



**STEPS TOWARDS ADDRESSING MUNICIPALITIES' NON-COMPLIANCE WITH
THE LAW RELATING TO SEWAGE TREATMENT.**

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SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIRMENTS FOR THE
DEGREE OF MASTERS OF ENVIRONMENTAL LAW IN THE COLLEGE OF LAW
AND MANAGEMENT STUDIES UNIVERSITY OF KWAZULU-NATAL 2014

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Declaration

I, Chantelle G. Moyo, hereby declare that:

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Acknowledgements

First and foremost, I thank God who has made it possible for me to be where I am. I am nothing without Him.

I thank my family, my dad for believing in me and trusting that I always think through the decisions I make. I thank my sisters Tsitsi Watt, who carried me throughout my undergraduate studies and thus laid a solid foundation for my academic journey and Sidumuzile Sibanyoni, without whose emotional and spiritual support I would be lost. I thank my brother Keith V. Moyo who has listened to all my frustrations and kept me calm throughout this journey.

I am eternally grateful to my supervisor Professor Michael Kidd who took the time to guide me throughout my Master's studies. I would do myself a disservice if I did not acknowledge Suhayfa Bhamjee who advised me to pursue postgraduate studies and whose support I have enjoyed during the course my studies at the University of KwaZulu-Natal. To Robyn Louw, thank you for making sure that my mind was at ease about my registration and all the administrative side of my studies.

Finally, I thank my friends and colleagues especially those at the Post-Graduate Centre. Most importantly, I am grateful to Sanele Goodness Mkhize who saw me at my best and at my worst during this journey-I am lucky to have a friend like you in my life.

Dedication

I dedicate this research to my late mother, Tandiwe Gibson-Kapichila, whose legacy of hard work and determination I am a testimony of.

Abstract

Since 1956 South Africa made it mandatory through the South African Water Act (Act 54 of 1956) that effluent be treated to acceptable standards and returned to the water course from where the water was originally obtained. As the demand for water increased due to economic expansion and population growth, wastewater and sewage treatment plants increasingly operated under stress. This situation in turn exerted pressure on water and sanitation authorities to find ways to sustain the quality of water resources. Post 1994, the right to sufficient and safe water, is enshrined in the country's Constitution and is prioritised by government. However, there still exist some alarming facts about water quality management in South Africa.

In 2010 and in 2012 the Department of Water Affairs released the Green Drop Progress Reports which reported on the South African Waste Water Quality Management Performance. The results suggest that the quality of water in the country is not of an acceptable standard. Central to problem of water quality in South Africa is the inability of state institutions to react to conflict surrounding the delivery of services for domestic use, especially at a municipal level. In this respect both scarcity and pollution of water resources are playing crucial roles. The problem of water scarcity in South Africa is aggravated by the inability of municipalities to manage existing water resources.

This research will investigate what the law can do in a situation where it is an organ of state, more specifically a municipality that is causing pollution through insufficiently treated waste water that pollutes fresh water resources.

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CHAPTER 1

1. Introduction.

Water is central to life. It is essential to the survival of human beings, animals and ecosystems. Without water, life as we know it would not exist. Issues around the availability of water have recently come under the spotlight. This is especially the case because the world population keeps increasing and as such puts water resources under immense strain. Apart from issues surrounding water availability, the quality of water is also a vital factor to the survival of mankind, animals and ecosystems. Water that has been polluted can be harmful to all living creatures and as such is not useful for anything.

The Constitution of South Africa is the supreme law of the land and it realises the importance of access to adequate and clean water. Section 27 provides that everyone has the right to have access to sufficient food and water.¹ The state is required, under the Constitution, to take reasonable legislative and other measures, within its available resources, to make sure that the rights highlighted in section 27 are realised.² Although the Constitution realises the importance of these rights, one of the most alarming issues in South Africa is the quality of water. A specific example of this is when of waste water that is inadequately treated ends up polluting fresh water resources. At the core of this problem of water pollution is the inability of state institutions to maintain and effectively operate plants necessary for the purification of waste water before it can be released into fresh water resources, especially at a municipal level.³ It is important to highlight from the onset that these pollution problems have a long-standing history which can be traced back to the apartheid era.

¹Section 27 (1) (b) of the Constitution of the Republic of South Africa, 1996.

²Section 27 (2) of the Constitution.

³ Department of Water Affairs 'Green drop report 2009: South African waste water quality management performance' (2009) available at http://www.dwaf.gov.za/Documents/GreenDropReport2009_ver1_web.pdf, accessed 22 March 2014.

1.1. Background

South Africa started experiencing environmental pollution problems during the first half of the 19th century.⁴ This was mainly because of the development of new towns and the establishment of industries which were characterised by the accumulation of waste. In order to combat the challenge of pollution there was a lot of emphasis on the development of acceptable sewage disposal methods. An example of how this was done was in the Public Health Act of the Union of South Africa⁵ which gave the Chief Health Officer of the Public Health Department a mandate of ensuring that the best known or most practical methods were made use of to dispose of sewage. Through this Act, the Chief Health Officer was able to prevent effluent which came from wastewater treatment plants from finding its way to freshwater resources.⁶

The next milestone in a bid to prevent pollution came about in the mid-1950s. This came with the promulgation of the Water Act.⁷ The Act aimed to control the industrial use of water as well as the treatment and disposal of effluent. Later amendments to the Act, notably the Water Amendment Act⁸ were much more explicit and broadened water quality management. It was in this Amendment Act that uniform effluent standards, the General and Special Standards and the Special Standards for Phosphate were made. Although this was a praiseworthy step in a bid to guard against water pollution, these uniform standards did not consider certain variables like seasonal changes and natural conditions associated with different catchments.⁹

Although these developments were all aimed at ensuring that inadequately treated effluent did not find its way into freshwater resources, the current quality of water is increasingly becoming a cause for great concern. In 2005 the Department of Water Affairs began a water quality regulation programme to improve tap water quality through monitoring and compliance. In 2009 the first Green Drop report was published.¹⁰ It revealed that most municipalities were not adequately treating their wastewater and that the main reason behind this was the poorly maintained infrastructure used in wastewater treatment plants. It was with

⁴Department of Water Affairs 'Water quality management' available at http://www.dwaf.gov.za/Dir_WQM/wqmFrame.htm, accessed 23 June 2013.

⁵36 of 1919.

⁶*Ibid.*

⁷54 of 1956.

⁸96 of 1984.

⁹See (n3) above.

¹⁰See (n3) above.

this first report that water quality concerns came squarely into the spotlight and the inadequacies of municipalities, as water service providers, were exposed.

1.2. An outline of the pressing issues

According to the National Water Act,¹¹ the national government through the Minister of Water Affairs is the trustee of the water resources in the country and as such the Minister must ensure that water is ‘protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner’.¹² It is ultimately the Minister’s mandate to ensure that water is allocated in a fair manner, for the best interests of the public and that environmental values are promoted in such allocation.¹³

Section 11 of the Water Services Act¹⁴ stipulates that at a local level, municipalities are tasked with the mandate of providing adequate and clean water for communities and so they are regarded as water service authorities. The Water Services Act defines a water service authority as any municipality, including a district or rural council which is responsible to ensuring that everyone has access to water services.¹⁵ Water services include water supply services as well as sanitation services, which also include sewage treatment duties.¹⁶ South Africa has 278 municipalities and of those 8 are metros, 44 are district municipalities and 226 are local municipalities; however not all of them are water services authorities.¹⁷ Out of the 278 municipalities, 152 of them are water service authorities and this is more than half of the total number of municipalities.¹⁸ These figures are the results highlighted by the Green Drop Reports¹⁹ and they indicate that large numbers of municipalities are not carrying out these duties and consequently there are water quality concerns and it is clear that several municipalities are not in compliance with the law.

It is apparent that the most pressing problems facing municipalities are the following:

¹¹Section 3 of the National Water Act 36 of 1998.

¹²Section 3 (1) of the National Water Act.

¹³Section 3 (2) of the National Water Act.

¹⁴108 of 1997.

¹⁵Section 1 of the Water Services Act.

¹⁶*Ibid.*

¹⁷ Department of Water Affairs ‘Strategic overview of the water sector in South Africa’ (2013) at 17, available at <http://nepadwatercoe.org/wp-content/uploads/Strategic-Overview-of-the-Water-Sector-in-South-Africa-2013.pdf>, accessed 13 June 2014.

¹⁸*Ibid.*

¹⁹See note 3 above. Department of Water Affairs ‘The green drop progress report 2012’ (2012), at 4, available at <http://www.dwaf.gov.za>, accessed on 15 October 2013. Further discussion of the Green Drop Reports will be engaged in in Chapter 2.

- Poor operation and maintenance of sewerage treatment systems that pollute rivers ground water, dams and streams,²⁰
- The wastage of water due to poor maintenance of infrastructure resulting in large physical losses that have to be carried by ratepayers²¹ and
- The shortage of technical and management skills in municipalities necessary for the effective management of available water resources and sewerage systems.²²

Apart from the maintenance issues, the major problem is the issue of capacity of the existing water treatment plants.²³ A perfect example of this problem is the scenario where a municipality builds a thousand new houses, new connections and in some instances flush toilets too. This can be viewed as a commendable step by the municipality in the realisation of the right to housing but they may have neglected to expand the sewage works in order to be able to handle the increased flow. The consequence of this would be the fact that untreated or insufficiently treated sewage ends up in a freshwater resource like a river. In other cases, the municipality would not have managed to construct a waste disposal site large enough and this would result in the pollution of groundwater resources. In the worst case scenario, the houses would be built but the water available to that municipality would not be enough to sustain the waterborne sewage system.²⁴ These scenarios are examples of how municipalities are operating and the challenges that they face in a bid to improve the people's standard of living.

Irrespective of the challenges facing municipalities, they are currently not complying with the law and, despite the national government being aware of this (as evident in the Green Drop Reports), national government is not doing much if anything to ensure that municipalities are addressing this. Although this could ultimately be a question of political will, which any recommendations in this dissertation can do little to address, there may be ways in which the law could be strengthened to assist in addressing these problems.

1.3. Research question and sub-questions

The central research question is how the law can be strengthened to assist in addressing municipalities' non-compliance with the law relating to treatment of sewage.

²⁰R Jankielsohn 'Defining hydropolitics: The politics of water in South Africa' (2012) 37 *Journal of Contemporary History* at 132.

²¹Ibid.

²²Ibid.

²³Ibid.

²⁴See Jankielsohn above, at 133.

In attempting to answer the main question, this research will answer some sub-questions which will include a discussion of the country's state of water quality. It will consider the Green Drop Progress Report released in 2011 in order to investigate what the report highlights as the root causes for the inadequate functioning of most municipal wastewater treatment plants. Thereafter, the question of who is responsible under law to ensure that water quality in South Africa is of an acceptable standard will be addressed. After that, the question of enforcement and compliance will be tackled. This question will consider what enforcement and compliance mechanisms can be employed in order to ensure that municipalities improve on their compliance with the law when it comes to the prevention of water pollution. This question will lead to an analysis of the problem of water pollution through the inadequate treatment of sewage by municipalities, which will be followed by an outline of suggested recommendations and the conclusion.

CHAPTER 2

2. The prevailing state of water quality in South Africa.

South Africa is a 'water-stressed country and is facing a number of water challenges and concerns including security of supply, environmental degradation and resource pollution'.²⁵ As a result of limited water resources, careful management is strongly encouraged in order to ensure that every person in the Republic has access to basic water services. This access should meet the needs of 'economic growth without threatening the environmental integrity of water resources'.²⁶ This simply means that in as much as it is desirable to ensure that every individual has access to a basic water supply, the provision of such should not prove harmful to the environment. Management of water resources should be such that resources are exploited in a sustainable manner.

South Africa traditionally experiences low levels of rainfall in relation to the world average and so there are high levels of evaporation due to the hot climate. The country ranks as the 30th 'driest country in the world and has less water per person than countries widely considered to be much drier such as Namibia and Botswana'.²⁷ The country has well-developed infrastructure with more than '4 395 registered dams in South Africa, including 350 dams and a number of large scale inter-basin water transfer schemes'.²⁸ However, even with such an impressive infrastructure, especially compared to other African countries, many parts of the country have 'either reached or are fast approaching' a stage in which 'all of the financially viable freshwater resources are fully utilised and where building new dams will not address these challenges'.²⁹

The country's water quantity levels have recently taken centre stage with constant contests over water shortages. Recently, residents in the North-West province were protesting over water shortages.³⁰ The residents were discontented over the constant water shortages that they were experiencing. There was yet another protest during the second week of January 2014 in

²⁵ Department of Water Affairs 'National water resource strategy: Managing water for an equitable and sustainable future' (2013) 2nd ed. at 7, available at <http://www.dwaf.gov.za/nwrs/NWRS2013.asp> accessed 12 November 2013.

²⁶ *Ibid.*

²⁷ See National Water Resource Strategy above, at 8.

²⁸ *Ibid.*

²⁹ *Ibid.*

³⁰ 'Brits residents to march for water' News24 21 January 2014 available at <http://www.news24.com/SouthAfrica/News/Brits-residents-to-march-for-water-20140121> accessed on 21 January 2014.

Mothutlung where protestors were also aggrieved over the constant water shortages that they experienced.³¹ It was unfortunate that during these protests, there were incidents of violence which resulted in the death of four people.

Water is a scarce commodity and these protests, some of which turn violent and result in the death of people, show the gravity of the matter. Therefore, the quantity of water that is available should be kept fresh and free from pollution.

2.1. What is water pollution?

The National Water Act³² defines pollution as:

the direct or indirect alteration of the physical, chemical or biological properties of a water resource so as to make it –
(a) less fit for any beneficial purpose for which it may reasonably be expected to be used; or
(b) harmful or potentially harmful –
(aa) to the welfare, health or safety of human beings;
(bb) to any aquatic or non-aquatic organisms;
(cc) to the resource quality; or
(dd) to property.³³

‘Pollution’ in the National Environmental Management Act³⁴ is defined as:

any change in the environment caused by -
(i) substances;
(ii) radioactive or other waves;
(iii) noise, odours, dust or heat,
emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or wellbeing or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.³⁵

Therefore, it can be concluded from the above definitions that water pollution is the ‘degradation of water quality which is measured by biological, physical or chemical criteria and this degradation is generally gauged in terms of the intended use of water, its departure from the norm and its effects on public health or ecological impacts’.³⁶ It is also a point to note that the quality of water can also be affected by ‘natural phenomena’ like geology which can result in water being deemed not suitable for human use.³⁷

³¹*Ibid.*

³²Act 36 of 1998.

³³Section 1 (1) of the National Water Act.

³⁴National Environmental Management Act, 107 of 1998.

³⁵Section 1 (1) of National Environmental Management Act.

³⁶ C Bosman and M Kidd ‘Water pollution’ in Strydom, HA and King ND (eds) *Environmental Management in South Africa* 2ed (2009) 630.

³⁷*Ibid.*

2.2. Sources of water pollution

Pollution comes from two sources and these are point or non-point sources.³⁸ Point source pollution is pollution that can be observed and confined. The discharge of pollutants in this way can be observed from one particular source into the surface or an underground water resource.³⁹ Examples of point source pollution include surface water discharges from food processing plants, and ‘agricultural processing plants and groundwater contamination from chemical spills’ to mention a few.⁴⁰

Non-point source pollution (NPS) is defined as ‘diffuse discharges of pollutants throughout the natural environment’.⁴¹ This type of pollution usually occurs over large areas. The process by which such pollution occurs is that as water from rainfall, irrigation or human activities flows through or over the ground, it picks up and carries away natural and synthetic pollutants.⁴² These pollutants are eventually deposited into lakes, rivers, wetlands, coastal waters and underground sources of drinking water. Other examples of non-point source pollution are sediment being deposited into streams and nitrate pollution of groundwater from the application of fertilizer to fields.⁴³ Non-point source pollution is generally associated with agriculture, forestry, mining, construction and urban storm water runoff.

2.3. The causes of water pollution in South Africa

Currently, in South Africa the greatest pollution challenges encountered by water resources are eutrophication, nitrification, microbiological contamination, salination and acid mine drainage⁴⁴ but for the purposes of this dissertation, particular attention will be afforded only to eutrophication and microbiological contamination.

Eutrophication is the ‘enrichment of water with nutrients, such as nitrates and phosphates, which gives rise to excessive growth of macrophytes and microscopic plants in rivers and reservoirs’.⁴⁵ This results in the absence of sufficient oxygen in water and affects biota which leads to, for example, the death of fish. Most cyanobacteria, which are a result of eutrophication and are often referred to as blue-green algae, are toxic and may cause the

³⁸M Biachi and T Harter ‘Nonpoint sources of pollution in irrigated agriculture’ (2009) at 1, available on <http://anrcatalog.ucdavis.edu>, accessed on 2 January 2014.

³⁹*Ibid.*

⁴⁰*Ibid.*

⁴¹*Ibid.*

⁴²*Ibid.*

⁴³*Ibid.*

⁴⁴ See Bosman and Kidd above, 636.

⁴⁵*Ibid.*

water to be ‘unfit for recreational, irrigation and domestic use since it can cause health problems’.⁴⁶

Eutrophication is important for the purposes of this research because one of the main causes of eutrophication is ‘ineffective sewage treatment and poor or non-existent sanitation’.⁴⁷ This means that if municipalities do not maintain their sewage treatment plants adequately, the result of this would be the release of inadequately treated wastewater which would find its way to freshwater resources thereby causing eutrophication.

Microbiological contamination is also a cause for concern. This is also a result of sewage that has not been sufficiently treated. Insufficiently treated water supplies will contain ‘detectable levels of total coliform bacteria and faecal coliforms’ as indicated by the presence of ‘*escherichia coli*’, which indicates faecal pollution which arises from humans and warm-blooded animals.⁴⁸ It is also caused by ‘ineffective sanitation coupled with inadequate treatment of water for drinking purposes’.⁴⁹

It is complicated to explain away the reasons for ineffective sewage treatment and inadequate sanitation because most of the reasons arise from the apartheid era.⁵⁰ Under the apartheid era, many people did not have access to basic sanitation because of the policies that separated the provision of services according to race. From that time to the present day, this situation has begun to be addressed but because it is a longstanding problem, the process of addressing it is an on-going one. Municipalities are constantly being challenged by ‘large scale reorganisation of service delivery systems, population growth and a resultant growth in service requirements and needs’ but there still appears to be a ‘backlog in providing these services due to historic inequalities’.⁵¹ This makes the process of addressing the apartheid era state of affairs a slow one. In as much as municipalities are expected to provide the best services, in this case, through effectively maintaining and operating sewage treatment infrastructure; they still face on-going challenges due to the ever increasing population and budgetary constraints.

⁴⁶ See Bosman and Kidd above, 637.

⁴⁷ *Ibid.*

⁴⁸ *Ibid.*

⁴⁹ *Ibid.*

⁵⁰ See Bosman and Kidd above, 638.

⁵¹ *Ibid.*

2.4. The consequences of water pollution

The most prominent consequence of water pollution is the outbreak of diseases and most of these can prove fatal, if left untreated. Diseases contracted from using unsafe water, whether completely untreated or insufficiently treated, account for 80% of all infectious diseases worldwide and close to a staggering 90% of all infectious diseases in developing countries.⁵² The lack of proper sanitary conditions results in around 2 billion infections of diarrhoea which leads to an estimate of 4 million deaths each year.⁵³ Most of these deaths are among infants and young children.

Statistics reveal that approximately 780million people in developing countries do not have access to clean water because most domestic and industrial wastes are disposed of directly into rivers and lakes without treatment or are not appropriately treated before being disposed of into water resources.⁵⁴ This is one of the major contributors to the increase in waterborne diseases especially considering that 2.5 billion people lack adequate sanitation.⁵⁵ World Health Organisation (2012) studies reveal the fact that most developing countries discharge around 75% of their untreated or insufficiently treated urban sewage directly into water resources.⁵⁶

South Africa has not been exempt from the effects of untreated waste water being discharged into its water resources. One such consequence is the outbreak of cholera in various provinces.⁵⁷ Cholera is an ‘acute disease, which can spread easily when water supply, sanitation, food safety, and hygiene are inadequate’.⁵⁸ The transmission of cholera is usually through water or food that is faecally contaminated. This disease is usually easily transmitted in overpopulated communities which do not have adequate sanitation or areas without access to safe drinking water.⁵⁹ The period of transmission is fairly short, usually 2hours to 5days, and so the number of cholera cases can rise sharply within a short period of time.⁶⁰

⁵²D Pimentel et al ‘Ecology of increasing disease’ (1998) 48 (10)*BioScience* at 818, available at <http://www.jstor.org/stable/1313393>, accessed on 23 December 2013.

⁵³ World Health Organisation (WHO) ‘Progress on drinking water and sanitation: 2012 update’ (2012), available at <http://www.unicef.org/media/files/JMPreport2012.pdf>, accessed on 6 January 2013.

⁵⁴*Ibid.*

⁵⁵ PH Gleick *Water in Crisis: A guide to the World’s fresh water resources*(eds) (1993) 28.

⁵⁶ See WHO above.

⁵⁷ Department of Health ‘Epidemiological comments: outbreaks in South Africa; 2005-2009’ (2009) 2 (2) at 5, available at http://www.nmc.gov.za/Docs/Outbreak_in_SA_EPI_COMMENT.pdf, accessed 23 December 2013.

⁵⁸*Ibid.*

⁵⁹ See Department of Health above.

⁶⁰*Ibid.*

2.5. The quality of water in South Africa.

As already mentioned earlier, the main contributors of water quality problems are:

mining (acidity and increased metals content), urban development (salinity, nutrients and microbiological), industries (chemicals and toxins) and agriculture (sediment, nutrients, agro-chemicals and salinity through irrigation return flows).⁶¹

South Africa's water ecosystems are reportedly not in a healthy state. The National Water Resource Strategy (2013) observes that out of 223 river ecosystem types, 60% are threatened, and 25% of these are reported to be critically endangered. It goes on to state that under 15% of river ecosystems which are located inside protected areas are threatened and degraded mostly by human activities.⁶² With regards to wetlands, the Strategy reports that out of the 792 wetland ecosystems, 65% have been singled out to be threatened and 48% have been identified to be critically endangered.⁶³

The most recent cause for concern when it comes to water quality problems has been the reports of water pollution through sewage from waste water systems that have not been sufficiently treated and from waste water treatment plants that are not functioning as they ought to be.⁶⁴ This has led to water resources being filled with harmful pathogens and nutrients which lead to the occurrence of eutrophication which has been observed to be 'probably the single greatest threat to water resources' in South Africa.⁶⁵

As stated in Chapter 1, historically the provision of water services infrastructure was made a priority for the minority white population in their residential and business areas. The black residential areas were not adequately serviced. The new government in 1994 thus inherited a legacy that could be characterized as follows:

Previously the country's water infrastructure had focused primarily on a population of about 6 million (comparatively affluent) whites, some people of colour in segregated urban townships, and on meeting the needs of the highly productive (and lucrative) industrial and agricultural sectors. The same infrastructure, after 1994, had to make provision for a population of more than 42 million people, of whom many were now living in informal settlements on the fringes

⁶¹ See National Water Resource Strategy above, at 9.

⁶² *Ibid.*

⁶³ *Ibid.*

⁶⁴ M Kidd 'Poisoning the right to water in South Africa: What can the law do?' (2010) *International Journal of Rural Law and Policy, North America* 3, available at <http://express.lib.uts.edu.au/journals/index.php/ijrlp/article/view/2604>, accessed on 7 October 2013.

⁶⁵ W R Harding 'Eutrophication of impounded water resources in South Africa: Descent into crisis' (2010) Unpublished paper presented at the WISA Conference, Durban.

of the country's urban areas. Needless to say the existing infrastructure was simply inadequate.⁶⁶

The fact that after the apartheid era there was increased housing development under the new government and the steep increase in urbanisation, made the situation even worse.⁶⁷ There was no provision made for the increase of water services infrastructure to keep up with the pace of such developments.⁶⁸ The problem was further compounded by the fact that much of the infrastructure currently in use has not been adequately maintained. Apparently, it will cost an estimate of R500 billion to address backlogs in sanitation services and to repair and increase the capacity of infrastructure, 30 to 40% of which is not working'.⁶⁹ This clearly indicates that the problem of capacity of the treatment plants to service a certain number of people has not been addressed. With housing developments and the ever-increasing population size, there is a strain on the already stressed infrastructure to ensure that waste water is adequately purified before finding its way to fresh water resources.

The performance of most municipalities proves that providing services and governing civil society on the local level is a major challenge and it is increasingly becoming clear that the concerns facing the effective provision of these services are even more challenging.⁷⁰ In many local authorities there are indications of severe lapses in service delivery.⁷¹ There are norms and standards that have to be met by these water services authorities to ensure that the quality of water in the country is acceptable. Unfortunately, in many cases as indicated in the Green Drop Report,⁷² these standards are most often not being met. The consequence of this is that untreated or insufficiently treated effluent is finding its way to water resources. Another problem is that in instances where treatment works are in compliance with the relevant standards, the standards themselves are uniform effluent standards and so they do not take into account the combined effect of the discharge of a number of separate effluent streams into a single water resource.⁷³

⁶⁶J W N Tempelhoff 'Civil society and sanitation hydro-politics: A case study of South Africa's Vaal River Barrage' (2009) 34 *Physics and Chemistry of the Earth* at 166.

⁶⁷*Ibid.*

⁶⁸*Ibid.*

⁶⁹ Centre for Development and Enterprise 'Water: A Looming Crisis'(2010) at 19, available at http://www.cde.org.za/images/pdf/Water_A%20looming%20crisis_RT%2014.pdf, accessed 25 June 2014.

⁷⁰See Tempelhoff above, at 168.

⁷¹*Ibid.*

⁷² Department of Water Affairs 'The green drop progress report 2012'(2012), at 4, available at <http://www.dwaf.gov.za>, accessed on 15 October 2013.

⁷³ See Kidd above, at 11.

2.5.1. The Green Drop Report 2011

The Green Drop process:

measures and compares the results of the performance of Water Service Authorities and their Providers, and subsequently rewards (or penalises) the municipality upon evidence of their excellence (or failures) according to the minimum standards or requirements that has been defined.⁷⁴

The logic behind the Green Drop strategy revolves around the identification of municipalities whose operation in terms of the provision of water supply and sanitation services is below the expected standard and then to correct the shortcomings of those municipalities.⁷⁵ The programme also introduces a certain level of ‘competitiveness amongst the municipalities and uses benchmarking in a market where competition is difficult to implement’.⁷⁶

The publication of the Green Drop Report in June 2011 reported on municipal wastewater performance. The results can be summarised as follows:

- 156 municipalities provide wastewater services via a network of 821 collector and treatment systems
- 73% of the 821 systems are of micro, small and medium size (<10 Ml/day), whilst the remainder of 27% is large and macro-sized systems
- The total design capacity of treatment plants in South Africa is 6 614 Ml/day and the actual flow received at the plants is 5 258 Ml/day, leaving a spare capacity of 1 356 M/day
- 33 systems were awarded Green Drop status in 2009
- 40% systems were awarded Green Drop status in 2011.⁷⁷

The Green Drop process is such that it is designed to assess the entire operation of municipal wastewater services. The assessment of wastewater treatment is the key component in the report and as such needs to be assessed thoroughly as such assessment is instrumental in the prevention of pollution of natural resources.⁷⁸ Wastewater risk abatement planning and implementation forms part of this set of Green Drop criteria and uses the Cumulative Risk Ratios (CRR) to monitor the progress made on a yearly basis.⁷⁹ This allows the Regulator to have a clear picture regarding the treatment component of the municipal, private and public wastewater treatment business.

⁷⁴See The Green Drop Progress report above.

⁷⁵*Ibid.*

⁷⁶ See The green drop progress report 2012 above, at 4.

⁷⁷*Ibid.*

⁷⁸ See The green drop progress report 2012 above, at 5.

⁷⁹*Ibid.*

The risk-based regulation approach ensures that the municipality identifies and prioritises the high risk areas within its wastewater treatment process and takes appropriate measures to address these. Risk analysis is used by the Regulator to:

identify, quantify and manage the corresponding risks according to their potential impact on the water resource and to ensure a prioritised and targeted regulation of municipalities whose facilities fall in high and critical risk parameters.⁸⁰

The Green Drop Risk Profile Progress Report for 2012 is the result of a ‘gap’ year whereby the progress was reported by observing the improvement or decline in the risk position of the particular wastewater treatment facility as compared to the previous year’s risks profile.⁸¹ This was done as a follow up of the Green-Drop Report in 2011 which showed the number of municipalities whose performance was below standard with regards to water supply and sanitation services. The tool used to collect, assess and report the risk profile is called the Green Drop Progress Assessment Tool (PAT) and all municipalities, public works and selected private works have participated in the PAT assessments from November 2011 to February 2012.⁸² However, in all its assessments the Green Drop report merely highlights the state of the water quality in the country through assessing the operation and functioning of municipality plants but does not suggest any recommendations or solutions to the water quality concerns.

The overall progress on a nation-wide scale revealed the following:

- 440 plants shows progress by taking up lower risk (CRR%deviation) positions, whilst 323 plants digressed by taking up increased risk ratios, and 68 plants maintained their status of 2011
- The majority of plants are in moderate risk (241 plants) and low risk (225 plants), with 212 plants in high risk and 153 plants in critical risk space.⁸³

In as much as this may be seen as an improvement from the results of the 2009 Green Drop Report which had a 37% average green drop score compared to the 45% average score in 2011, the reality of the matter is that more municipalities were assessed in 2011 compared to 2009. Hence it does not exactly mean that there has been any significant improvement in the performance of municipalities in terms of ensuring that waste water treatment plants are fully functional. If anything the difference in results is still as bad as it was in the first report. This

⁸⁰ See The green drop progress report 2012 above, at 6.

⁸¹ See The green drop progress report 2012 above, at 7.

⁸² *Ibid.*

⁸³ See The green drop progress report 2012 above, at 14.

is because in 2009 the number of municipalities which scored above 50% in the assessment was 49% and in 2011 the number dropped to 44%. It can be argued that the difference in the number of municipalities that were assessed between these years make it hard to determine whether or not there has been any improvement in the performance of municipalities.

These results paint a horrid picture of the national's water quality because these statistics portray the magnitude of the fact that inefficiently treated effluent is finding its way to freshwater resources. The main reason why more than half of the municipalities assessed in both years scored under 50% is that most of the infrastructure is not being maintained in a way that enables it to be fully functional.⁸⁴ This virtually means that inadequately treated wastewater finds its way into freshwater resources.

2.6. Reasons behind this state of water quality issues in South Africa

One of the major reasons why the state of water quality in South Africa is what it is, is that quite a number of waste water treatment works function at design capacity or far exceed their original design capacity.⁸⁵ This essentially means that these wastewater treatment plants were initially constructed with a certain number of households to service but because of development and the ever increasing population, the capacity of the plants has not been increased. The capacity of the plants remains the same as it was over 10 years ago and so most plants cannot keep up with the pressure of functioning beyond their initial capacity.⁸⁶ This leads to broken down or inefficient operational treatment plants. Therefore, in such situations issues of continual operational failures and non-compliance are actually anticipated.⁸⁷ It is for this reason that plants which have an average flow of 90% of their capacity need close supervision in order to ensure compliance.⁸⁸

Some of the problems that are observed to be uniform to most municipalities regarding the effective operation and maintenance of wastewater treatment works include:

- The works are old and not designed to treat to the applied standards
- Lack of adequately skilled staff and or management
- Insufficient staff and or management, most staff are “multi-tasking”

⁸⁴*Ibid.*

⁸⁵ Department of Water Affairs ‘Executive summary: Municipal wastewater treatment base information for targeted risk-based regulation-Western Cape Province status at June 2009’ (2009), at 30, available at www.dwaf.gov.za/, accessed on 18 April 2014).

⁸⁶*Ibid.*

⁸⁷*Ibid.*

⁸⁸*Ibid.*

- Lack of will and reasonable care by staff
- Lack of adequate funds to effect repairs and undertake efficient operations
- Lack of capital funds to execute expansions or upgrades to extend the plant capacity
- Problematic procurement processes
- Lack of perceived understanding of the need to ensure compliance and the implications of non-compliance, specifically at a decision making level of the relevant municipalities. This is compounded by the fact that few support departments (human resources, financial, legal, local economic development) fully understand and support technical departments in executing their responsibilities related to wastewater management
- High infiltration of stormwater and drinking water into wastewater reticulation systems.⁸⁹

The question that one ponders, at this juncture, is who is tasked with the duty to ensure that the quality of water in South Africa is of an acceptable standard? The following chapter will consider legislation which addresses the issue of water pollution and investigate who, under law, is tasked with the responsibility of ensuring that waste water is appropriately treated before it is discharged into water resources. The chapter will also seek to find out if there are any remedies envisaged in the law if the responsible person fails to perform as expected.

⁸⁹ See Department of Water Affairs (n76), at 53-54.

CHAPTER 3

3. Current water legislation.

The South African government comprises of three spheres and these are the national, provincial and local spheres of government. Each sphere has its different departments that make it necessary for the government to fulfil its duties and obligations. Although these three spheres are the backbone of the government, there are some private authorities that exercise public powers or perform public functions in terms of different legislation.⁹⁰ These are also considered to be organs of state.⁹¹ The different spheres of government have their respective roles and responsibilities clearly set out ‘within the framework of co-operative government and intergovernmental relations’.⁹²

These roles have to be fulfilled in accordance with different statutes as well as in the spirit of furthering constitutional rights. The interactions and relationships between the different spheres of government should be harmonious in order to achieve cooperative government in the country. The purpose of the chapter is to consider the laws that are relevant to water quality and more specifically, treatment of waste water, with a view to ascertaining which organs of state bear responsibilities in this regard.

3.1. The Constitution of the Republic of South Africa⁹³

The Constitution of South Africa is the highest law of the land and every other law, including water legislation should be in line with the provisions of the Constitution and the principles which it promotes. If any law contradicts any provision in the Constitution then such a law will be struck down as unconstitutional.⁹⁴

Section 24 of the Constitution stipulates that everyone has the right:

- (a) to an environment that is not harmful to their health or well-being; and
- (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that -
 - (i) prevent pollution and ecological degradation;

⁹⁰H Thompson *Water Law: A practical approach to resource management and the provision of services* (2006) 217.

⁹¹Section 239 of the Constitution of the Republic of South Africa, 1996.

⁹²*Ibid.*

⁹³Constitution of the Republic of South Africa, 1996.

⁹⁴Section 2 of the Constitution.

- (ii) promote conservation; and
- (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

This section essentially provides that all citizens in the Republic have the right to an environment that will not harm them, as well as the right to have the environment protected for the ‘benefit of present and future generations’. Therefore, it is the duty of all spheres of government including local government to ensure that the pollution of water resources is prevented and to make sure that water resources are managed in a way that there is sufficient water for everyone. Closely related to section 24 is section 27 and it stipulates that ‘everyone has the right to have access to sufficient food and water’.⁹⁵ The term ‘sufficient’ means that every individual has a right to access to a basic supply of water and food.⁹⁶

The government is also required to take reasonable legislative and other measures, within its available resources, to achieve the realisation of the right to sufficient food and water.⁹⁷ However, it is important to note that the mere provision of water will not be adequate to satisfy the realisation of this right. The quality of the water that is made available by the government has to be of an acceptable standard such that the issue of the quality and quantity of water becomes inseparable in this case. The government is also under an obligation to promote water conservation and the sustainable use of water which will ensure that ‘justifiable economic and social development’ is encouraged.⁹⁸ If the government does not perform as expected under sections 24 or 27, then it will be infringing people’s constitutional rights.

Section 8 of the Constitution states that the provisions under section 24 are binding on all organs of state, which means that local government is bound and therefore responsible for ensuring that the nation’s water resources are protected from pollution. There is an obligation on the local level of government to ensure that the environment is protected from pollution and that this protection should have the future generations in mind. The concept of constantly having future generations in mind is basically to make sure that the generations that are to come after the present one will enjoy the benefits of the environment the same way that the current generation enjoys the environment. This concept ties in perfectly with that of using

⁹⁵Section 27 (1) (b) of the Constitution.

⁹⁶ See discussion under 3.3 on what constitutes a ‘basic’ water supply.

⁹⁷Section 27 (2) of the Constitution.

⁹⁸Section 24 (b) (iii) of the Constitution.

the environment in a sustainable manner and it operates hand-in-hand with the need to consider and to address the future impacts of pollution in a holistic manner.⁹⁹

The level which is required of the government in its mandate to ensure environmental protection is 'reasonable legislative and other measures' in a bid to 'prevent pollution and ecological degradation'.¹⁰⁰ However, it is worth mentioning that this obligation mainly relates to the prevention of pollution and not necessarily minimising or remediating the consequences of pollution. Therefore, this is problematic because some of the effects of pollution surface after 10 to 20 years and these will have to be remediated or mitigated even though the activities that caused the pollution occurred before the Constitution was promulgated.

Section 151 of the Constitution states that municipalities in South Africa constitute the local sphere of government.¹⁰¹ They are assigned executive and legislative powers. This means that the municipalities have the authority to govern the local government affairs of their communities. However, their authority is subject to national and provincial legislation. The exercise of this power by the municipalities depends on their classification as set out in the Local Government: Municipal Structures Act¹⁰² and the Constitution. This means that a municipality can be held accountable to the provincial and national government, should it fail to perform its duties and functions.

Section 151(4) of the Constitution goes on further to state that the national or a provincial government 'may not compromise or impede a municipality's ability or right to exercise its powers or perform its functions'. Municipalities should be given the leeway to exercise their powers in a bid to fulfil their obligations but the provincial or national government can only step in if the municipality is failing to fulfil its obligations. However, in order to maintain peaceful governmental relations, chapter 3 of the Constitution establishes a system of intergovernmental relations which is based on the principle of co-operative government. Chapter 3 of the Constitution together with other Acts of Parliament provide a framework for the co-ordination of government relations.

In terms of sections 154(1) and 155(6) to (7) of the Constitution, provincial governments must supervise, monitor and support local government to ensure that the local government

⁹⁹Section 24 (b) (i) of the Constitution.

¹⁰⁰*Ibid.*

¹⁰¹Section 151 of the Constitution.

¹⁰² Local Government: Municipal Structures Act 17 of 1998.

fulfils its constitutional obligations. Schedule 4 Part B¹⁰³ clearly sets out the area of water and sanitation services which is limited to potable water supply systems and domestic waste-water and sewage disposal systems as the functional area of the local government.¹⁰⁴ Section 104 (1) provides that provincial government has the power to enact legislation in its province with regard to any matter within a functional area listed under Schedule 4. This essentially means that the provincial government, in a bid to monitor and support the local government in its functions, has the power to enact legislation which concerns the provision of water and sanitation services. However, this power has to be exercised consistently with the objectives and provisions of both the National Water Act and the Water Services Act.¹⁰⁵

In the *Habitat Council*¹⁰⁶ case, the court pointed out that the provincial government has the power to ‘enact, maintain in force and to enforce legislation’ as well as to take and implement executive decisions which ‘regulate or broadly manage or control the exercise of power’ by municipalities.¹⁰⁷ Davis J observed that doing so ensures effective performance by municipalities in line with the mandate that has been granted to them under the Constitution. He reinforced this point by stating that the involvement of the provincial government also promotes the development of municipalities’ capacity to perform their functions as well as to manage their own affairs.¹⁰⁸ He concluded this issue by pointing out that the provincial government had the power to regulate the manner in which municipalities exercise their executive authority which entails a ‘broad managing or controlling rather than a direct authorisation function’.¹⁰⁹ This is to ensure that the provincial government monitors the performance of municipalities and assists them in areas where their performance is lacking.¹¹⁰

When the matter went to the Constitutional Court,¹¹¹ one of the questions before the court was when the provincial legislature could exercise its powers of oversight over municipalities as

¹⁰³ Part B of Schedule 4 stipulates that municipalities have authority to administer water and sanitation services and this responsibility is limited to potable water supply systems and domestic waste-water and sewage disposal systems.

¹⁰⁴ Schedule 4 Part B of the Constitution.

¹⁰⁵ Discussed in greater detail under sub-sections 3.2 and 3.3 respectively in this dissertation.

¹⁰⁶ *Habitat Council and Another v Provincial Minister of Local Government Environmental Affairs and Developing Planning in the Western Cape and Others, City of Cape Town v Provincial Minister of Local Government, Environmental Affairs and Development Planning in the Western Cape and Others* (6227/2013; 23061/2009) [2013] ZAWCHC 112.

¹⁰⁷ *Ibid*, 19, para 25.

¹⁰⁸ *Ibid*, 20, para 5.

¹⁰⁹ *Ibid*, 20, para 10.

¹¹⁰ *Ibid*.

¹¹¹ *Minister of Local Government, Environmental Affairs and Development Planning, Western Cape v The Habitat Council and Others, Minister of Local Government, Environmental Affairs and Development Planning, Western Cape, City of Cape Town and Others* 2014 (5) BCLR 591 (CC).

provided for under section 155 (7) of the Constitution.¹¹² The Constitutional Court pointed out that section 155 (7) provides for the establishment of norms and guidelines and not necessarily the ‘usurpation’ of the function itself.¹¹³ This means that in as much as the provincial governments have powers of oversight, it cannot disregard the decisions of the municipalities. However, they can establish norms and standards that municipalities must adhere to in order to meet the requirements and standards of different statutes.¹¹⁴ In this way they would be exercising their oversight function without having to impede on the authority of the municipality.

According to section 105 of the Municipal Systems Act, the MEC for local government in a province must come up with the means, processes and procedures to monitor the manner in which municipalities in the province manage their own affairs, exercise their legislative and executive powers and carry out their functions. Furthermore, these mechanisms must monitor the development of the local government capacity in the province and assess the support needed by municipalities to strengthen their capacity to fulfil their developmental as well as constitutional obligations.¹¹⁵ In exercising their functions, municipalities should be supported, guided and monitored by the provincial and the national spheres of government.

3.2. National Water Act¹¹⁶

The White Paper on a National Water Policy for South Africa was used to draft the National Water Act.¹¹⁷ The objective of the White Paper was to ensure ‘equity with optimal resource use and protection’ and it emphasized water resource management which included ‘sustainability, access to sufficient water, reserve determination based on aquatic ecosystems and basic human needs, and international water resource obligations’.¹¹⁸ The water resource management proposed by the White Paper involved the government as the custodian of water resources and set out obligations in relation to the integrated water management, economic incentives to reduce pollution, efficient and effective administration and safety.¹¹⁹ It was out of this White Paper that the National Water Act (NWA) was enacted.

¹¹²*Ibid*, at para 20.

¹¹³*Ibid*, at para 22.

¹¹⁴*Ibid*.

¹¹⁵Section 105 of the Municipal Systems Act.

¹¹⁶36 of 1998.

¹¹⁷White Paper on a National Water Policy for South Africa of 1997.

¹¹⁸*Ibid*.

¹¹⁹Section 1.5 of the White Paper on a National Water Policy for South Africa.

This Act effectively replaced the Water Act of 1956 and contained detailed provisions on the manner in which water was to be managed within the South African governmental framework. One of the most important elements of the NWA was the fact that the legislation underlined principles of ‘sustainability, the right to water for all and environmental conservation of a finite natural resource in a region noted for its water scarcity’.¹²⁰ Apart from the fact the NWA has a comprehensive management framework and the classification of water facilities in catchments, it also contains specific measures intended to address issues of water pollution.

If water treatment works are fully functional, they release purified waste water into water resources. The release of waste water into the water resources is a ‘water use’ in terms of the NWA and as a result requires a licence.¹²¹ This licence is specific on the standards that the released treated water must meet. Section 21 of NWA lists the water uses and one of the water uses is ‘discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit’.¹²² If the treatment works plant is discharging less than 200 cubic meters of water per day, then it is subject to a general authorisation in terms of section 39 of the NWA which ‘discharges the user from the requirement of a licence’.¹²³ However, even if the treatment plant is operating under a general authorisation there are compliance standards that have to be met in the release of treated water into a water resource.

The preamble to the Act highlights various important principles that are essential to the management of water resources.¹²⁴ The third principle acknowledges the government’s responsibility over the nation’s water resources to ensure their sustainable use and to make sure that the allocation of water is on the basis of equality and not discriminatory. The sixth principle, which is of vital importance for our purposes, acknowledges the importance of water quality to ensure the sustainable use of water resources. The use and management of water resources should be done in a sustainable manner and this is to ensure that present generations have adequate access to water but at the same time bearing in mind that, future generations will also need to make use of the same resources.

¹²⁰Preamble of the NWA.

¹²¹Section 22 of the NWA.

¹²²Section 21 of the NWA.

¹²³Section 39 of the NWA.

¹²⁴Preamble of the NWA.

Sustainability looks at the complete water balance and that includes 'needs, requirements, resource potential, recharge rate and any surplus for distribution'.¹²⁵ Even in considering these, the quality of water should not be negated. This emphasizes the holistic approach to resource management because it does not only focus on the quantity of water available but also on the quality of water. If the quality of water is not of an acceptable standard, it will affect the economic sustainability of that particular resource when it comes to its potable water supply and it will also have a negative impact on various potential uses of water for example water used for irrigation. It is clear from considering the preamble of the Act that the management of water contains 'many inter-relationships and inter-dependencies' of various factors.¹²⁶

Under the Act the management of water is based on the principle that the national government is the public trustee of the country's water resources and so it is under a duty to ensure that water is 'protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner, for the benefit of all persons and in accordance with its constitutional mandate'.¹²⁷ This role is fulfilled through the Minister of Water and Environmental Affairs (hereafter referred to as 'the Minister'). The Department of Water and Environmental Affairs is an organ of state and it assists the Minister to fulfil her mandate. The mandate is fulfilled by making plans, setting goals, monitoring and assessing the nation's water resources. The Minister is 'ultimately responsible to ensure that water is allocated equitably and used beneficially in the public interest, while promoting environmental values'¹²⁸, and 'has the power to regulate the use, flow and control of all water in the Republic'.¹²⁹

This means that the national government is responsible for how the water in the Republic is managed and it acts through the Minister to delegate, monitor and measure the sustainable use and management of water. The Act stipulates that an overarching strategy, the National Water Resource Strategy (NWRs) has to be drawn up and it will be within this strategy that planning decisions regarding water resources will be made.¹³⁰ These include decisions relating to the classification of water resources essentially into 'polluted, lesser polluted and most

¹²⁵L Berjak 'Water Resource Management in South Africa' (2003) Unpublished LLM dissertation University of Natal at 16.

¹²⁶ See Preamble of the NWA.

¹²⁷ Section 3 (1) of the NWA.

¹²⁸ Section 3 (2) of the NWA.

¹²⁹ Section 3 (3) of the NWA.

¹³⁰ Sections 5-7 of the NWA.

polluted categories'¹³¹and the 'determination of resource quality objectives'.¹³²Section 26 of the Act places the Minister under a duty to regulate the presence of particular substances in water and this ensures that the quality of water in water resources is monitored and assessed regularly. Therefore, it is the responsibility of the Minister to set the standards of various chemical components in the water to ensure that the water in the Republic is of an acceptable standard.

The NWRS also provides a comprehensive framework for the management of water resources in the whole country and it is important for guiding the regional or Catchment Management Strategies (CMS).¹³³These strategies have to be reviewed regularly so that they are kept up to date with the state of water resources. Therefore, these documents are not to be kept static but are to be developed so that they keep up with the changing needs of the environment. The CMS cannot be developed in a vacuum but must be developed with the cooperation of various stakeholders and all interested parties in each catchment and their development must address the 'allocation, use and protection' of the resource.¹³⁴

Chapter 7 of the Act provides for the establishment of CMAs by the Minister in order to administer water resource management at catchment level as well as to promote community participation. The main aim is to establish a Catchment Management Agency (CMA) for each Water Management Area (WMA) within South Africa. Each and every CMA has a CMS and all these draw very closely from the NWRS and the national information system. The Minister establishes the CMA after the submission of a proposal for its establishment indicating the 'area, significant water resources, use and protection measures, the proposed CMA functions, how the CMA will be funded and the consultation process followed'.¹³⁵ The consultation process involves the voluntary participation of various stakeholders and interested water users.

Ordinarily, the CMA incorporate water services authorities and farmer's associations. Currently, the Department of Water and Environmental Affairs, which act as an agent of the Minister, is tasked with the responsibility of establishing CMAs in the various catchments. CMAs are an important aspect of the regulation of water resources because they ensure that such regulation is not only centralised but finds its way to catchment level and this allows for

¹³¹ Chapter 3, Parts 1 and 2 of the NWA.

¹³² *Ibid.*

¹³³ Sections 8 to 11 of the NWA.

¹³⁴ *Ibid.*

¹³⁵ Section 77 (1) of the NWA.

‘integration, cooperation and public participation for long-term sustainability of the water resource’. Therefore, the establishment and operation of CMAs are, on paper, instrumental in achieving success in water resource management, and are also the bodies responsible for ensuring that water services authorities and all relevant service providers are in compliance with section 19, which deals with the prevention of pollution of water resources.

According to the Act, once a CMA has been established it is under a duty to treat consumers and water users within its area ‘equitably and fairly’.¹³⁶ If it does not fulfil its mandate or if the CMA has difficulties or fails to perform its duties effectively, then the Minister may intervene. The Minister will get involved in a bid to direct the CMA back on track and this is done by the issuing of a directive in order to remedy the situation in that CMA, or alternatively, the Minister may take over the CMA’s functions.¹³⁷ This is done to ensure that the checks and balances approach is observed in the management of the country’s water resources. Therefore, the Minister, who has ultimate responsibility for water resource protection in South Africa, can monitor the CMA’s progress, thereby integrating the CMS with the NWRS and overall water resource management objectives of integration, equity and sustainability. The Minister also has the mandate, under the Act, to disestablish a CMA and reorganise a water management area in the interests of effective water management.¹³⁸

Therefore, in terms of the Act water resource management is based on two levels of strategy. The NWRS being the first, sets out a framework for the country as a whole by providing general guidelines and standards to be followed. The second is the individual regions or catchments which use the NWRS along with existing ‘localised conditions to formulate a workable strategy for the region’. For these strategies to function they have to be strongly based on the principles outlined in Chapter 1 of the Act, and these principles include those of equity and sustainability. This two-tier strategy system portrays the complex nature of water resource management and the inadequacies of a single approach for the whole of South Africa.¹³⁹ This also means that, on paper, there is a detailed strategy on how water resources have to be used, managed and maintained such that the issue does not become the fact that there are no set guidelines but that it is challenging to translate those guidelines into practical, tangible results.

¹³⁶ Section 86 of the NWA.

¹³⁷ Section 87 of the NWA.

¹³⁸ Section 88 of the NWA.

¹³⁹ See Berjak above, at 20.

Part 4 deals with pollution prevention and this places a duty of care on everyone in general to 'minimise or prevent pollution'.¹⁴⁰As already mentioned, the body charged with the responsibility section 19 is the CMA which is established in terms of Chapter 7 of the Act. The CMA may also remedy pollution and then recover the costs of doing so from the party responsible for the pollution, and this is also similar to the Director-General in NEMA. The remedy and costs recovered must be reasonable. Section 19 embraces the international principles in addressing the problems around pollution and these are the principles of prevention, precaution and the polluter pays.

Section 19 of the NWA guards against instances where pollution of a water resource occurs or might occur resulting from activities on land. Activities on land may also include pollution by way of inadequately treated wastewater finding its way to freshwater resources. The measures in place to prevent pollution include complying with any prescribed waste standard or management practice,¹⁴¹ containing or preventing the movement of pollutants¹⁴² and remedying the effects of the pollution.¹⁴³Therefore, for a municipality that is responsible for polluting a fresh water resource, it should bring its operations in line with the prescribed waste or management standards or prevent the movement of water that has not been sufficiently treated from flowing into freshwater resources.

If it so happens that a municipality fails to take these measures then a CMA may direct it to commence and complete taking specific measures before a specified date.¹⁴⁴If the municipality again fails to take heed of this directive or inadequately complies with it then the CMA will take it upon itself to remedy the situation then ask the municipality to reimburse it for taking such measures on behalf of that municipality.¹⁴⁵ This falls squarely within the bounds of the polluter-pays principle which states that the party responsible for causing pollution is the one who must bear the cost of cleaning or remedying it.

However, the current situation in South Africa is that from the first National Water Resource Strategy, only 2 catchment agencies were established. The pertinent question here will be what happens in those areas where there are no catchment agencies. Chapter 7 of the NWA stipulates that in instances where there is no CMA for a water management area, then

¹⁴⁰Section 19 of the NWA.

¹⁴¹Section 19 (2) (b) of the NWA.

¹⁴² Section 19 (2) (c) of the NWA.

¹⁴³Section 19 (2) (e) of the NWA.

¹⁴⁴Section 19 (3) (a) and (c) of the NWA.

¹⁴⁵Section 19 (4) of the NWA.

the Minister will have to act as the CMA until one is established. In instances where there is no capacity to establish a CMA, an advisory committee may be appointed in order to develop the necessary capacity as a step towards establishing an agency.

Chapter 16 of the Act creates offences from non-compliance with the Act.¹⁴⁶ The offences for non-compliance range from an unauthorised water use, to failure to comply with licence or registration conditions or a directive issued, to intentional or negligent pollution or detrimental effect or the likelihood that such may occur, on a water resource, and failure to comply with temporary water use restrictions. The penalties on conviction are relatively strict and this is an indication of how serious the State views these offences to be. The penalty for a first conviction is a fine or imprisonment not exceeding five years, or both such, with subsequent convictions resulting in a fine or imprisonment not exceeding 10 years, or both such. The severity of these penalties also reflects the importance of compliance as this is what will determine how effective the Act is. Once the party who is found to be in violation of the provisions of the Act is convicted, the court may enquire into the 'harm, loss or damage caused to another person' and award damages in respect of these.¹⁴⁷

Section 34 of NEMA is also applicable in these instances and it stipulates that whenever any person is convicted of an offence which relates to the causing of pollution or the degradation of the environment, the court may request the Minister to investigate the amount of loss or the damage that the act would have caused. Thereafter the court will give judgement against the person who caused the pollution bearing the mind the extent of the loss incurred or the damage caused.

With regards to penalties, the penalties under Chapter 16 as well as section 34 of NEMA are much more appropriate if it is an individual or a company that is causing pollution. If it is a government entity like a local municipality, only a directive can be issued for it to remedy the effects of the pollution. The reason behind this is that a government sphere cannot litigate against another because this would essentially contradict the notion of cooperative governance, as will be discussed in greater detail in Chapter 4. As a result this is not as stringent as the provisions dealing with companies or individuals who are responsible for causing pollution. However, one has to consider how effective a fine would be if it is to be

¹⁴⁶Section 151 of the NWA.

¹⁴⁷Sections 152 to 153 of the NWA.

imposed on a municipality that does not even have enough funds to ensure that the wastewater treatment plants are fully functional and reasonably maintained.

3.3. Water Services Act¹⁴⁸

The Water Services Act (WSA) was enacted in order to compliment the National Water Act. The main aim of the Act is to ‘provide a developmental framework for water services by clearly defining the different the roles and responsibilities of the different spears of government’.¹⁴⁹ This aim is to be achieved in a way that is in line with the constitutional mandate of the local government to provide water services to the people of South Africa. The Act acknowledges that everyone has a right of access to basic water supply and basic sanitation and that every water services institution must take reasonable measures to realize these rights. In terms of the Act every water services authority, some of which are municipalities, should provide for the measures to ensure that these rights are given effect to. However, these rights are subject to the limitations contained in the Act.

One of the main objects of the Water Services Act (thereafter referred to at the WSA) is to ‘provide for the right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and an environment not harmful to human health or well-being’.¹⁵⁰ ‘Basic sanitation’ is defined as the ‘prescribed minimum standard of services necessary for the safe, hygienic and adequate collection, removal, disposal or purification of human excreta, domestic waste-water and sewage from households, including informal households’.¹⁵¹ ‘Sanitation services’ means the ‘collection, removal, disposal or purification of human excreta, domestic waste-water, sewage and effluent resulting from the use of water for commercial purposes’.¹⁵²

Water services authorities are placed under a duty to continuously make provision for ‘efficient, affordable, economical and sustainable’ access to water services including sanitation services to all their consumers or potential consumers in their areas of jurisdiction.¹⁵³ Water services authorities which are required to provide access to water

¹⁴⁸108 of 1997.

¹⁴⁹Section 2 of the WSA.

¹⁵⁰Section 2 (a) of the Water Services Act.

¹⁵¹Section 1 of the Water Services Act.

¹⁵²*Ibid.*

¹⁵³Section 11 of the Water Services Act.

services are mainly municipalities but they are at liberty to engage water services providers to provide such services.¹⁵⁴

There is a difference between water services in the provision of water sense and in the sanitation sense, even though these services are regulated by the Act and are interrelated. A basic water supply service points to the infrastructure needed to supply 25 litres of ‘potable water per person per day from a source within 200m of a household and with a minimum flow of 10 litres per minute or 6 000 litres of potable water supplied per formal connection per month.’¹⁵⁵ A basic sanitation service points to the provision of a basic sanitation facility which is easily accessible to a household and the sustainable operation of the facility.¹⁵⁶

As stated above, one of the principles upon which the Act is based is the constitutional right of access to basic water and sanitation and the environmental right.¹⁵⁷ In order to realise these rights, effective water resource management is needed. According to the Act, ‘water use’ and ‘supply’ forms part of the ‘hydrological cycle through the removal of water from the system’ which will be water supply and ‘possible return of water to the system’ which will be wastewater and effluent treatment. The ‘basic’ standards are defined to mean the ‘prescribed minimum that is set out in a regulation in terms of Section 9 of the Act’ and attempts to ‘address past inequalities that relate mainly to personal consumption’.¹⁵⁸

These minimum standards are of vital importance in order to effectively manage present and future water resource management. The state is placed under an obligation to make sure that an equal, efficient and sustainable service is provided especially in terms of economic viability. The water resources are also to be provided in a sustainable manner and this encapsulates economic, social as well as environmental needs of the consumers in order to ensure that the services enjoyed by present generations may also be enjoyed by future generations. Therefore, the state holds water in trust for the use and benefit for all in the Republic and to ensure that everyone has access to a basic water supply and sanitation service.

¹⁵⁴Section 19 of the Water Services Act.

¹⁵⁵ National Treasury ‘Water and sanitation: Local government budgets and expenditure review’ (2011) at 130, available at <http://www.treasury.gov.za/publications/igfr/2011/Ig/11.%20Water%202011%20LGBER%20-%20Final%20-%209%20Sept%202011.pdf>, accessed on 8 May 2014.

¹⁵⁶*Ibid.*

¹⁵⁷Section 3 of the WSA.

¹⁵⁸ Section 9 stipulates that stipulates that the Minister may, from time to time, prescribe compulsory national standards relating to the quality of water taken from or discharged into any water services or water resource system, the effective and sustainable use of water resources for water services and requirements for persons who install and operate water services works.

In terms of the Act a water service authority is 'any municipality including a rural or district council as defined in the Local Government Transition Act 1993'.¹⁵⁹ Therefore, this means that municipalities whether they fall under the metropolitan, district or local level, are water services authorities for the purposes of the Water Services Act. According to the Act every municipality which is a water services authority, has a duty to all 'consumers or potential consumers in its area of jurisdiction to progressively ensure efficient, affordable, economical and sustainable access to water service'.¹⁶⁰ This means that such municipalities have the responsibility to make sure that everyone has access to adequate and clean water services.

Chapter 3 of the Act is made up of eleven sections and these sections regulate the functions of the WSA. Section 11 places a duty on the water service authority to ensure 'efficient, affordable, economical and sustainable access to water services' to all consumers and potential consumers. However, this duty is subject to the availability of resources and the duty to conserve water resources. This essentially means that the provision of services by municipalities has to be within its capacity to do so. This section acknowledges that there is an 'interrelationship between water services and management of the resource'. In sections 12 to 18 of the Act a duty is placed on the water service authority to prepare a draft Water Service Development Plan (WSDP) within a year after the Act commences and also includes requirements that the WSDP must fulfil, some of which include content, public participation and review. The draft plan must contain details which include the physical attributes of the area to which it applies the size and how the population is distributed within that area, existing water services, and existing and proposed 'water conservation, recycling and environmental protection measures'.¹⁶¹

The WSDP must explain how the water service authority will provide 'access to water services, the levels of service that will be provided for' and 'demand measures to be taken and the resources that will be used'.¹⁶² Sections 19 and 20 relate to the mechanism used for water services provision and that this function has to be kept separate from the planning and regulating function of the water service authority, such as bylaws which pertain to conditions of water services.¹⁶³ The provider function has to be conducted by the water service authority,

¹⁵⁹Section 1 (xx) of the WSA.

¹⁶⁰Section 11 (1) of the WSA.

¹⁶¹Section 13 of the WSA.

¹⁶²*Ibid.*

¹⁶³Section 21 of the WSA.

through a joint venture with another water services institution, or by contracting the function out.¹⁶⁴ In this respect, the Local Government: Municipal Systems Act also applies.

The Minister has the responsibility to prescribe compulsory national standards relating to the ‘provision of water services, the effective and sustainable use of water resources for water services, and the nature, operation, sustainability, operational efficiency of water services’.¹⁶⁵ In prescribing these, the Minister must consider various factors and these include the ‘operational efficiency and economic viability of water services’, ‘any impact which the water services might have on the environment’, and the ‘obligations of the national government as custodian of water resources’.¹⁶⁶ Every water services institution must comply with these standards. According to the Act, the Minister is to use the powers bestowed on heroffice to ‘prescribe norms and/or standards for WC/WDM in municipalities throughout the country’.¹⁶⁷ Although section 9 does not contain explicit reference to the terms ‘water conservation’ ‘demand’, or requirements of ‘sustainability’, ‘efficiency’ and ‘economic viability’, a consideration of the section holistically points to the notion of water conservation.

It was mentioned in earlier chapters, that most of the inadequate functioning of waste water treatment plants is a result of insufficient or a lack of resources to maintain and efficiently operate them. The Act also regulates the powers of the Minister to ‘make grants and loans’, to ‘give subsidies to water services institutions’¹⁶⁸, and to make ‘applications for financial assistance’.¹⁶⁹ It provides for the Minister to make regulations relating to financial assistance. The fund for financial assistance come from various sources namely the contribution by Parliament, contributions by individuals or non-governmental organisations, or contributions by other governments and governmental institutions.¹⁷⁰ These funds are supposed to be allocated to municipalities in a bid to ensure that there is effective provision of water services to the consumers.

Section 62 of the Act stipulates that the Minister and any relevant province must ‘monitor the performance of every water services institution’ in order to ensure that they are in compliance with all applicable national standards prescribed under this Act and in compliance with all norms and standards for tariffs prescribed under this Act. This means that the municipalities,

¹⁶⁴Section 19 (1) of the WSA.

¹⁶⁵Section 9 (1) of the WSA.

¹⁶⁶Section 9 (3) of the WSA.

¹⁶⁷*Ibid.*

¹⁶⁸Section 64 of the WSA.

¹⁶⁹Section 65 of the WSA.

¹⁷⁰Section 64 (1) (a)-(c).

as water service authorities are monitored by the provincial department to ensure that the set standards are adhered to.

The 'Regulations relating to compulsory national standards for process controllers and water services works' published under Government Gazette No. 36958 of 23 October 2013 are an example of such regulations. However, these regulations speak only about personnel and are silent about maintenance. The regulations stipulate who is supposed to do what in the plant and how many operators a plant should have in relation to the number of people that the plant services. For example, every plant should employ supervisory process controllers, process controllers and operations and maintenance support services. For a population of up to 5000 there should be 1 person for each post; for up to 50 000 there must be at least 2 people for each post and for up to 250 000 there must be at least 3 people for each post. These regulations are significant in that they also include the types of qualifications that individuals applying for these posts should possess. These guidelines guard against the possibility of employing a person who is not qualified for the post thereby increasing the effectiveness of the operation of wastewater plants.

3.4. National Environmental Management Act¹⁷¹

The National Environmental Management Act is aimed at ensuring that the decisions made by the government and various stakeholders are not detrimental to the environment. This Act will definitely apply in instances where pollution of water resources occurs through the inadequate treatment of waste water because one of the objectives of the Act is to prevent pollution and the degradation of the environment. In a bid to achieve this objective, section 2 (p) of the Act strongly endorses the polluter pays principle. It stipulates that the costs of 'remediating pollution, environmental degradation and consequent adverse health effects' and those of 'preventing, controlling or minimising further pollution, environmental damage or adverse health effects' has to be paid for by the parties responsible for causing the pollution. This section applies to all organs of state which engage in activities that can be detrimental to the environment.¹⁷²

Although this principle is usually associated with pollution caused by a private entity, it also strongly applies to public entities. This principle will equally apply to any municipality that causes pollution and in this way the local authority will become a regulated entity and not

¹⁷¹107 of 1998.

¹⁷²Section 2 (1) of NEMA.

simply the regulator.¹⁷³How this situation will be remedied is that the local government, as a regulated entity will have to avail funds or have insurance against environmental liabilities, should that particular municipality be the cause of the pollution.¹⁷⁴Therefore, this Act envisions instances where it is not merely an individual or a private entity causing the pollution but also a government entity like a municipality.

Section 28 of the Act includes a duty of care. It states that ‘every person who causes, has caused or may cause significant pollution or degradation of the environment’ is obliged to ‘take reasonable measures’ in order to prevent such pollution from ‘occurring, continuing or recurring’. If the harm that occurs is authorised under the law or that ‘cannot reasonably be avoided or stopped’, then there is a duty on the party to ‘minimise and rectify such pollution or degradation of the environment’.

‘Person’, according to NEMA implies a juristic person.¹⁷⁵ This means that municipalities can be included in the definition of ‘person’ under NEMA and that the duty of care imposed on ‘every person’ to prevent pollution extends to them. Therefore, all water services providers are under an obligation to ensure that insufficiently treated or untreated effluent is not released into water resources because not only does this pollute water resources, it also becomes harmful to people and animals.

In a nutshell, NEMA makes provision for a framework for environmental governance for all spheres of government. It clarifies the duties and the role of local government in the prevention of pollution and environmental degradation. It is not blind to the possibility of local government being the cause of pollution and makes provision for such instances where the local government is not perceived as the regulator but a regulated entity. It also endorses principles of co-operative governance¹⁷⁶ and all of these are provided for in a bid to achieve development that does not prejudice the right of future generations to enjoy the environment in the same way that present generations do.

¹⁷³A du Plessis ‘Some comments on the sweet and bitter of the National Environmental Law framework for local environmental governance’ (2009) 24 *South African Public Law*, at 69.

¹⁷⁴*Ibid.*

¹⁷⁵Section 1 of NEMA.

¹⁷⁶ Chapter 3 of NEMA makes provision for procedures for cooperative governance in ensuring that the objectives in the Act are met. This is done through the preparation of environmental implementation and management plans. All the national departments are required to prepare such plans and these plans should coordinate the environmental policies, plans, programmes and decisions of the various national departments that engage in activities that may affect the environment or departments that are mandated with the responsibility to ensure the protection of a sustainable environment.

3.5. The Local Government: Municipal Systems Act¹⁷⁷

This Act embodies the ‘principles, mechanisms and processes’ that are necessary to make sure that municipalities function effectively and that they progress towards the ‘social and economic upliftment’ of their respective communities. It also seeks to ensure that local government efficiently and effectively fulfils its mandate paying attention to the principles and to the provisions of the Constitution.¹⁷⁸ This means that in carrying out their duties or fulfilling their mandate, municipalities should adhere to constitutional provisions and ensure that whatever action that they take is in line with constitutional provisions.

The Act makes explicit reference to ‘environmentally sustainable’ governance and its aim is to establish a ‘framework for support, monitoring and standard setting by other spheres of government’ in order to ensure that local government is continuously being moulded into being an ‘efficient, frontline development agency’.¹⁷⁹ The duties of a municipality are set out and these include to:

- exercise the municipality’s executive and legislative authority and use the resources of the municipality in the best interests of the local community;
- provide, without favour or prejudice, democratic and accountable government;
- encourage the involvement of the local community;
- strive to ensure that municipal services are provided to the local community in a financially and environmentally sustainable manner.¹⁸⁰

A municipality is empowered to exercise its executive as well as its legislative functions by ‘developing and adopting policies, plans, strategies and programmes including setting targets for delivery’, ‘implementing applicable national and provincial legislation’ and this includes environmental laws, ‘monitoring and where appropriate, regulating municipal services’, ‘monitoring the impact and effectiveness of their services, policies, programmes or plans’ and ‘promoting a safe and healthy environment, passing bylaws’ and this also includes enacting environmental bylaws.¹⁸¹

Section 23 of the Act stipulates that municipalities should have development plans. These plans seek to develop the provision of services by the municipality in order to realise certain

¹⁷⁷32 of 2000.

¹⁷⁸ Preamble of the LG: Municipal Systems Act.

¹⁷⁹ Section 4 of the LG: Municipal Systems Act.

¹⁸⁰ Section 4 (2) (a)-(d) of the LG: Municipal Systems Act.

¹⁸¹ Section 11 (3) of the LG: Municipal Systems Act.

fundamental constitutional rights like the rights to ‘access to land, housing and adequate water’ and sanitation. According to section 25 (1), each municipal council must ‘adopt a single, inclusive and strategic plan for the development of the municipality’ which:

- (a) links, integrates and co-ordinates plans and takes into account proposals for the development of the municipality
- (b) aligns the resources and capacity of the municipality with the implementation of the plan
- (c) forms the policy framework and general basis on which annual budgets must be based
- (e) is compatible with national and provincial development plans and planning requirements binding on the municipality in terms of legislation.

Therefore, municipalities are placed under an obligation to review the developmental plans for their communities. In these plans, pertinent issues like the maintenance of wastewater infrastructure should be provided for so that these may be included in the breakdown of the annual budget. This way there will be no reason why a municipality can have wastewater infrastructure that does not function adequately due to lack of maintenance. However, this will be made possible if the maintenance of such infrastructure is made a priority and not relegated to secondary issues to be discussed during municipal planning meetings.

Municipalities, in their capacity as water services authorities in the WSA,¹⁸² must prepare water services development plans (WSDPs) for their respective areas of jurisdiction. This should be done as part of the process of preparing the integrated development plans (IDPs) in terms of the Local Government: Municipal Systems Act.¹⁸³ If a municipality, through its practice, deviates from the WSDP then such an action will not be deemed valid. However, if the deviation from the WSDP is required then a new plan should be developed.¹⁸⁴

In terms of section 73 (2) of the Act municipal services are to be environmentally sustainable and to be regularly reviewed. However, the Act does not explicitly make mention of who should review the provision of these services. The Act makes provision for the effective use of resources, the recycling of waste and that the Minister has the power to make regulations in this regard with the provision for incentives and penalties.¹⁸⁵ Although these regulations and guidelines could be used as an alternative to enforce compliance of the municipalities with environmental laws, they are specifically intended to ensure the prevention of pollution as well as effective waste management.

¹⁸²Section 1 (xx) of WSA.

¹⁸³ Section 26 and 27 of the LG: Municipal Systems Act.

¹⁸⁴ See WSA above, sections 13-17.

¹⁸⁵ Sections 74 (2) (h) and 84 of the LG: Municipal Systems Act.

3.6. The Intergovernmental Relations Framework Act (IRFA)¹⁸⁶

The national, provincial and local spheres of government are separate and have their mandates but it is paramount that they co-operate with each other to ensure that there is efficient compliance and enforcement. According to section 40 of the Constitution ‘national, provincial and local spheres of government are ‘distinctive, interdependent and interrelated’.¹⁸⁷This section acknowledges the separate spheres but also makes provision for cooperative governance and these provisions clearly state how each of these spheres is to carry out its duties and responsibilities, mindful of the fact that there are other spheres of government too. These provisions include provisions:

not to assume any power or function except those conferred on them in terms of the Constitution; to exercise powers and perform functions in a manner that does not encroach on the geographical, functional or institutional integrity of government in another sphere; and to cooperate with one another in mutual trust and good faith.¹⁸⁸

Cooperative governance does not stop at the provisions provided for under the Constitution. The Intergovernmental Relations Framework Act (IRFA) is the main statute that provides for cooperative governance. The objectives of the IRFA include;

facilitating and co-ordination the implementation of policy and legislation, including coherent government; monitoring such implementation; providing for effective services and realising national priorities.¹⁸⁹

As does the Constitution, the IRFA also acknowledges that the South African governance framework is divided into three ‘autonomous yet inter-dependent and inter-related spheres’ but goes further to provide that all the spheres must provide ‘effective, efficient, transparent, accountable and coherent governance’ so that it will be instrumental in realising the rights entrenched in the Constitution.¹⁹⁰The IRFA recognises that there might be conflicts between these three spheres of government and that in order to be able to resolve these, there has to be an effective ‘system of governance for regulating relationships and settling inter-governmental disputes’.¹⁹¹

¹⁸⁶13 of 2005.

¹⁸⁷Section 40 of the Constitution of the Republic of South Africa.

¹⁸⁸*Ibid.*

¹⁸⁹Section 3 of the IRFA.

¹⁹⁰Preamble of the IRFA.

¹⁹¹*Ibid.*

In a bid to promote the objectives of the IRFA certain factors have to be taken onto account. These factors include the ‘circumstances, material interests and budgets of other spheres of government’ and organs of state when acting on the powers vested in them by legislation.¹⁹² Consultations between the spheres according to procedures provided for in legislation are also necessary to achieve cooperative governance.¹⁹³ In instances where there are no clearly prescribed procedures, consultation occurs in a way that best suits the circumstances or through direct contact or through the relevant intergovernmental structures.¹⁹⁴ Chapter 4 of the IRFA makes provision for the settlement of intergovernmental disputes and when it is read together with the conflict resolution procedures prescribed in NEMA,¹⁹⁵ these provisions are intended to make a significant contribution in resolving disputes that arise as a result of any ineffectiveness in environmental governance. For example, these provisions would be used if one municipality causes pollution of a freshwater resource that is made use of by other municipalities as well.

Section 40 of the IRFA stipulates that every branch of government should make a reasonable effort to avoid intergovernmental disputes in the exercise of their functions. This section goes further to state that disputes between branches of government must be as far as possible be resolved without resorting to judicial proceedings.¹⁹⁶ There are set procedures to address disputes between the branches like the declaration of disputes as formal intergovernmental disputes but, even before this process can be instituted, the branch of government making this declaration should first, in good faith, make every reasonable effort to settle the dispute.¹⁹⁷ Such efforts include the initiation of direct negotiations with the other party or negotiations through an intermediary.¹⁹⁸ Instituting judicial proceedings is the last option available to branches of government but this option is only made available after all efforts to resolve the dispute have failed.¹⁹⁹

¹⁹²Section 40 (a) of the IRFA.

¹⁹³Section 40(b) of the IRFA.

¹⁹⁴Section 40(2) (i-ii) of the IRFA.

¹⁹⁵Chapter 3 of NEMA.

¹⁹⁶Section 40 (1) (b) of the IRFA.

¹⁹⁷Section 41 (1) of the IRFA.

¹⁹⁸Section 41 (2) of the IRFA.

¹⁹⁹ Section 45 of the IRFA states that no government or organ of state may institute judicial proceedings in order to settle an intergovernmental dispute unless the dispute has been declared a formal intergovernmental dispute in terms of section 41 and all efforts to settle the dispute have proven to be unsuccessful.

3.7. National Health Act²⁰⁰

One of the main objectives of the Act is to regulate national health and to also provide uniform standards in respect of health services across South Africa.²⁰¹ This is done by protecting, respecting, promoting and fulfilling the basic rights of individuals including the right to an environment that is not harmful to their health or wellbeing.²⁰² In order to achieve this objective there are councils which are to be established at all levels across the country. These councils are the National Health Council,²⁰³ which advises the Minister on the policies concerning any matter that will protect, promote and maintain the health of the people of South Africa, the Provincial Health Council,²⁰⁴ which advises at provincial level and the District Health Council,²⁰⁵ which advises at a local level.

This Act shows that the health of the population must be taken seriously. In instances where there are incidents of pollution, which puts the health and wellbeing of the population at risk, then this Act can be used. Section 83 of the Act stipulates that if a health officer must investigate any activity if s/he has reason to believe that there is an activity that constitutes a violation of section 24 (a) of the Constitution²⁰⁶ or that causes pollution which is detrimental for people's health.²⁰⁷ The health officer will then issue a compliance notice to the party responsible for such an activity in order to minimise, remove or rectify the condition.²⁰⁸ This means that instances of water pollution would be adequately dealt with under this Act and that the parties responsible for causing pollution will be investigated and made to cease or to rectify the activities which cause pollution.

This comprehensive discussion of the law indicates that there are provisions that relate to the protection of water resources from pollution, whether it is a municipality or a private company which is responsible for such pollution. It is clear from the above discussion that municipalities are responsible as water services authorities for ensuring that wastewater is adequately treated before it finds its way into fresh water resources. If municipalities are the cause of pollution then the other branches of the government, like the provincial and national

²⁰⁰61 of 2003.

²⁰¹Section 2 of the National Health Act.

²⁰²Section 2 (c) (ii) of the National Health Act.

²⁰³Section 22 of the National Health Act.

²⁰⁴Section 25 of the National Health Act.

²⁰⁵Section 31 of the National Health Act.

²⁰⁶Section 83 (1) (a) of the National Health Act.

²⁰⁷Section 83 (1) (b) of the National Health Act.

²⁰⁸Section 83 (3) of the National Health Act.

spheres of government, can intervene in exercising their powers of oversight. However this intervention, as discussed above, does not mean that the provincial and the national government can override the decisions of a municipality. Rather, the performance of municipalities can be monitored on a regular basis in accordance with the set norms and standards to ensure that municipalities comply with the required standards. In instances where one municipality is the cause of pollution in another municipality then this issue can be resolved without resorting to judicial proceedings.

This chapter focused on the plethora of legislation that speaks to the control of pollution, especially water pollution. The duties and responsibilities of the Minister of Water and Environmental Affairs, as well as other relevant parties like the community at large and water services authorities, are clearly set out in the above mentioned legislation. The penalties imposed under each Act for instances of non-compliance seem to be a sufficient deterrent to water pollution in instances where the polluter is an individual, but not where the polluter is a government entity. However, it is of paramount importance to consider why there are still reports of water pollution through inadequate or untreated waste water when the laws are so explicit on the roles of various stakeholders. This question will be addressed in the following chapter which will focus on environmental compliance and enforcement in South Africa.

CHAPTER 4

4. Environmental Compliance and Enforcement in South Africa.

Chapter 3 explains in depth the legislation enacted in order to guard against water pollution and to ensure that everyone has access to adequate drinking water and basic sanitation. It is clear that South Africa boasts a comprehensive set of environmental laws to address environmental concerns, especially in the field of water pollution. However, these laws do not mean much if they are not effectively enforced by the relevant authorities.

Therefore, in order for one to be certain about the effectiveness of South African environmental legislation, one will have to discuss issues around compliance and enforcement. As it has already been established, this research focuses on municipalities being the entities which cause water pollution through inadequately treated effluent finding its way to fresh water resources. The issue of enforcement and compliance will be narrowed down to what can be done to ensure that the municipalities that are responsible for water treatment are in compliance with legislation that is meant to guard against the occurrence of pollution.

Compliance refers to the ‘meeting of obligations in terms of environmental law whilst compliant behaviour will be behaviour that conforms to legal rules’.²⁰⁹ In order to ensure compliance the relevant authorities have to make efforts to either encourage or compel behaviour change. This will be achieved through various compliance mechanisms. A compliance mechanism is usually a provision in a statute that is intended to encourage parties to comply with the legal rules which embodies negative sanctions should parties decide not to follow them. The law in most cases is specific on what the position is if it is a private entity that is causing pollution. For example, criminal sanctions can be used to punish non-compliance with a certain law like the recent conviction of the director of *Blue Platinum Ventures 16 Pty Ltd*.²¹⁰ This case involved a private clay mining company which was found guilty of causing damage to the environment through its failure to comply with rehabilitation measures required under mining and environmental laws. However, in instances where it is not a private entity causing pollution the law is not as articulate or specific as it should be.

²⁰⁹ A du Plessis ‘Environmental compliance and enforcement measures: Opportunities and challenges of local authorities in South Africa’ in Paddock et.al *Compliance and Enforcement in Environmental law: Toward More Effective Implementation*(2011) 380.

²¹⁰ *S v Blue Platinum Ventures 16 Pty Ltd and Others* RN 126/13 2014, Unreported case.

Enforcement is concerned with how legal authorities ensure that the law is complied with. It therefore refers to:

the set of actions that governments and/or others take to achieve legal compliance within a determined regulated community and to correct or halt situations that endanger the environment.²¹¹

As with compliance and compliance mechanisms, there are also various ways in which the relevant authorities enforce legal rules. These are usually ‘implementation of consequences’ for parties that do not comply with the law and these may vary from financial penalties to legal action following inspections or negotiations.²¹² Therefore, the enforcement of environmental law can be described as the actions taken by the government and other regulatory bodies in instances of non-compliance with laws enacted to protect and conserve the environment. If it is one of the government’s entities like a municipality, which is not in compliance with the law then there are measures that can be taken by the national government, which is the trustee of the nation’s water resources, to ensure that the municipality complies with the law. This scenario will be discussed in greater detail later in the chapter.

4.1. Effective compliance and enforcement regimes

The International Network for Environmental Compliance and Enforcement (INECE) gives insight to what an effective compliance and enforcement regime entails.²¹³ It states that for such a regime to be effective, it has to be ‘an integrated and interconnected whole that involves several basic components’ and that these components include the following:

- Creating legal requirements that are enforceable;
- Knowing who is subject to these requirements and setting programme priorities;
- Promoting compliance in a regulated community;
- Monitoring compliance;
- Responding to violations;
- Clarifying roles and responsibilities; and
- Evaluating the success of the programme/regime and holding government accountable for its success.

²¹¹ *Ibid.*

²¹² See du Plessis above, 381.

²¹³ International Network for Environmental Compliance and Enforcement (INECE), available at www.inece.org, accessed 15 January 2014.

The INECE acknowledges that for a compliance and enforcement regime to be effective, it cannot operate in a vacuum. It has to function hand in hand with several factors which may be instrumental in shaping the behaviour of a community in determining whether or not there is compliance with the legal rules. Examples of these factors include ‘economics, and institutional credibility’ and some social factors such as ‘moral and social values, knowledge and technical feasibility’.²¹⁴ There are two approaches in the environmental law compliance and enforcement regimes and these are the ‘carrot’ and the ‘stick’ approaches. The ‘carrot’ approach refers to a regime that encourages parties to comply with the legal rules by using different types of incentives. Therefore, compliance is promoted by way of rewards. On the other hand, the ‘stick’ approach identifies behaviour that does not conform to the law and then takes action in order to bring parties that are not in compliance with the law in line with the dictates of the law.²¹⁵

Agenda 21 states that there are some challenges regarding compliance and enforcement and that these are often observed in the activities carried out at the level of municipalities.²¹⁶ Chapter 28 of Agenda 21 focuses on local authorities and constitutes the Local Agenda (LA) 21 programme area. In order to ensure effective compliance and enforcement regimes, LA 21 points out that there is a need for ‘measuring, monitoring and reporting of local authorities on their progress towards sustainability’. Even though LA 21 is not specific as to how local municipalities can improve in enforcing compliance to environmental laws, Agenda 21 acknowledges that governments must ensure that there are effective compliance and enforcement measures in place. This also includes local municipalities that are part of the government.

Agenda 21 highlights the importance of developing as well as implementing ‘integrated, enforceable and effective environmental laws and regulation’.²¹⁷ It then puts forward suggestions for strategies to ensure effective compliance and enforcement and these include:

- The establishment of enforceable, effective laws, regulations and standards that are based on sound economic, social and environmental principles, appropriate risk assessment and the incorporation of sanctions designed to punish violations, to obtain redress and to deter future violations;

²¹⁴*Ibid.*

²¹⁵ See du Plessis above, 381.

²¹⁶ United Nations Sustainable Development ‘United Nations conference on environment and development Rio de Janeiro, Brazil 3-14 June 1992, Agenda 21’(1992) available at <http://www.sustainabledevelopment.un.org/context/documents/Agenda21.pdf>, accessed on 22 January 2014.

²¹⁷*Ibid.*

- The design and implementation of different mechanisms to promote compliance;
- The strengthening of institutional capacity for the collection of compliance data, the regular review of compliance and deterrence of violations;
- The establishment of enforcement priorities, the undertaking of effective enforcement measures and the conducting of periodic evaluations of the effectiveness of compliance and enforcement endeavours; and
- The design and implementation of mechanisms for appropriate involvement of individuals and groups in the development and enforcement of laws and regulations on environment and development.²¹⁸

These are the recommendations highlighted by Agenda 21 and it is important to consider whether or not South Africa's environmental law compliance and enforcement regime reflects these.

4.2. Environmental governance in South Africa

In order to enforce compliance with established environmental regulations, the South African environmental regime makes provision for 'governance institutions, processes and mechanisms'.²¹⁹ These will ensure that members of the general public and private sector are able to regulate the impact of human activities on the environment. Studies reveal that many of these institutions, processes and mechanisms have a direct impact in the facilitation of environmental compliance and enforcement.²²⁰ That being said, it is clear that compliance and enforcement are actually important in the environmental governance process.

In defining governance, it can either be considered through a top-down or a bottom-up approach. Through the top-down approach, governing institutions especially the government make use of measures such as criminal sanctions and administrative measures in order to enforce compliance to prescribed norms, standards and procedures.²²¹ With the bottom-up approach, government intervention in a bid to enforce compliance is minimised through encouraging measures such as self-regulatory, co-regulatory and incentive-based measures.²²² The South African environmental law compliance and enforcement largely makes use of the top-down approach and a few mechanisms under the bottom-up approach.

²¹⁸*Ibid.*

²¹⁹ L Kotze 'Environmental governance', in A Paterson and LJ Kotzé (eds) *Environmental Compliance and Enforcement in South Africa: Legal Perspectives*(2009) 108.

²²⁰*Ibid.*

²²¹*Ibid.*

²²²*Ibid.*

4.3. Enforcing environmental compliance in local municipalities

Cooperative governance is important for municipalities to enable them to attain effective regulation of pollution control. Therefore the provisions provided for in the Constitution and in the IRFA are important to municipalities for a variety of reasons. Firstly, municipalities are obliged to cooperate with provincial and national spheres in order to meet their obligations and duties under pollution legislation. This level of interaction also extends to other municipalities so that there can be exchange of information on how to comply with the legislative norms and standards set in national legislation regarding pollution control.

Secondly, there is actually an obligation under the Constitution on national and provincial spheres of government to assist in their bid to regulate pollution.²²³ This obligation a duty that the Constitution gives to the national and provincial government. Section 154 explicitly states that:

national government and provincial governments, by legislative and other measures, must support and strengthen the capacity of municipalities to manage their own affairs, to exercise their powers and to perform their functions.

Thirdly, although pollution control legislation is enacted at a national level, in terms of enforcement and compliance local municipalities play an instrumental role because they are closer to the localised impact of activities that result in pollution. The local municipalities encounter the effects of pollution on the environment, either as the authorities that guard against the occurrence of pollution activities by members of the community or as polluters, before alarm is raised at a provincial and at a national level.

Finally, in instances that have become a common occurrence in South Africa whereby a local municipality is polluting and not in compliance with pollution control regulations, the provisions of cooperative governance dictate that provincial and national government should refrain from litigating against that particular municipality.²²⁴ However, in order to resolve issues that arise between government spheres, there is a system for settling intergovernmental disputes in a spirit that promotes co-operative governance and it includes declaring intergovernmental disputes²²⁵, the appointment of a facilitator²²⁶ and the assistance of the

²²³Section 154 of the Constitution.

²²⁴ See discussion on the IRFA above.

²²⁵Section 42 of the IRFA, as discussed above.

²²⁶Section 43 of the IRFA.

Member of the Executive Council (MEC) for local government.²²⁷ Another alternative is to lodge an investigation into the operation of the municipality and to find out the root causes of inefficient operations. Some of the causes, as has been mentioned include lack of staff and lack of financial resources to operate and maintain the infrastructure required for waste water treatment. In this instance, it would be imperative to hold the local government to account.

The problem of a municipality polluting is far more complicated than has been spoken about and this is because of a number of reasons. One of the main reasons is that it is possible that one municipality is the cause of pollution and the effects are borne by another municipality. In this instance, the affected municipality cannot litigate against the polluting municipality as such a solution will have to come from the provincial sphere of government and this can prove time consuming and lengthy. In resolving such conflicts, the Constitution regards litigation to be the last resort between and among spheres of government even though it may be regarded as an effective way of enforcing compliance. If the litigation route is encouraged, it would defeat the whole purpose of cooperative governance. Therefore, administrative measures would be much more suitable in enforcing compliance by way of compliance notices which would ensure that polluting municipalities are held responsible for their actions.²²⁸ Another alternative to resolving such conflicts would be the resolution procedures in Chapter 4 of NEMA which have to be followed where ‘a difference or disagreement arises concerning the exercise of any of its functions which may significantly affect the environment’.²²⁹

In the *Federation for Sustainable Environment and Others*,²³⁰ an urgent application was brought to court and it declared that the failure of the 1st to 7th respondents to provide access to effective or reliable potable water for more than 7 days to residents of Silobela, Caropark and Carolina Town in Carolina, Mpumalanga was unlawful.²³¹ The application was brought by a non-profit organisation and the Silobela Concerned Community which consisted of about 150 members, while the respondents ranged from the Minister of Minister of Water Affairs, at a national level, right through to the municipalities and a local level.

²²⁷Section 44 of the IRFA.

²²⁸Section 28 and 31 of NEMA.

²²⁹Section 17 (1) of NEMA.

²³⁰*Federation for Sustainable Environment and Others v Minister of Water Affairs and Others*(935672/12) [2012] ZAGPPHC 140.

²³¹*Ibid*, at para 2 and 3.

The national government argued that it was not to be party to the proceedings. The argument it advanced for this position was that in as much as it was the responsibility of the national government to provide water, at local level it was the responsibility of the municipality to provide this service. If it fails do to so, then the national government can assist financially but cannot impose on the municipality or interfere with the functions of the municipality.²³² The court held that to expect the national government to interfere with the administrative issues of a municipality would defeat the principle of the separation of spheres entrenched in the Constitution and so there was no order made against the Department of Water Affairs. The court made orders against the municipality to provide the affected community with potable water within 72 hours.²³³ It seems as though the court in its judgment gave more weight to the principle of the separation of spheres than it did the right to the provision of adequate water to the community. The court also failed to take into account the national government's trustee role in terms of section 3 of the NWA.²³⁴

The common law also provides for remedies that can be used as alternatives in the event of statutory remedies not being adequate. These remedies are primarily based on the common duties placed on the public as well as regulatory agencies like water services authorities and water services providers.²³⁵ The most important of these duties is the general duty of care.²³⁶ This duty becomes especially relevant in the instance that there is no defined contractual relationship for example between a water services provider and the water consumer.²³⁷ Here, the relationship is such that the water services provider provides adequately purified water and prevents inadequately treated wastewater from polluting freshwater resources. If there is a breach of this duty by the service provider, there are a number of ways that it can be remedied.²³⁸

²³²*Ibid*, at para 19.

²³³*Ibid*, at para 26.

²³⁴ These comments on the case will be discussed in greater detail in Chapter 5.

²³⁵ E Algotsson and T Murombo 'Water supply and sanitation in South African environmental rights and municipal accountability: A legal review' (2009) *Lawyers for Human Rights Publication Series*, at 25.

²³⁶ This general duty of care is envisaged in section 28 of NEMA and it states that every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.

²³⁷ See Algotsson and Murombo above.

²³⁸*Ibid*.

Firstly, an interdict which is provided for in section 155 of the NWA²³⁹ may be used in order to secure immediate relief. However, the interdict can be used by a state body and not by public interest groups because public interest groups would have the common law right to apply for one. In the case of municipalities polluting freshwater resources through inadequately treated wastewater, an interdict can be used to stop the release of inadequately treated wastewater and other polluting substances into freshwater resources and to compel municipalities to deliver a service. This is an ideal remedy in situations where service delivery has failed and the community is threatened with unsanitary conditions that will lead to sickness and death.

Enforcing compliance on municipalities who are the cause of the pollution of freshwater resources through the inadequate treatment of waste water is challenging. This chapter has highlighted the fact that in order to do this, principles of co-operative governance have to be observed and as such administrative actions in the form of directives like compliance notices have to be made use of in order to keep up with the standards stipulated under law in order to prevent the pollution of fresh water resources. Other alternatives to enforce compliance include interdicts. However, are these solutions to enforce compliance an effective one? Can municipalities rectify all that is wrong and restore the smooth functioning of wastewater treatment infrastructure because of the issuing of compliance notices or by public interest groups making use of interdicts? Are the root causes of these concerns beyond enforcement and compliance? The following chapter will provide an analysis of these concerns.

²³⁹ A High Court may, on application by the Minister or the water management institution concerned, grant an interdict or any other appropriate order against any person who has contravened any provision of this Act, including an order to discontinue any activity constituting the contravention to remedy the adverse effects of the contravention.

CHAPTER 5

5. An analysis of the problem of water pollution through the inadequate treatment of sewage by municipalities.

The legislation which governs pollution and guards against instances of water pollution through different sources is comprehensive. However, the enactment of legislation in this regard is not enough to solve the problem. Implementation as well as the enforcement of what the legislation stipulates has to be done too. As discussed in Chapter 3, there is a clear mandate on municipalities to monitor, operate and maintain their wastewater treatment infrastructure so as to guard against the possibility of inadequately treated wastewater finding its way to fresh water resources. However this infrastructure is still not maintained adequately and sewage water is polluting freshwater resources.

Studies suggest that in many municipalities, their budgets make provision for maintenance. However, a majority of municipalities are only repairing what is broken at that particular time and are not making long-term plans for the maintenance of their infrastructure.²⁴⁰ There are no budgetary plans in some municipalities for the refurbishment and even eventual replacement of the aging infrastructure to make room for new technology that will have the capacity to service communities adequately.²⁴¹ Therefore the conclusion that one can draw from this practice is that most municipalities will not amend or change their maintenance policy and practice without intervention from the national government. The national government will have to take steps to intervene financially and even technically to ensure that municipalities take the issue of maintenance seriously.²⁴²

What makes the infrastructure problem even worse is the fact that some municipalities, more especially the smaller or rural municipalities, have no idea how to manage their assets

²⁴⁰Council for Scientific and Industrial Research (CSIR) 'The state of municipal infrastructure in South Africa and its operation and maintenance' (2006) 15, available at http://www.cidb.org.za/Documents/KC/cidb_Publications/Ind_Reps_Other/ind_reps_state_of_municipal_infrastructure.pdf, accessed 25 April 2014.

²⁴¹*Ibid.*

²⁴² This can be done firstly according to section 241 (1) of the Constitution requires an Act of Parliament to the equitable division of revenue raised nationally among the national, provincial and local spheres of government. It can also be done according to the Division of Revenue Bill which stipulates in section 3 (1) that revenue raised nationally in respect of the 2014/15 financial year must be divided among the national, provincial and local spheres of government for their equitable share allocations.

adequately.²⁴³ These municipalities are often not aware of what assets are at their disposal, where they are located, or how old those assets may be.²⁴⁴ Such information is vital for planning purposes because without the information it is impossible to ascertain how much investment the municipality need to make to improve the state of the infrastructure that it makes use of especially aging infrastructure like wastewater treatment infrastructure where major investments in these were only done in the late 1970s into the early 1980s.

This can be remedied by the development of an asset register that will keep track of the infrastructure, how old it is, what needs to be done to improve its performance and what long-term plans are in place to replace it with better technology.²⁴⁵ However, the development of such a register is a costly exercise and most municipalities have to rely on outsourced capacity as they do not have the in-house capacity to do so. Research shows that the civil engineering capacity in municipalities is too low to deliver, operate and maintain waste water treatment infrastructure in a sustainable manner.²⁴⁶ In 1994, there were 20 engineers per 100 000 people but this has lowered to 3 per 100 000 people and this ratio indicates the crisis that the water sector is in.²⁴⁷ This can be seen as a crisis because the engineers are the ones who have the ability and the qualification to point out the pressing needs of the infrastructure in terms of its operation and maintenance. Without these people to point the municipality in the direction of what needs to be done to improve the state of the infrastructure, nothing will change.

The National Treasury allocates funds to local municipalities for the maintenance and operational costs of infrastructure but how does it still remain that municipalities lack funds for maintenance of infrastructure? The Equitable Share is a grant from national government to local government and this is the main subsidy for operational and maintenance costs.²⁴⁸ However, municipalities are not under any obligation to report on how these funds were allocated and or spent.²⁴⁹ All the municipalities across the country do not get the same amount. The amount allocated is determined by a number of factors and these include

²⁴³ National Treasury 'Water and sanitation: Local government budgets and expenditure review' (2011) at 138, available at <http://www.treasury.gov.za/publications/igfr/2011/lg/11.%20Water%202011%20LGBER%20-%20Final%20-%209%20Sept%202011.pdf>, accessed 22 April 2014.

²⁴⁴ *Ibid.*

²⁴⁵ See National Treasury above, at 140.

²⁴⁶ *Ibid.*

²⁴⁷ *Ibid.*

²⁴⁸ See Algotsson and Murombo above, at 19.

²⁴⁹ *Ibid.*

‘assessing fiscal capacity, fiscal efficiency, developmental needs, poverty and backlogs’.²⁵⁰ A municipality also has discretion as to how it allocates funds to different departments and so the allocation of funds to different departments is not regulated. In most municipalities funds allocated in their annual budgets would ordinarily rather allocate funds to housing rather than the maintenance of infrastructure. The ‘Regulations relating to compulsory national standards for process controllers and water services works’ only speak to the personnel that are required for the effective operation of a plant.²⁵¹ As has already been highlighted, this is impressive because it shows that the government has realised that there is a skills shortage in that regard and have set down the kinds of qualification that the people who are supposed to be working in those plants should possess. It is being proactive in addressing this challenge but it stands to be seen whether the issue of capacity in terms of manpower to operate the plants will be addressed.²⁵² However, it would be more beneficial to have standards and norms on the maintenance of waste water treatment plants. These norms and standards would set out how often the machinery in the plants needs to be refurbished or even replaced. These norms would also set an estimated budget strictly for the maintenance of the machinery in the plant.

These kinds of standards, together with the ones already published that speak to the appointment of personnel, would go a long way in addressing the challenge of inadequately maintained machinery in municipalities because these norms and standards would be mandatory. It would also encourage better administrative and operational functions of municipalities if the regulation of the equitable share²⁵³ could be monitored so that funds allocated for the maintenance of wastewater treatment infrastructure to municipalities are actually spent towards this and not have it left to the discretion of the municipality how these funds will be spent.

Apart from the maintenance concerns and the budgetary constraints, there are other factors that contribute to the non-compliance of legislative provisions that guard against pollution. These factors include:

- the availability of information particularly plant specific operation and maintenance manuals and as-built schematics of the Works and related pertinent information like the design capacities of the wastewater treatment works (WWTWs),

²⁵⁰*Ibid.*

²⁵¹ Government Gazette 36958, 23 October 2013.

²⁵² See discussion above about the number of engineers per number of people that a plant services.

²⁵³ See discussion above.

- the capacity and capability, including financial and procurement constraints of the WSA and/or WSP, inter alia that exhibit the ‘Bigger Picture’ in the ability of the wastewater treatment works to maintain a consistent trend of compliance.²⁵⁴

These challenges, especially in terms of the design capacity of the treatment works, can be addressed by communicating them to the water services provider so that a budget can be allocated to investigate the concerns. This would also include the appointment of vital staff like the instrumentation technician and the process controllers in order to repair, replace, and install meters and to record the daily flows of the treatment works, as has been highlighted by the recently published regulations. If the municipality lacks the in-house capacity then it can always outsource such services and carry out these functions through the help of consultants.

Another challenge that in a way perpetuates the state of municipal infrastructure and the lack of compliance with legislative provisions that are aimed at preventing pollution of freshwater resources is the fact that the national government is not playing its part. As has already been stated,²⁵⁵ the national government is the trustee of the water resources in the country and it is charged with the responsibility of monitoring and assisting local municipalities wherever they lack in a bid to ensure that the state of water resources in the country is an acceptable one. The fact that the state of water quality in the country is unacceptable is a clear indication that the Minister, as the trustee of the water resources is not as proactive in exercising and fulfilling her role, as she should be.

An example of this is the *Federation for Sustainable Environment and Others*²⁵⁶ case. The judgment in this case prioritised the principle of separation of spheres more than it did the right to an adequate water supply. The national government should have monitored the municipality more closely and assisted it not only financially but in planning as well to ensure that it was able to provide long-term water services to the community. As the trustee of all the water resources in the country, it is the main responsibility of the national government to ensure that issues to do with water are addressed in an effective manner. When there is a problem with either issues around quantity or the quality of water resources, the national government should automatically be involved. The order by the court was directed to the local municipality and the court ordered the municipality to provide water to the community

²⁵⁴ Department of Water Affairs ‘Executive summary: Municipal wastewater treatment base information for targeted risk-based regulation in Western Cape Province’ (2009) at 107-108, available at www.gov.co.za, accessed 18 April 2014.

²⁵⁵ See 3.2.

²⁵⁶ See *Federation for Sustainable Environment and Others* case above.

but no order was made against the national government. It should have been the responsibility of the Minister to ensure that the municipality provided the community with potable water. The fact that a court had to make an order against the municipality to provide the community with potable water shows that the Minister failed to do her job and it is unfortunate that the judge did not highlight this in his judgement.

With the root causes of why municipalities are failing to operate effective treatment plants ranging from the apartheid system, to lack of staff, to lack of monitoring and law enforcement mechanisms; it is challenging to determine how this situation can be remedied. The law is sufficient in ascertaining who is responsible for water resources and what their role is in doing so. Municipal functions are set out clearly but the problem is that most municipalities are left to their own devices in the name of the principle of separation of spheres. In this case what needs to be done is for the provincial and national government to closely monitor the performance of municipal treatment plants and make suggestions on how to improve the functioning as well as deadlines on how soon they should implement or rectify what is wrong. This ultimately still lies on local government's willingness to implement the provisions entrenched in legislation.

The following chapter will suggest recommendations on how the national government can improve on the implementation and enforcement of the legislation. This improved implementation and enforcement is aimed at municipal treatment plants which are not operating efficiently in order to guard against instances where a local municipality causes pollution due to inadequately treated sewage finding its way to freshwater resources.

CHAPTER 6

6. Recommendations

The previous chapters have attempted to portray a picture that reflects the state and the extent of the pollution of water resources cause by untreated or insufficiently treated waste water. The legislation that guards against this occurrence has been discussed and the problems around compliance and enforcement have also been touched on. This chapter will put forward suggestions as to how these problems can be combated in a bid to ensure that the pollution of water resources through waste water is sufficiently minimised.

Generally, environmental law has to be reasonable and take into account the prevailing circumstances of the country that it applies to. It should be enforceable in those particular circumstances too.²⁵⁷ In South Africa, the reality is that according to the Constitution, municipalities are mandated to govern their communities in an environmentally sound manner even though there may be financial challenges. Even before any suggestions are put forward it is important to establish the reality that in South Africa most municipalities are challenged in various ways and these challenges include lack of funds, financial mismanagement, difficulty in complying with the law, backlogs in service and most importantly ‘the integration of historically caused spatial disparities’.²⁵⁸

Bearing this in mind, this research puts the following suggestions forward:

- a) That more comprehensive information must be gathered in order to get a clear understanding of the state on municipal wastewater treatment operations in the country. Currently the Green Drop Report provides this information by assessing the operation of municipalities and rewards municipalities whose operation matches the expected standard.²⁵⁹ However, the Green Drop Report does not assess all the municipalities who are also water services providers. Steps should be taken to ensure that all municipalities who are water services authorities are assessed.
- b) That the Minister, as the trustee of the nation’s water resources, takes a more proactive role in ensuring that the infrastructure used for the purification of raw sewage is properly maintained. This can be done through the publication of regulations that make it mandatory for municipalities to maintain their infrastructure

²⁵⁷ See du Plessis above, at 394.

²⁵⁸ *Ibid.*

²⁵⁹ See discussion on the Green Drop Report under 2.5.1.

and to keep records as evidence for this.²⁶⁰This can be done in terms of the Water Services Act which empowers the Minister to set norms and standards for water services authorities. This will help improve the functioning of wastewater treatment plants as these records will be inspected on a yearly basis in order to identify municipalities that may need help in maintaining their infrastructure before they are the reason for causing water pollution through inadequately treated wastewater. The recently published regulations are the ‘Regulations relating to compulsory national standards for process controllers and water services works’ and they only address issues around personnel and do not address issues relating to the maintenance of waste water treatment plants.

- c) That a national register be kept in order to keep track of the infrastructure that is used in wastewater treatment plants in order to know when such infrastructure will be due for refurbishment or replacement.²⁶¹As was highlighted in this research because old infrastructure that is not properly maintained is one of the causes of pollution through inadequately treated sewage, a register will ensure that there is sufficient information on the infrastructure used and this register should also highlight the history of the machinery like the times that it has been serviced and how often this machinery has to be serviced. This can assist municipalities to know which infrastructure is due for maintenance and which is due for replacement.
- d) That the catchment management agencies make more vigorous use of the directives in section 19 (4) of the National Water Act which state that a person or body that is responsible for causing pollution should be given directives on how to remedy the effects of the pollution. The use of these directives may be reserved as an alternative means once dialogue with such a party has failed. There has been little evidence of instances where there has been dialogue between the national government and the local municipality in a bid to assist a municipality in improving the functioning of its wastewater treatment plants. Dialogue, in the spirit of cooperative governance, should be encouraged and if it does not prove fruitful then the use of section 19 (4) should be encouraged.
- e) All these suggestions are dependent on the funding. Municipalities are allocated funds from the National Treasury and the Equitable share grant reaches the municipalities

²⁶⁰*Ibid.*

²⁶¹ See Chapter 5.

depending on their size.²⁶² However, municipalities are not obliged to report as to how they spent the funds allocated to them. This should be changed. The municipalities should be held accountable as to how they spend the funds allocated to them.

6.1. Conclusion

In conclusion, the problem of water pollution through inadequately treated sewage is becoming a pressing concern. The quality of the water in the country is alarming and this problem is further compounded by the fact that it is the municipalities and not private entities or individuals who are responsible for causing such pollution. The root causes of this are not new; they are from the apartheid era when the capacity of municipal treatment plants was designed to service a small number of people. These challenges remain unsolved even to this day.

The operation and the maintenance of treatment plants is also a cause for concern with inadequate budgets often allocated for the maintenance and the replacement of the machinery used in these plants. The lack of staff to operate these plants is another challenge. Apart from these technical challenges, the biggest challenge of all is the national government's lack of will to implement and to enforce legislative provisions regarding water pollution control. Although the separation of spheres principle stipulates that the national government cannot impede on the administration of other spheres, the national government is empowered to monitor the performance of local municipalities. In this way, as a trustee of the water resources in the country, the national government will be able to rectify potential mistakes that municipalities may make in the operation of treatment plants and thereby avoid compromising the quality of water resources in the country.

The Minister should be proactive in fulfilling her mandate as the trustee of the water resources in the country. This will include publishing a set of norms and standards for the maintenance of municipal waste water treatment plants. This will ensure that it is mandatory for municipalities to maintain their treatment plants and this would help improve the state of these plants thereby improving on the quality of water that comes out of these plants as adequately treated before it finds its way into fresh water resources. In as much as government has already taken strides to ensure that the local waste water treatment plants are effectively

²⁶²*Ibid.*

operated through the publication of the personnel required in each treatment plant, this is a step in the right direction but only part of the solution. The setting of norms and standards for maintenance will help in improving the operation of these plants.

Without the will of the national government to actually fulfil its role as the trustee of the water resources, the concerns faced by municipalities cannot be resolved by municipalities. Instead the challenges will multiply to a point where the quality of water in the country will be totally unacceptable and hazardous to human beings, animals and plants.

Bibliography

Table of Cases

Federation for Sustainable Environment and Others v Minister of Water Affairs and Others (935672/12) [2012] ZAGPPHC 140.

Habitat Council and Another v Provincial Minister of Local Government Environmental Affairs and Developing Planning in the Western Cape and Others, City of Cape Town v Provincial Minister of Local Government, Environmental Affairs and Development Planning in the Western Cape and Others (6227/2013; 23061/2009) [2013] ZAWCHC 112.

Minister of Local Government, Environmental Affairs and Development Planning, Western Cape v The Habitat Council and Others , *Minister of Local Government, Environmental Affairs and Development Planning, Western Cape, City of Cape Town and Others* 2014 (5) BCLR 591 (CC).

S v Blue Platinum Ventures 16 Pty Ltd and Others RN 126/13 2014.

Table of Statutes

Constitution of the Republic of South Africa 1996.

Intergovernmental Relations Framework Act 13 of 2005.

Local Government: Municipal Systems Act 32 of 2000.

National Water Act 36 of 1998.

National Environmental Management Act, 107 of 1998.

Public Health Act of the Union of South Africa 36 of 1919.

Water Act 54 of 1956.

Water Amendment Act 96 of 1984.

Water Services Act 108 of 1997.

White Paper on a National Water Policy for South Africa of 1997.

Books and Chapters in books

A du Plessis 'Environmental compliance and enforcement measures: Opportunities and challenges of local authorities in South Africa' in L Paddock et.al *Compliance and Enforcement in Environmental law: Toward More Effective Implementation* (2011) Edward Elgar Publishing Limited: United Kingdom.

C Bosman and M Kidd 'Water pollution' in Assessment' in HA Strydom and ND King (eds) *Environmental Management in South Africa 2ed* (2009) Juta: Cape Town.

H Thompson *Water Law: A practical approach to resource management and the provision of services* (2006)Juta: Cape Town.

L Kotze 'Environmental governance', in A Patersonand LJ Kotzé*Environmental Compliance and Enforcement in South Africa: Legal Perspectives* (2009) Juta: Cape Town.

P H Gleick*Water in Crisis: A guide to the World's fresh water resources* (1993) Oxford University Press: New York.

UNEP/MAP *Reference handbook on environmental compliance and enforcement in the Mediterranean Region* (2004) Athens.

Journal Articles

A du Plessis 'Some comments on the sweet and bitter of the National Environmental Law framework for local environmental governance' (2009) 24 *South African Public Law* 69.

D Pimentel et al. 'Ecology of increasing disease' (1998) 48 (10) *BioScience* 818.

E Algotsson and T Murombo, 'Water supply and sanitation in South African environmental rights and municipal accountability: A legal review' (2009) *Lawyers for Human Rights Publication Series* 25.

J W N Tempelhoff 'Civil society and sanitation hydropolitics: A case study of South Africa's Vaal River Barrage' (2009) 34 *Physics and Chemistry of the Earth* 166, available at http://www.academia.edu/2944750/Civil_society_and_sanitation_hydropolitics_A_case_study_of_South_Africas_Vaal_River_Barrage(Accessed on 28 October 2013).

M Biachi and T Harter 'Nonpoint sources of pollution in irrigated agriculture' (2009) 1, available on <http://anrcatalog.ucdavis.edu>(Accessed on 2 January 2014).

M Kidd 'Poisoning the right to water in South Africa: What can the law do?' (2010) *International Journal of Rural Law and Policy, North America* 1, available at <http://express.lib.uts.edu.au/journals/index.php/ijrlp/article/view/260> (Accessed on 7 October 2013).

R Jankielsohn 'Defining hydropolitics: The politics of water in South Africa' (2012) *Journal of Contemporary History* 132.

Website documents

Anon 'Brits residents to march for water' News24 (2014) available at <http://www.news24.com/SouthAfrica/News/Brits-residents-to-march-for-water-20140121> (Accessed on 21 January 2014).

Centre for Development and Enterprise 'Water: A Looming Crisis' (2010) available at http://www.cde.org.za/images/pdf/Water_A%20looming%20crisis_RT%2014.pdf (Accessed 25 June 2014).

Council for Scientific and Industrial Research (CSIR) 'The state of municipal infrastructure in South Africa and its operation and maintenance' (2006) available at http://www.cidb.org.za/Documents/KC/cidb_Publications/Ind_Reps_Other/ind_reps_state_of_municipal_infrastructure.pdf (Accessed 25 April 2014).

Department of Water Affairs 'Water quality management', available at http://www.dwaf.gov.za/Dir_WQM/wqmFrame.htm (Accessed 23 June 2013).

Department of Water Affairs 'Green drop report 2009: South African waste water quality management performance' (2009) available at http://www.dwaf.gov.za/Documents/GreenDropReport2009_ver1_web.pdf (Accessed 22 March 2014).

Department of Water Affairs 'Strategic overview of the water sector in South Africa' (2013) available at <http://nepadwatercoe.org/wp-content/uploads/Strategic-Overview-of-the-Water-Sector-in-South-Africa-2013.pdf> (Accessed 13 June 2014).

Department of Health 'Epidemiological comments: outbreaks in South Africa; 2005-2009' (2009) 2 (2) available at

http://www.nmc.gov.za/Docs/Outbreak_in_SA_EPI_COMMENT.pdf(Accessed 23 December 2013).

Department of Water Affairs ‘National water resource strategy: Managing water for an equitable and sustainable future’ (2013) 2nd ed. available at <http://www.dwaf.gov.za/nwrs/NWRS2013.asp>.(Accessed 12 November 2014).

Department of Water Affairs ‘The green drop progress report 2012’ (2012) available at <http://www.dwaf.gov.za>(Accessed on 15 October 2013).

Department of Water and Forestry ‘Strategic overview of the Water Services Regulatory Framework in South Africa’ (2008) available at <http://www.dwaf.gov.gov.za/masibambane/documents/DeatDwafmeeting12September08.pdf> (Accessed on 22 November 2013).

Department of Water Affairs and Forestry ‘Blue drop report 2012’ (2012) available at http://www.dwa.gov.za/dir_ws/dwa/Default.asp?Pageid=6&String=Report(Accessed on 15 October 2013).

Department of Water Affairs and Forestry ‘The Blue drop and No drop handbook’ (2009) available at http://www.dwaf.gov.za/dir_ws/DWQR/subcr/ViewComDoc.as?Docid=604(Accessed on 15 October 2013).

Department of Water Affairs and Forestry ‘The green drop progress report 2012’ (2012) available at <http://www.dwaf.gov.za>(Accessed on 15 October 2013).

Department of Water Affairs ‘Executive summary: Municipal wastewater treatment base information for targeted risk-based regulation-Western Cape Province status at June 2009’, (2009) available at www.dwaf.gov.za/(Accessed on 18 April 2014).

Department of Water Affairs ‘Executive summary: Municipal wastewater treatment base information for targeted risk-based regulation-Western Cape Province status at June 2009’ (2009) available at www.dwaf.gov.za/(Accessed on 18 April 2014).

National Treasury ‘Water and sanitation: Local government budgets and expenditure review’ (2011) available at

<http://www.treasury.gov.za/publications/igfr/2011/lg/11.%20Water%202011%20LGBER%20-%20Final%20-%209%20Sept%202011.pdf>(Accessed on 8 May 2014).

National Treasury ‘Water and sanitation: Local government budgets and expenditure review’, (2011) available at <http://www.treasury.gov.za/publications/igfr/2011/lg/11.%20Water%202011%20LGBER%20-%20Final%20-%209%20Sept%202011.pdf>(Accessed 22 April 2014).

United Nations Sustainable Development, ‘United Nations conference on environment and development Rio de Janeiro, Brazil 3-14 June 1992, Agenda 21’, 1992, available at <http://www.sustainabledevelopment.un.org/context/documents/Agenda21.pdf>(Accessed on 22 January 2014).

World Health Organisation (WHO) ‘Progress on drinking water and sanitation: 2012 update’ (2012) available on <http://www.unicef.org/media/files/JMPreport2012.pdf>(Accessed on 6 January 2013).

Unpublished sources

L Berjak *Water Resource Management in South Africa* (unpublished LLM thesis) 2003 Natal.

W R Harding ‘Eutrophication of impounded water resources in South Africa: Descent into crisis’ (2010) unpublished paper presented at the WISA Conference, Durban.