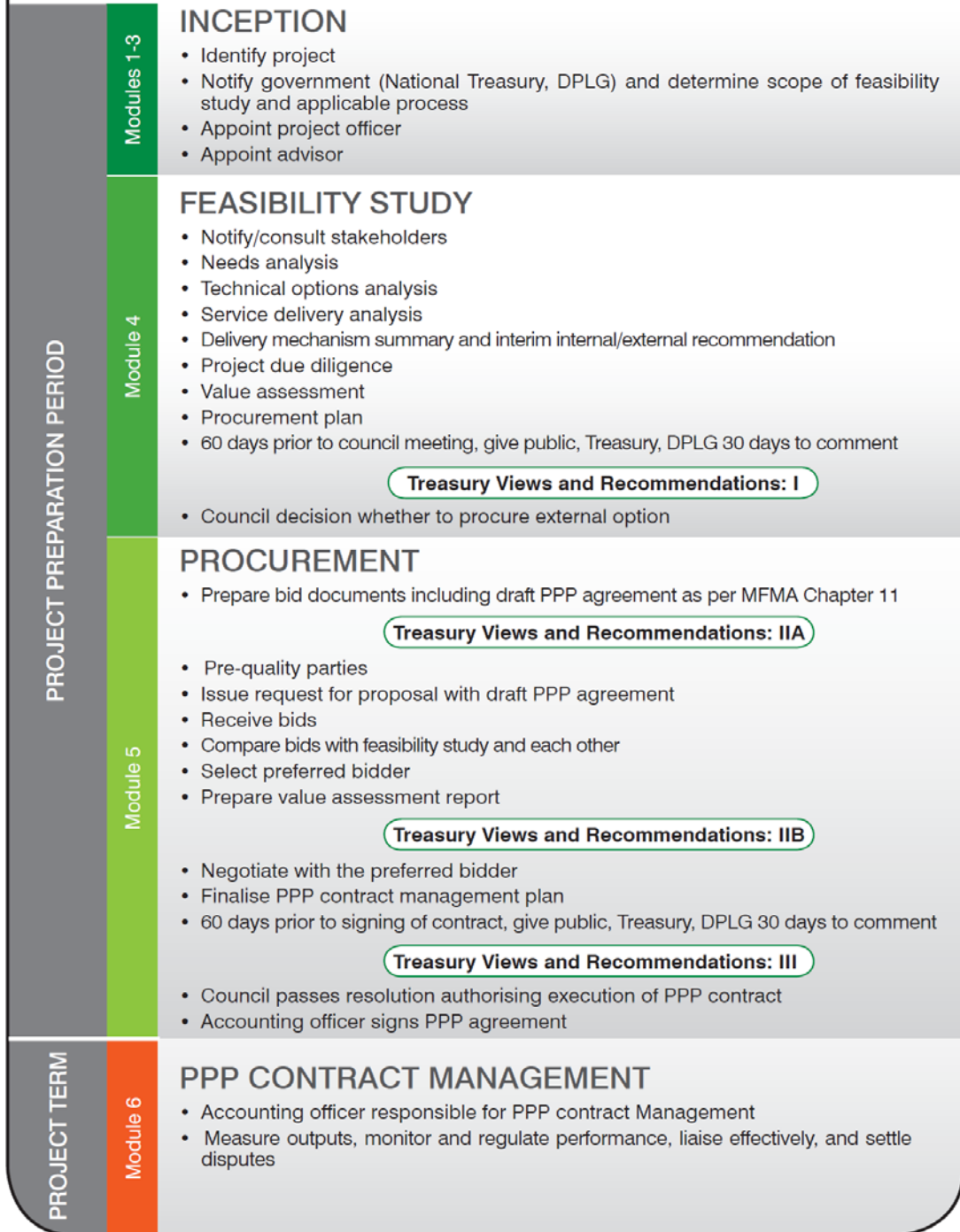


Figure 7.1: Process for undertaking a public-private partnership project (National Treasury, 2003)



## 7.6 Case Studies

This section summarises some of the project carried out by EWS that fall into one of the above mentioned categories. This is to demonstrate the capacity that EWS holds to conduct such a public-private interaction with regards to water and sanitation services.

### 7.6.1 VIP Emptying

**Type of agreement:** Tender contract

**Background:** During the 80s and 90s, VIPs were the basic level of sanitation provided to areas without a waterborne sewage network. Essentially, these pits consisted of a single pit with a pedestal and a top structure with a door. The pits often filled up rapidly due to a number of reasons including the disposal of solid waste and greywater and the use of undersized pits. The construction of a new pit on the site is costly and due to the high densities there is often no space for a new pit. It was therefore decided by the Municipality to provide one free emptying service every five years to the estimated 35 000 residents with pit latrines.

The Municipality approached a consultant to test out various approaches before outsourcing the project to the private sector by means of a tender process.

The Municipality worked with a Consultant to manage a tender process which followed the Supply Chain Management Policy processes of the Municipality. This involved the development of a procurement or tender document including a draft contract, advertisement of the tender, adjudication of submissions and award of the tender.

The project involved the appointment of a managing contractor who would manage the pit emptying operations of a number of SMMEs (small local businesses). Emptying payment rates were determined on an area by area basis depending on the density of the area, type of toilets to be emptied, influence of the water table and other factors.

**Status (May 2014):** One VIP emptying cycle has been completed and the second is due to commence. Lessons learnt in the first programme, and which will be addressed in the next cycle include:

- There is no need for two organisations to manage the process. The role of the Managing Contractor and the Consultant should be combined
- Need to include incentives or penalties for compliance or non-compliance with health, safety and environmental requirements

### 7.6.2 Processing of VIP sludge (LaDePa)

**Type of agreement:** O&M contract (Section 36)

**Background:** The **latrine dehydration and pasteurisation (LaDePa)** pelletiser was developed by EWS in conjunction with their technology partner, Particle Separation Systems (PSS) for the dehydration and pasteurisation of VIP sludge and the production of pellets. The machine works on the use of heat and medium-wave



infrared technology to deactivate the pathogens and create a pellet-type product that can be used as a fertilizer. The pellets which are produced are analysed to determine the mechanical, chemical and biological properties. Trials to determine the effect as a fertiliser have also been undertaken. Research funding is provided by the Water Research Commission.

A second key private role-player was a private consulting engineering firm who were responsible for the supply of the pit latrine sludge and the operating of the LaDePa plant during the pilot. This organisation was already contracted through the tender for the pit evacuation project and it was relatively straight forward to extend their contract to include this task.

**Status (May 2014):** The project has been operating on a pilot scale with the view to expand to full scale. Currently an EIA is being carried out due to the need to store VIP at the site prior to processing in the LaDePa. A report has been submitted to Council to lease three Ladepa plants for a period of five years and for the maintenance of four Ladepa Plants for a period of five years and for the training of certified operators of the Ladepa plants.

### 7.6.3 Memorandum of Understanding with Research Organisations

**Type of agreement:** M&O contract

**Background:** In 2003 eThekweni Municipality and other businesses recognised the need to work with local tertiary organisations and a Memorandum of Understanding (MOU) was signed with three tertiary educational institutions (the University of KwaZulu-Natal (UKZN), the Durban Institute of Technology and Mangosuthu Technikon). The aim of this MOU was to strengthen collaboration on research and development, capacity building and knowledge management, in order to achieve growth and development, in keeping with the Municipality's Integrated Development Plan (IDP). The desired outcomes included a stronger economy, an improvement in the quality of life for all citizens and the development of a higher skills and technology base.

Following on from this MOU, a number of Memoranda of Agreement (MOA) have been signed between the Municipality and the University of KwaZulu-Natal outlining specific collaboration undertakings within various departments in the University.

**Status (May 2014):** The MOA between EWS and the Pollution Research Group (PRG) at UKZN was signed in February 2006 and formalised the desire of both parties to promote the knowledge base in water and sanitation delivery and to expand research capacity and expertise in this field. This MOA was initially signed for a period of 5 years (2006 to 2010) and was then extended for a further 2 years to end in 2012. A second MOA was signed in 2013 for a further 2 years (to 2015). Under this MOA, the eThekweni Municipality, through EWS, has committed an annual budget to fund applied research projects that would be undertaken by the PRG.

### 7.6.4 Durban Water Recycling Project

**Type of agreement:** Concession Agreement (type of PPP)

**Background:** Mondi papers water use license compelled them to use 8ML per day of water recycled from domestic sewage. EWS were managing a small 8ML plant to supply this recycled water but it did not make economic sense and the running of a small plant provided a number of challenges to the city. Mondi had to blend this water with potable water for use in the paper process.

EWS felt that a private organisation could run a treatment works situated at the Southern Wastewater Treatment Works to generate all the water requirements of Mondi at the required water standard and at no cost to the Municipality.

This consisted of the following steps:

- Several pilots to test quality and quantity were undertaken
- A two-step tender process was embarked on
- Shortlisted to four bids
- One of the bidders decided to withdraw from the process
- Three companies submitted a bid in second tender step

The basic requirements were that EWS wanted quantity (minimum 32ML / day) and Mondi wanted quality and these were set requirements for three bidders. The land is leased for 20 years and the assets will belong to EWS after 20 years.

**Status (May 2014):** The plant was commissioned in May 2001 and was designed and installed by Veolia Water (VWS Envig). Recycled water costs 50% below potable water cost. Benefits to EWS are the savings in potable water and 32 ML of wastewater is treated at no cost to them each day.

### 7.6.5 Fluidised Bed Reactor

**Type of agreement:** PPP (currently O&M)

**Background:** The Fluidised Bed Reactor (FBR) is operating at the KwaMashu Wastewater Treatment Works to process wastewater treatment sludge. There are plans to expand the process to build steam turbines to generate power.

Currently, the site is managed by a third party under an O&M contract whereby EWS finance the labour and material and the third party supply skilled staff to operate the plant. EWS would like to change this contract to a PPP.

**Status (May 2014):** A transaction advisor has been appointed (registered with National Treasury) and the next stage is to collect data, develop a design, identify the risks and issue a tender document for a PPP partner.

### 7.6.6 Solar Power Project

**Type of agreement:** PPP

**Background:** Three water reservoirs have been selected for this proposed PPP project

**Status (May 2014):** A tender for a Transaction Advisor has been issued twice, but no suitable tenders were received. EWS is now making use of the National Treasury database to select 5 candidates for further assessment.

### 7.6.6 Western Aqueduct

**Type of agreement:** PPP

**Background:** Two hydro-power stations are to be installed along the Western Aqueduct to produce 1 MW of power each. As demand for the provision of water increases, they will be capable of producing 4 MW each.

**Status (May 2014):** Pipeline design has been carried out and tender process for Transaction Advisors completed. Half-way through the evaluation process the project was stalled due to issues with the pipeline. The project has been delayed by 2 years.

## 8. Sanitation Projects

In order to demonstrate the capacity for EWS and the project team to undertake innovative projects (in addition to those described in Section 7.6), some relevant sanitation projects initiated and implemented by EWS are described in this section.

### 8.1 Newlands Mashu Research Facility

A research facility has been established by EWS at Newlands Mashu situated in Newlands East just north of Durban. Facilities at this site include:

- Testing of prototype UD toilets
- A pilot decentralised wastewater treatment system (DEWATS)
- Reactors for the processing of urine to extract nutrients
- Agricultural trials (field and growing tunnel)

**Relevance to proposed project:** The prototype UD toilets will assist in improving the design of the system and provide UD faecal sludge for laboratory and pilot scale investigations into suitable processing technologies. The facilities for agricultural field trials and growing tunnels can be used to test the endproducts from the processing of UD waste for use on crops / plants. The establishment of the pilot DEWATS plant indicates the willingness of EWS to undertake detailed investigations into new technology to ensure that there are no adverse effects on health and the environment.

### 8.2 Promoting Sanitation & Nutrient Recovery through Urine Separation (VUNA - Valorisation of Urine Nutrients in Africa)

The VUNA Project is mainly funded by the Bill & Melinda Gates Foundation. Additional funds are provided by the Swiss National Science Foundation and the US National Science Foundation. The Project lead is EAWAG and the collaborating organisation is the Pollution Research Group (UKZN).

By recovering nutrients from urine in small decentralised reactors, the project aims to develop a dry sanitation system, which is affordable for the poor, produces a valuable fertilizer, promotes entrepreneurship and reduces pollution of water resources.

This project consists of a number of smaller research projects each of which are undertaken by masters and doctorate students in both the PRG (Durban, including two employees from EWS) and EAWAG (Switzerland).

These projects can be broadly divided into the following aspects:

- **Technology (reactors):** Two reactor setups are being tested to recover the nutrients from urine for use as a fertiliser: (i) a struvite reactor and (ii) a combination of nitrification and evaporation. These reactors are installed and operating at Newlands Mashu research facility.
- **Social:** The Role of Health and Hygiene Education in the Acceptance, Utilisation, and Maintenance of Urine Diversion Dry (UDD) toilets in Rural Communities, and the acceptance of using urine as a fertiliser.
- **Logistics:** Developing a logistical system for collecting urine using an institutional approach.

**Relevance to the proposed project:** This project is important for the proposed UD toilet emptying programme as the information gathered in the social aspects of the project identified the discontent by the users to emptying the toilets as well as other maintenance issues. The logistical aspects of the project include the development of a business model for the collection of urine - a model that can also be applied to the removal of faecal sludge from the vaults.

### 8.3 Agriculture

In addition to providing support to field trials undertaken at Newlands Mashu, EWS have also implemented further projects to investigate the use of rain water and greywater for agricultural benefit. These include:

- the piloting of agritubes or vertical food gardens and the use of greywater in an informal settlement in the Municipality
- the use of greywater in community gardens
- rain water harvesting to collect water for school and community gardens

**Relevance to the proposed project:** These projects demonstrate the ability of EWS to investigate options for using endproducts from the processing of UD sludge.

### 8.4 Burial On-Site

In the first round of VIP emptying carried out in eThekweni, one of the options for processing the sludge was to bury the sludge on site rather than removing and transporting the sludge elsewhere. A pilot programme was carried out whereby the sludge was removed, buried and a tree planted on top of the site. This was only possible in rural areas where there was sufficient space.

**Relevance to the project:** This will be the scenario investigated under the proposed project in rural areas where access to the toilets is difficult and removal and transportation of sludge is not possible.

### 8.5 Deep Row entrenchment

A study was carried out by Partners in Development (PID – a project team member) in order to determine whether the deep row entrenchment method was applicable under South African conditions, with the aim of establishing whether the use of pit latrine and wastewater sludges as a

fertilizer substitute for the agro-forestry sector can be recommended and thereby also establishing a safe and beneficial technique for the disposal of faecal and wastewater sludges (Still *et al.*, 2012).

There are currently no guidelines for the classification or utilisation of pit latrine sludge. Pit latrine sludge was buried at different loading rates on a sandy site at a disused oxidation pond in Umlazi, south of Durban, and wastewater sludge from the Howick Wastewater Treatment Works was entrenched at a Sappi (forestry) research site near Howick. The sites were characterised and monitored over time in order to document the movement of nutrients out of the trenches and changes in groundwater over time. The HYDRUS-2D was used to model the movement of soil-water, phosphorus and nitrate. The fate of pathogens over time was also investigated.

Tree growth was monitored in order to document differences in growth rates between trees provided with different loading rates of sludge and control groups. Two smaller studies were also conducted to investigate the impact of sludge on tree growth under controlled conditions and the application of deep row entrenchment for on-site sludge disposal.

In all trials undertaken in this study, trees grown on sludge showed significantly greater growth than trees grown on native soil. While a significant number of helminth ova were found in freshly exhumed pit latrine sludge, after 2.8 years of entrenchment less than 0.1% were found to be potentially infective (containing underdeveloped or non-motile larvae) and none of the eggs contained motile larvae. If sludge is entrenched without contamination of the surface soil occurring, it provides a safe means to contain pathogens and thus represents a utilisation option that is appropriate even for untreated sludges or VIP sludge.

A guideline for municipal entrenchment of pit latrine and wastewater sludge was also prepared as an output of this project.

**Relevance to the project:** The experience gained in this project will be used to guide further implementation if burial onsite is to be carried out.

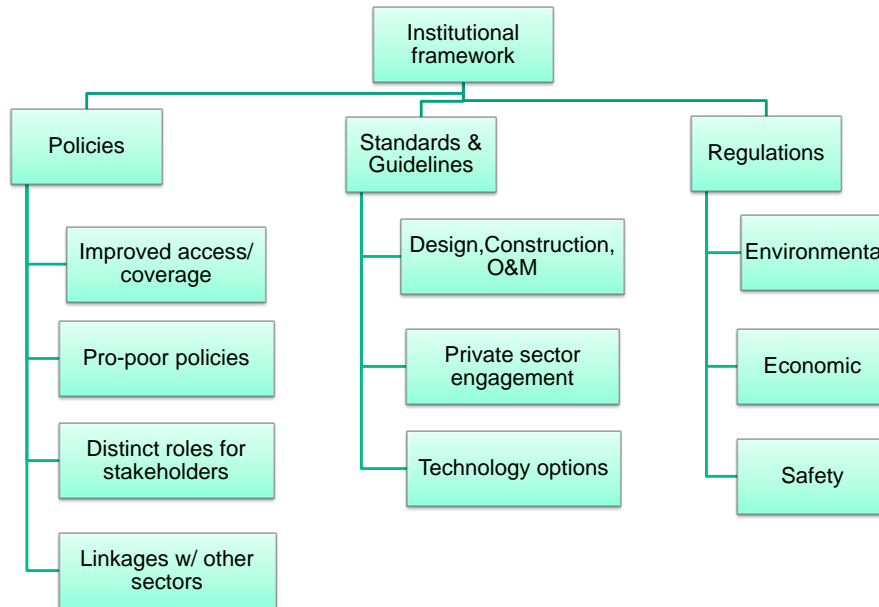
## 8.6 Economic Assessment Model

Under a Bill & Melinda Gates Foundation project, Partners in Development, together with Pollution Research Group, developed a spreadsheet-based economic model to determine the costs associated with the emptying VIP latrines, transportation to a central processing site and the economic value of the endproducts. The processes investigated were the LaDePa, incineration and landfilling. In addition to the costs, the nutrient content of the sludge and the endproducts could also be calculated.

**Relevance to the project:** The method used in the development of this model can be used to assist in determining the costs associated with the emptying, transport and processing of UD sludge.

## 9. Institutional Readiness

As shown in Figure 9.1 there are a number of aspects that need to be considered when assessing the institutional readiness of an organisation.



**Figure 9.1: Determining institutional readiness (Srinivasan S, 2014)**

The aspects to investigate therefore include the presence and format of:

- Policy frameworks for improved access to sanitation such as pro-poor policies (e.g. free service delivery).
- Institutional arrangements including (i) clearly defined roles for the public and private sectors as well as individual households; (ii) implementation guidelines; (iii) capacity building to support implementation; and (iv) monitoring of outcomes.
- Linkages with other sectors (e.g. energy, agriculture) that would allow for use of faecal sludge or end-products from treatment processes.
- Operations & Maintenance (O&M) aspects that would support infrastructure development.
- Provision of financial arrangements and incentives (e.g. tariff setting, cost recovery programmes).
- Environmental protection through safe disposal of faecal sludge.
- Technical standards for the design, construction and maintenance and chosen technologies (e.g. toilets, onsite and offsite solutions, treatment plants etc.).
- Environmental regulations with which any new technology must comply.

As discussed in Sections 4 and 6, there is significant policy framework with South Africa and eThekweni Municipality to drive sanitation delivery. Pro-poor policies are well established within eThekweni with free basic water and sanitation services, and support for customers that cannot pay their water bills.

The institutional arrangements within the municipality are well structured and managed and EWS interact significantly with the private sector in terms of investigating new technologies for service delivery, contracting experts to undertake specific technical projects, and initiating PPP for long-term project implementation. The experience gained and lessons learnt in the programme of VIP emptying has provided EWS with valuable information going forward into the next cycle of pit emptying and the way in which service level agreements should be structured to ensure sustainable service delivery. This experience will be used to assist in the design of the proposed UD toilet emptying programme.

Interaction with local communities and customers, and education and awareness raising at all levels is a key aspect of the EWS programmes and these avenues will be used to inform UD toilet customers of the proposed emptying programme. It was through this type of customer interaction that EWS was made aware of the dissatisfaction of the users to emptying the UD vaults.

As demonstrated by the projects undertaken by EWS, there are many linkages with other sectors which would enable the use of endproducts. The site at the Newlands Mashu Research Facility is used to undertake crop trials using effluent from the DEWATS anaerobic baffled reactor and from the planted drying beds, as well as the pellets from the LaDePa and struvite from the urine reactors. Any endproduct from the processing of UD sludge can also be trialled at this site. In addition, the municipality has an Agricultural Management Unit which supports community gardens through training and provision of supplies, and a Parks and Recreation Unit which can make use of any soil-amendment / fertiliser type endproducts.

The operations and maintenance section with EWS is well structured to be able to assist in any technical support required with the rollout of projects. In addition, any contracts or service level agreements would be structured to ensure that all O&M aspects are taken into account. The experience gained in the previous pit emptying and processing programme will provide valuable input into this area.

Financial flows with the municipality are well managed as is evident from Section 5.4. There is significant financial support for sanitation related projects within EWS and from national and provincial government through the Municipal Infrastructure Grant. In addition, EWS collaborates with other organisations on a number of projects and has access to funding to support these projects via these streams. Some examples include the South African Water Research Commission, the Bill & Melinda Gates Foundation, the Dutch government and the Bremen Overseas Research and Development Organisation (BORDA).

Due to the experience gained in the rollout of on-site sanitation systems to households, informal settlements and schools, EWS has developed technical standards and guidelines for the various technologies. These are captured in the Policies and Practices document prepared by EWS. As new lessons are learnt, these are captured in revisions of this document.

Environmental and health aspects are taken into account when emptying on-site sanitation systems, and transporting and disposing of the faecal sludge. These aspects are documented in a second deliverable report prepared for this project by Partners in Development.

Based on the analysis carried out in this document, it is clear that the eThekwini Municipality (and EWS in particular) fulfil all of these requirements

## 10. Conclusions

In conclusion, the capacity of EWS to undertake such a project is demonstrated by the fact that there is a dedicated Senior Business Manager to structure these types of long-term projects and a highly technical, socially sound staff to provide support to the service provider. In addition, EWS is in the process of employing an in-house legal advisor to ensure that all activities comply with required regulations and policies.

In addition, the work carried out by EWS has been recognised by a number of local and international awards. These include:

- IWA's Project Innovation Awards (category: Sanitation and waste water) for *the use of Modified Shipping Containers as Community Ablution Blocks: an Effective Sanitation Solution for Informal Settlements* (awarded 2011)
- IWA Project Innovation Award for *VIP emptying and LaDePa* (awarded 2011)
- United Nations Best Practise Award (Water for Life) for *A Participatory and Learning Based Approach to Raising Awareness on Water and Sanitation* (awarded 2011)
- United Nations Public Service Award (Improving delivery of public services) for *Communal Ablution Blocks for Informal Settlements* (awarded 2013)
- Stockholm International Water Institute: *Industry water award winner* (awarded 2014)

The experience of the project team in similar projects and the lessons learnt from the VIP emptying programme will assist in the successful implementation of the project.

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