

**A right to protected rivers: An analysis of the fulfilment of the State's
Constitutional obligation to take reasonable legislative and other
measures that promote the conservation and secure the sustainable
use of rivers in South Africa.**



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A right to protected rivers: An analysis of the fulfilment of the State's Constitutional obligation to take reasonable legislative and other measures that promote the conservation and secure the sustainable use of rivers in South Africa.

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ABSTRACT

A right to protected rivers: An analysis of the fulfilment of the State's Constitutional obligation to take reasonable legislative and other measures that promote the conservation and secure the sustainable use of rivers in South Africa.

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LL.M mini-thesis, Department of Law, University of the Western Cape.

This mini-thesis deals with the right to protected rivers whereby it analyses the fulfilment of the State's Constitutional obligation to take reasonable legislative and other measures that promote the conservation and secure the sustainable use of rivers in South Africa.

In South Africa, water is one of the most limited resources. It is used in almost every part of its nation's existence and a lack of it would cause their destruction. Due to the indispensable roles water play in our lives, we have to conserve and protect the sources from where it is derived before they are all exhausted.

Water scarcity is a matter of international concern. This is highlighted by water security having been a key issue at the World Summit for Sustainable Development in 2002. Furthermore, our Constitution of 1996 affords everyone the right to sufficient water. Therefore, rivers that provide us with the majority of our potable water need to be protected, conserved and used in a sustainable manner.

Everyone has a right to an environment not harmful to their health or well-being; and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that, *inter alia*, promote its conservation and secure its sustainable use.¹ Rivers form part of the environment and

¹ Constitution, 1996: Section 24.

the State should take reasonable measures for its protection, conservation and sustainable use. These measures include co-operation, partnerships, policies, strategies, financial support and action plans. Furthermore, it includes taking part in international agreements.

There is however no national legislation or policy which main areas of concern are river protection, its conservation and sustainable use. However, there are other measures in place that deal with the protection, conservation and sustainable use of the environment that find application to rivers. However, these measures have to be reasonable in order to meet the standard laid down in our Constitution. The standard laid is not for the measures to be put on paper, but for the measures to achieve the constitutional objective. This is the protection, conservation and sustainable use of our rivers. In this work, I analysed measures taken and also demonstrated what these measures should entail in order for them to be reasonable.

There are a number of measures that assist in the conservation, protection and sustainable use of rivers in South Africa that has been analysed in this research. To mention a few, I dealt with the National Water Act of 1998, the Environment Conservation Act of 1989 and the National Water Act of 1998. All the measures taken by the State require the principle of co-operative governance to be applied in order to effectively assist in the protection, conservation and sustainable use of rivers in South Africa. This mini-thesis is concluded with an overview of the measures taken and recommendation for future activities.

September 2003

DECLARATION

I declare that *A right to protected rivers: An analysis of the State's Constitutional obligation to take reasonable legislative and other measures that promote the conservation and secure the sustainable use of rivers in South Africa* is my own work, that it has not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Muhammad Abduroaf

23 September 2003

Signed:.....



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DEDICATION

This work is dedicated to my parents, wife, brothers and sisters.

The logo of the University of the Western Cape, featuring a classical building with a pediment and columns.

ACKNOWLEDGMENTS

I acknowledge with great thanks the assistance of the following persons:

Professor T P Van Reenen, Professor N Steytler, my wife Leila and
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CONTENTS

Title page.....	i
Keywords.....	ii
Abstract.....	iii
Declaration.....	v
Dedication & Acknowledgments.....	vi
Contents.....	vii
1. Introduction.....	1
2. Statement of problem.....	5
3. Method.....	5
4. Conceptual classifications.....	5
4.1. Rivers and the environment.....	6
4.2. Rivers as a natural resource.....	6
4.3. Rivers as a water resource.....	7
4.4. Rivers and the Constitution of 1996.....	7
4.5. River conservation.....	7
4.6. Sustainable use of rivers as a legal obligation.....	8
5. The Environment in the regional & international context.....	9
5.1. The SADC Protocol on Shared Water Courses of 1996 and 2000...11	
5.2. The Revised Protocol on Shared Water Courses in the Southern African Development Region.....	12
5.3. The Rio Declaration on Environment and Development of 1992 & Agenda 21.....	13
5.4. Recent developments.....	14
6. The South African Constitutional Context.....	15
6.1. The Bill of Rights.....	15
6.2. Equality Clause.....	16
6.3. Just administrative action.....	17
6.4. Right of access to sufficient water.....	17
6.5. The Environmental Clause: content and analysis.....	18
6.5.1. Section 24 (a).....	19
6.5.2. Section 24(b).....	20
6.6. Co-operative governance.....	21

6.6.1. Co-operative governance with regard to river conservation.....	23
Content continues...	
7. 'Legislative' and 'other measures'.....	24
7.1. Legislative measures.....	24
7.2. Other measures.....	25
7.2.1. Policies.....	25
7.2.2. Action plans.....	26
7.2.3. Strategies.....	26
7.2.4. Programmes.....	26
7.2.5. Co-operation.....	27
7.2.6. Financial support.....	27
7.2.7. Partnerships (Public & Private).....	27
7.2.8. Water pricing and licenses.....	28
8. The judiciary's view of the 'reasonableness' of such measures – the ' <i>Grootboom</i> test'.....	28
8.1. <i>Grootboom</i> analysis of reasonableness.....	28
8.1.1. The Facts.....	29
8.1.2. Co-operative Government.....	29
8.1.3. Content of reasonable measures.....	30
8.1.4. Application of the <i>Grootboom</i> case to the Environmental Clause.....	32
8.1.5. Application of the <i>Grootboom</i> case to measures dealing with river protection, conservation and sustainable use.....	32
9. States responsibility to understand its environmental obligation demonstrated.....	35
9.1. <i>Makay Bridge Farm CC</i> case.....	35
10. State Responsibility to create Constitutionally valid legislation.....	36
10.1. The <i>Mumbe Case</i>	37
11. Measures in place dealing with river protection, conservation and sustainable use.....	37
11.1. Policy measures dealing with or affecting rivers in South Africa . . .	38
11.1.1. White Paper on Water Supply and Sanitation Policy.....	38

11.1.2 Purpose.....	39
11.1.3. Policy Principles.....	39
Content continues...	
11.1.4. Application of principles to river conservation and sustainable use.....	40
11.2. White Paper of Environmental Management Policy of 1997.....	40
11.2.1. Strategic goal: Sustainable resource use and impact management.....	41
11.2.2. Sustainable resources use.....	41
11.2.3. Water resource management.....	42
11.3. White Paper on National Water Policy.....	42
11.4. Draft White Paper on Water Services.....	44
11.4.1. The Policy.....	44
12. Water Management Strategies.....	45
12.1. National Water Resources Strategy.....	46
12.1.1. Contents of the Strategy.....	46
12.1.2. Giving effect to the Strategy.....	48
12.2. (Proposed) First Edition of the National Water Resources Strategy...48	
12.2.1. Analysis of the strategy.....	49
12.2.2. Protection of Water Resources.....	49
12.2.3. Water Use.....	50
12.2.4. Water Conservation and Demand Management.....	50
12.2.5. Requirement of the Reserve and water requirements... ..	50
12.2.6. Water Management Areas.....	51
12.3 Environment management and implementation plans.....	52
12.3.1. Purpose and object of these plans.....	53
12.3.2. Contents of environment implementation plans.....	54
12.3.3. Content of environmental management plans.....	55
12.3.4. Submissions, scrutiny and adoption of plans.....	56
12.3.5. Compliance with the plans.....	57
12.4. Other measures taken by local government.....	57
12.4.1. Catchment management strategies and agencies.....	58
12.4.2. Content of strategies.....	59
12.4.3. Giving effect to catchment management strategies.....	60

12.4.4. What would be a 'reasonable' strategy?.....	60
12.5. Local government initiatives.....	62
Content continue...	
12.5.1. Integrated metropolitan environmental policy for the City of Cape Town.....	62
12.5.2. Catchment, stormwater and river management.....	63
13. Legislation dealing with rivers.....	65
13.1 Our present environmental legislation.....	65
14. National Environmental Management Act of 1998 (NEMA).....	66
14.1. National environmental management principles.....	67
14.2. Sustainable Development.....	67
14.3. The Polluter Pays Principle.....	69
14.4. Duty of care and remediation of environmental damage.....	70
15. National Water Act of 1998.....	72
15.1 Protection of water resources.....	73
15.2 Parts 1 to 3 of chapter 3 of the National Water Act.....	74
15.3 Part 4 of chapter 3 of the National Water Act.....	74
15.4 Part 5.....	76
16. Water Services Act of 1997.....	78
16.1. Water Service Authority.....	79
16.2. Monitoring and intervention of conduct of water services institutions..	79
16.3 Monitoring of water services institutions (checks and balances).....	80
16.4 Intervention.....	80
17. Pre-Constitutional Legislation – Its validation.....	83
18. Environment Conservation Act 1989.....	84
18.1 Prohibition and removal of litter.....	85
18.2. Waste management.....	86
19. Mountain Catchment Areas Act of 1970.....	87
20. Conservation of Agricultural Resources Act of 1983.....	88
21. Sea-Shore Act of 1935.....	89
22. Health Act of 1977.....	90
23. Minerals Act of 1991.....	90

24. Brief overview of State’s measures taken.....	91
24.1.Regional measures.....	91
Content continue...	
24.2.Policies, strategies and plans.....	92
24.3.Legislative measures.....	93
25. Conclusion.....	95
26. Recommendations for future action.....	97
27. Bibliography.....	100



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1. Introduction

Water is a vital resource. It plays an important role in the lives of all human beings and other living organisms alike. Only 3 % of the earth's water is freshwater and of it 0.003% of it is available to us.¹ Our Constitution, Act 108 of 1996 (hereafter referred to as 'our Constitution') recognises our dependence on water by affording everyone the right of access to sufficient water. This being so, our available freshwater resources are none the less already fully utilised and under stress² and the threat of drought and water shortage is constant.³

South Africa is an arid country with only 8.6% of the rainfall available as surface water, which is one of the lowest conversion ratios in the world.⁴ With regard to our mean annual runoff, it is estimated that it is at some 50 million m³ a-1, which is not distributed evenly throughout the country.⁵ Every time we lose a water resource due to pollution or to poor conservation, means that we are moving one step closer to 'water resources extinction'. Our rivers are being polluted on a daily basis with waste coming from industry and homes. According to the Lotus River Project,⁶ "[t]he quality of rivers and lakes in South Africa has deteriorated over time, to the point where there is widespread public concern." Looking at our projected population growth and economic development rates, there is an unlikeliness that the projected demand on water resources in South Africa would be sustainable.⁷ However, in the face of the ever-prevailing threat of water scarcity, when will our rivers be truly conserved and protected for the benefit of present and future generations as mandated in our Constitution?⁸

¹ Miller, 1996: p 455.

² National State of the Environment Report – South Africa: Freshwater Systems and Resources: Overview: Page 1. <http://www.ngo.grida.no/soesa/nsoer/issues/water/>

³ Environmental Options cc, 1994 : p 16.

⁴ National State of the Environment Report, Freshwater Systems and Resources: p 2 of 4. <http://www.ngo.grida.no/soesa/nsoer/issues/water/>

⁵ National State of the Environment Report, Freshwater Systems and Resources: Overview p 2 of 4. <http://www.ngo.grida.no/soesa/nsoer/issues/water/>

⁶ The Lotus River Project: <http://users.iafrica.com/g/gr/grobicki/lotus.html>

⁷ National State of the Environment Report – South Africa: Freshwater Systems and Resources: Overview: Page 1. <http://www.ngo.grida.no/soesa/nsoer/issues/water/>

⁸ Section 24(b).

Our Constitution affords everyone the right to have our rivers protected for the benefit of present and future generations, by the State taking reasonable legislative and other measures that, *inter alia*, prevent it from being polluted, promote its conservation and secure its sustainable use.⁹ These measures include taking part in international agreements. However, there is no legislative or policy instrument that deals, as its main area of concern, with the protection, conservation and sustainable use of all rivers in South Africa. This is so notwithstanding the fact that our Constitution instructs the State to take measures in this regard. However, if there are other reasonable measures in place, that deals with the protection, conservation and sustainable use of the environment and finds application to rivers, the State need then not take measures specifically for rivers.

This right we have against the State to take reasonable measures with regard to the protection, conservation and sustainable use of rivers is fundamental, and is afforded to everyone. It is a right that may only be limited in terms of the limitation clause of our Constitution,¹⁰ but even then the limitation must be reasonable and justifiable in an open and democratic society based on human dignity, equality and freedom and taking into account a number of factors¹¹. If the State does not fulfil its obligation to take reasonable measures to prevent river pollution and to promote its conservation, it would be acting in breach of our Constitution, and the courts may be turned to for redress.¹²

Since the inception of the State's constitutional duty with regard to the environment in 1993 with the coming into effect of the interim Constitution,¹³ the State has taken policy, legislative, and administrative measures that find application to our rivers. With regard to policies, the State published the White Paper on the National Water Policy for South Africa 1997; White Paper for Environment Policy 1997; White Paper on Water Supply and Sanitation 1994 and a Draft White Paper on Water services 2002. With regard to National Legislation, the National Environmental Management

⁹ Section, 24 (b).

¹⁰ Section 36.

¹¹ These factors are: (a) the nature of the right; (b) the importance of the purpose of the right; (c) the nature and extent of the limitation; (d) the relationship between the limitation and the purpose; and (e) less restrictive means of achieving the purpose.

¹² Constitution: Section 38.

¹³ Act 200 of 1993.

Act of 1998, the National Water Act of 1998 and Water Services Act of 1997 were all enacted. We also have the Environmental Conservation Act of 1989, which is a pre-constitutional legislative instrument that assists in the protection and conservation of our rivers. Relevant parts of these policy and legislative measures will be analysed to find out how they assist in protecting, conserving and securing the sustainable use of rivers in South Africa. Furthermore, other legislative and administrative measures would also be analysed in this regard.

Although the policy, legislative and administrative measures taken by the State with regard to the environment are, *prima facie* fulfillments of the constitutional obligation placed on the State; it would only be a true fulfillment if the measures fulfil the constitutional objective. In order to fulfil this objective, they have to be reasonable. In determining what is meant by reasonable measure, reference will be made in this work to the Constitutional Court's decision of *Government of the Republic of South Africa and others v Grootboom*.¹⁴ Here the Court gave a full interpretation of what is meant by reasonable legislative and other measures with regard to the right to housing found in section 26 of our Constitution. The Court emphasised the requirements that must be met for measures to be reasonable. The Court held, *inter alia*, that the State has an obligation to “ act to achieve the intended result and the legislative measures will invariably have to be supported by appropriate, well – directed policies and programmes implemented by the executive.”¹⁵

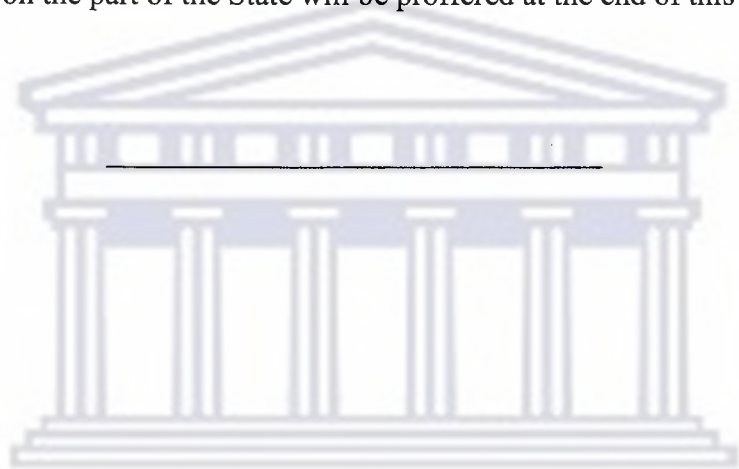
This work deals with a right to protected rivers. An analysis is made of the fulfilment of the State's constitutional obligation to take reasonable legislative and other measures that promote the conservation and secure the sustainable use of rivers in South Africa. It commences with a historical overview of river conservation in South Africa followed by a brief study of the regional and international context of water resource conservation and protection. This is followed by a look at where water resources protection, conservation and sustainable use fall within the constitutional context.

¹⁴ 2000 (11) BCLR 1169 (CC).

¹⁵ *Grootboom*, 2000: par 42.

The bulk of this research deals with an analysis of policy, legislative and other measures dealing with water resource protection and conservation in South Africa. This is done in order to ascertain how these measures assist in the protection and sustainable use of these resources. I have limited my research to relevant parts of the measures taken. The reason for doing so is due to the fact that a complete analysis of measures would not be possible for a mini-thesis.

This work concludes with an overview of the measures taken by the State to determine whether they are reasonable and therefore assist in the conservation, protection and sustainable use of the rivers in South Africa. Recommendations for future actions on the part of the State will be proffered at the end of this work.



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2. Statement of problem

Rivers are our main water resource. Our Constitution affords everyone the right to access to sufficient water.¹⁶ It further affords everyone the right to an environment not detrimental to one's health or wellbeing and for the State to take reasonable legislative and other measures to protect and conserve our rivers.¹⁷ With regard to international law, the State has an obligation to protect and conserve our water resources in a sustainable manner.¹⁸ Irrespective of these constitutional and international mandates placed on the State, our main water supplies are continually being polluted. The problem that needs to be investigated is whether the legislative and other measures thus far taken by the State dealing with water resources and the environment assists in the protection, conservation and sustainable use of rivers in South Africa.

3. Method

The method which is employed in this research is analyzing measures dealing with the protection, conservation and sustainable use of the environment and where possible, specifically with rivers. Use is made of, *inter alia*, international legal instruments, policy documents, legislative and administrative instruments. Furthermore, extensive use is made of books, article and the internet for valuable facts and comments.

4. Conceptual classifications

This work deals with abstract terms that need to be given an interpretation that falls within the ambit of this research. Some of these terms are quite vague and its interpretation varies according to the individual. What follows is a conceptual classification of concepts relevant to this research.

¹⁶ Section 27(1)(b).

¹⁷ Section 24.

4.1 Rivers and the environment

In order to classify rivers under the ambit of the environment and thereby afford it Constitutional protection, one has to look at the definition of the environment. There is no definition given to the word environment neither the interim Constitution of 1993 nor in the final Constitution of 1996. The Environment Conservation Act of 1989 and the National Environmental Management Act of 1998 both give a definition of the environment. "Although the NEMA definition is more detailed, the differences would not appear to be substantial."¹⁹ According to the National Environment Management Act²⁰ the environment means the surroundings within which humans exist and that are made up of, *inter alia*, land, water and atmosphere of the earth.²¹ From this definition, it is clear that rivers are part and parcel of our environment and is afforded full protection in the application of our Constitution's environmental clause²² and any international instrument dealing with the protection of the environment. Therefore in this work, if legislation refers to the environment, it applies to rivers.

4.2 Rivers as a natural resource

Rivers form part of the natural resources of South Africa. It provides humans and animals with water and food that are required for survival. "Although South Africa is richly endowed with many natural resources, water, one of our most strategic resources, is unfortunately in short supply."²³ Most of the water we use come from rivers and we are greatly in need of it for the continuation of our lives. In order for rivers to be healthy natural resources, attention should not only be given to pollution prevention, and sustainable use, but also the maintenance of its banks and surrounding areas.

¹⁸ See discussion on shared watercourse in the Southern African Development Region in Chapter 5 below.

¹⁹ Henderson, 2001: p 145.

²⁰ Act 107 of 1998.

²¹ National Environmental Management Act, 1998: Section 1(xi).

²² Section 24(b).

²³ Fuggle & Rabie, 1998: p 647.

4.3. Rivers as a water resource

Most of the potable water we use comes from rivers. Rivers are therefore the most important water resource in South Africa. In order for it to be a reliable water resource, it requires to be maintained. This is done by not over extracting water from it and therefore keeping a specific amount of water in it. This is the amount of water needed to remain in the river in order for it to maintain its ecological components.

4.4 Rivers and our Constitution of 1996

The entire environmental clause²⁴ of our Constitution plays a role in the protection, conservation and sustainable use of rivers in South Africa. The environmental clause has two subsections, i.e. section 24(a)&(b).²⁵ Section 24(a) affords everyone the right to an environment not detrimental to their health or well being. This means that rivers (as forming part of the environment) should be conserved and protected, for if not, it could be detrimental to one's health or well being.

With regard to section 24(b), it places a positive obligation on the State to take reasonable legislative and other measures that, *inter alia*, would protect, conserve and promote the sustainable use of the environment. As rivers form part of the environment, the measures taken by the State should deal directly or indirectly with the protection, conservation and sustainable use of rivers.

4.5 River conservation

The conservation of the environment is important and it is everyone's duty to assist in this regard. As *Mossman*²⁶ states, "Conservation is everybody's business". In attempting to define river conservation, I shall first deal with what is meant by nature conservation as rivers form part of nature.

²⁴ Constitution: Section 24.

²⁵ Both of these sections are analysed in Chapter 6.5 below.

²⁶ *Mossman*, 1974: p 5.

[“(Nature Conservation is the responsible management of (people’s) use of the natural environment in such a way that it retains the largest, permanent, advantage for the present generation. At the same time it should retain the potential to supply the needs and gratify the expectations of future generations.”]²⁷

Moving to the question as to what exactly is river conservation; *it is the responsible management and use of our rivers in such a way that it retains the largest, permanent, advantage for the present and future generations.* This would entail that the State, in fulfilling its constitutional obligation,²⁸ should create legislative and other measures that would cause, in a responsible manner the management and use of rivers in order for it to retain the largest, permanent, advantage for the present and future generations to come.

4.6 Sustainable use of rivers as a legal obligation

Section 24(b) of our Constitution states that the environment should be protected for the benefit of present and future generations through reasonable legislative and other measures that, *inter alia*, prevents pollution, promote conservation and secure ecologically sustainable development. There is therefore a legal obligation placed upon the State to protect, conserve and make sustainable use of the environment. With regard to the latter, sustainable use forms part of sustainable development “The concept of sustainable development stems from the recognition of the growing impact of human economic activity and number on the growing environment.”²⁹ Our Constitution in section 24(b) is not prohibiting us from making use of the environment (rivers) and in that way protecting it. What the Constitution is saying is that the environment may be used, but in a sustainable manner, which would look after the need of the present generation and at the same time be available for use to future generations. In this manner, the environment is protected for our benefit and those in the future. In relation to rivers, as it continues to renew its water supply, the rate of usage should not surpass the rate of renewal.

²⁷ *Hugo et al*: 153 As quoted in text from a definition of the International Union.

²⁸ Our Constitution: Section 24(b).

²⁹ Environmental Policy for South Africa: p2.

http://www.poity.or.za/html/govdocs/green_papers/enviro1.html?rebookmark=1

The obligation to conserve, protect and make sustainable use of the environment is further provided for in international law. Here reference can be made to the Rio Declaration³⁰ that sets out principles of sustainable development for participatory states to abide by. With specific reference to rivers, many States have entered into agreements with regard to shared watercourse. Here reference can be made to the “1992 UNCECE Convention which is now the principle multilateral governing environmental protection of European watercourse and the first regional framework convention dealing with international watercourses.”³¹ Chapter 5 below deal with the United Nations International Water Convention of 1997 and the Revised Protocol of Shared Watercourse in the Southern African Development Region of 2000.

5. The Environment in the regional & international context

The effect of pollution caused by a State is not always confined to that State. It transcends national boundaries and may at times cause harm to other States. Transboundary pollution is an example. This is where pollution caused by a State moves to another, either via water or air. For this reason there is a need for States to co-operate in matters affecting the environment.

As illustrated above³², the State has a legal obligation entrenched in our Constitution to protect, conserve and promote the sustainable use of the environment. However it also has a regional and international obligation toward the environment. Here I refer to those international agreements, either treaties or protocols that it entered into with regard to the environment. According to Glazewski,³³ “...South Africa is a party to a number of environmental conventions, and international norms and standards have played a significant role in developing South African domestic environmental law.” Furthermore section 25 of the National Environmental Management Act³⁴ state that the Minister may make a recommendation to Cabinet and Parliament regarding accession to and ratification of an international environmental instrument which South Africa is not yet bound by.

³⁰ See chapter 5.3 below.

³¹ *Bernie & Boyle*, 2002: p 300.

³² Chapter 4.6.

³³ *Glazewski*, 2000: p 12.

³⁴ Act 107 of 1998.

Our Constitution has a specific section that deals with the interpreting of its Bill of Rights.³⁵ When interpreting the Bill of Rights, a court, tribunal or forum must promote the values that underlie an open and democratic society based on human dignity, equality and freedom; must consider international law; and may consider foreign law.³⁶ Therefore, when interpreting the environmental clause of our Constitution, the court tribunal or forum, whilst promoting the values that underlie an open and democratic society based on human dignity, equality and freedom, has to consider international law. International law could either be environmental treaties, convention, declaration or even customs that are observed by the international community.

International customary law and international conventions are generally the two main sources of international law.³⁷ “A treaty [international convention] is a written agreement between states or between states and international organisations, operating within the field of international law.”³⁸ With regard to water management, South Africa is a signatory to or abides by several international protocols important to it.³⁹

With regards to foreign law, here I refer to the domestic or municipal laws of other countries, for instance the Constitution or National legislation of another country. Around the world there are over 60 National Constitutions that contain specific provisions prescribing the protection of the environment in one form or another.⁴⁰ It is up to the Court, tribunal or forum to decide whether to consider their Constitutions or not.

A court, tribunal or forum may need to interpret our Bill of Rights⁴¹ where there is a legal dispute between parties concerning the application of a provision in the Bill of Rights. An example of where a dispute might arise is with the interpretation of the

³⁵ Constitution: Chapter 2.

³⁶ Constitution: Section 39.

³⁷ *Glazewski*, 2000:p 12.

³⁸ *Dugard*, 1994: p 23.

³⁹ National State of the Environment Report – South Africa: Freshwater Systems and Resources: p 3.
<http://www.ngo.grida.no/soesa/nsoer/issues/water/> (The Report does not mention what these international protocols are.)

⁴⁰ *Davis et al*, 1997: p 25.

⁴¹ Constitution: Chapter 2.

concept of sustainable development. Our Constitution places a positive obligation upon the State with regard to sustainable development.⁴² But by interpreting the clause, it must consider international law. What this entails is that when looking at the environmental clause and interpreting what it actually means or entails, international law must be looked at in order to find out what rights and duties are placed on the respective party. With regard to sustainable development, the court must refer the Rio Declaration of 1992 that sets out the principles for sustainable development. If this definition and concept of sustainable development is in line with the values of our Constitution, the court, forum or tribunal has to make use of this concept as found in the international instruments and apply it to its interpretation of the Bill of Rights.

There are many international instruments dealing with the environment. These include instruments that deal with air pollution to the protection of wild life. For instance, in 1997, the UN General Assembly adopted the UN International Watercourses Convention. According to article 1 of the Convention, it states that it “applies to uses of international watercourses and of their waters for purposes other than navigation and to measures of protection, preservation and management related to the uses of those watercourses and their waters.”⁴³ For the purpose of this research, I shall deal with the SADC Protocol on Shared Water Courses of 1996 and 2000, the Rio Declaration of 1992 and Agenda 21 of 1992.

5.1 The SADC Protocol on Shared Water Courses of 1996 and 2000

The water of a river can originate in one State and its tributaries can flow through the boundaries of other States. For this reason there has to be some type of understanding and cooperation between States who share watercourses in relation to the protection, utilization and conservation of them.

In 1995, the Southern African Development Community (SADC) signed the Protocol for Shared Water Systems in the Southern African Development Community. South Africa was a signatory to this protocol. According to *Bernie & Boyle*,⁴⁴ the 1995

⁴² Our Constitution: Section 24(b).

⁴³ UN Convention on the Law of the Non-Navigational Uses of International Watercourses

<http://www.undp.org.vn/mlist/envirovlc/042001/post71.htm>

⁴⁴ *Bernie & Boyle*, 2002: p 328.

protocol “represents the most ambitious approach to environmental protection of river basins in the world.” There is however a revised protocol that South Africa has become a signatory to in August 2000.⁴⁵ Cabinet approved it in May 2001.⁴⁶ It is referred to as the ‘Revised Protocol on Shared Watercourses in the Southern African Development Region’ (hereinafter referred to as the “Revised Protocol”). There are a total of fourteen countries which are signatory to this protocol. For the purpose of this research, I shall examine how the Revised Protocol assists in the conservation and protection of shared rivers in South Africa.

5.2 The Revised Protocol on Shared Water Courses in the Southern African Development Region

Article 2 of the Revised Protocol states its overall objectives. It “... is to foster closer co-operation for judicious, sustainable and co-ordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation.” Most relevant to this work is section 2 found in Article 4 of the Revised Protocol. It deals with environmental protection and preservation. It states that “State Parties shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of a shared watercourse.”⁴⁷

Section 2(b) of the Revised Protocol deals with the prevention, reduction and control of pollution. Here it, *inter alia*, places a duty on parties to the Revised Protocol to

“... individually and, where appropriate, jointly, prevent, reduce and control the pollution and environmental degradation of a shared watercourse that may cause significant harm to other Watercourses States or to their environment, including harm

⁴⁵ Department of Water Affairs and Forestry, August 2001, Explanatory Memorandum and Protocol, Revised Protocol on Shared Watercourse in the Southern African Development Region: Section 3.1.6 of Explanatory Memorandum.

⁴⁶ Department of Water Affairs and Forestry, August 2001, Explanatory Memorandum and Protocol, Revised Protocol on Shared Watercourse in the Southern African Development Region: Section 2.3 of Explanatory Memorandum.

⁴⁷ Department of Water Affairs and Forestry, August 2001, Explanatory Memorandum and Protocol, Revised Protocol on Shared Watercourse in the Southern African Development Region: Section 2(a) of Revised Protocol.

to human health or safety, to the use of their waters for any beneficial purpose or to the living resources of the watercourse.⁴⁸

With regard to the introduction of alien or new species into a shared watercourse which may have detrimental effects on the ecosystem of the watercourse, resulting in significant harm to other Watercourse States, here measures should be taken by State parties to prevent this.⁴⁹

From this limited study of the Revised Protocol, it is clear that there are measures in place that would assist in protecting our rivers that are shared with other states. All that needs to be done is for each signatory state to adhere to the content of the Revised Protocol.

5.3 The Rio Declaration on Environment and Development of 1992 & Agenda 21

In 1992, a conference was held in Rio de Janeiro, Brazil. This is also known as the Earth Summit. The object of the Summit "... was to examine the state of the environment and development since the 1972 UN (United Nations) Conference of Human Environment in Stockholm."⁵⁰ It was attended by 178 governments and some 120 heads of State were present.⁵¹ Furthermore, business and industry played an important and constructive role in the run up of the conference.⁵² There the Rio Declaration was adopted.

The Rio Declaration "is a statement of twenty-seven principles... setting out the basis upon which states and individuals are to co-operate and further develop 'international law in the field of sustainable development'."⁵³ Principle 4 states that "[i]n order to achieve sustainable development, environmental protection shall constitute an integral

⁴⁸ Department of Water Affairs and Forestry, August 2001, Explanatory Memorandum and Protocol, Revised Protocol on Shared Watercourse in the Southern African Development Region: Section 2(b)(i) of Revised Protocol.

⁴⁹ Department of Water Affairs and Forestry, August 2001, Explanatory Memorandum and Protocol, Revised Protocol on Shared Watercourse in the Southern African Development Region: Section 2(b)(c) of Revised Protocol.

⁵⁰ *General Dismantlement Imput*: http://www.dismantle.org/sub_more.htm Page 1 of 5.

⁵¹ *General Dismantlement Imput*: http://www.dismantle.org/sub_more.htm Page 1 of 5.

⁵² *General Dismantlement Imput*: http://www.dismantle.org/sub_more.htm Page 1 of 5.

⁵³ Kidd, 1997: p 74.

part of the development process and cannot be considered in isolation from it.⁵⁴ It further places an obligation upon States to “cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth’s ecosystems.”⁵⁵

With regard to the enactment of environmental legislation, Principle 11 states that they should be effective. “Environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply.”⁵⁶ Effective legislation clearly indicates reasonable legislation as envisaged in our Constitution’s environmental clause.⁵⁷

At the Rio summit, Agenda 21 was adopted. It is an “800 page proclamation that is a ‘blue print’ for implementing the Rio Declaration, outlining the actions that nations must take from now until the year 2000, to ensure the planets future.”⁵⁸ It contains 4 sections comprising of 40 Chapters. The section that it contains are the following, from 1 to 4:⁵⁹ Social and Economic Dimensions; Conservation and Management of Resources for Development; Strengthening the role of major groups and means of implementation. Chapter 18 found in Section 2 deals with the protection of the quality and supply of freshwater resources.⁶⁰

5.4 Recent developments

In August and September 2002, the World Summit on Sustainable Development took place in Johannesburg.⁶¹ Water security was a Key issue at the summit.⁶² Tens of thousands of people participated. These included, *inter alia*, national delegates, heads

⁵⁴ United Nations, General Assembly, 1992: Report of United Nations Conference of Environment and Development, Annex I <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

⁵⁵ United Nations, General Assembly, 1992: Report of United Nations Conference of Environment and Development, Annex I <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

⁵⁶ United Nations, General Assembly, 1992: Report of United Nations Conference of Environment and Development, Annex I, Principle 11 <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

⁵⁷ Constitution: Section 24(b).

⁵⁸ General Dismantlement Input: http://www.dismantle.org/sub_more.htm Page 1 of 5

⁵⁹ <http://habitat.igc.org/agenda21/index.html>.

⁶⁰ The Water Page: http://www.thewaterpage.com/agenda_21.htm

⁶¹ La Voz del, United Nations World Summit on Sustainable Development: <http://www.uctp.org/Volumes5/OctDec2002/index1.html>

⁶² <http://www.earthsummit2002.org/>

of State and Governments, and leaders from non-governmental organizations (NGOs). This was in order “to focus the world's attention and direct action toward meeting difficult challenges, “including improving people's lives and conserving our natural resources in a world that is growing in population, with ever-increasing demands for food, water, shelter, sanitation, energy, health services and economic security.”⁶³

More recently, in March 2003, the Third World Water Forum took place in Kyoto, Japan.⁶⁴ This forum was “...an opportunity for technical and regional organizations that are actively involved with water problems to present their perspectives in free discussions.”⁶⁵ There were approximately 450 participants and 40 countries were represented.⁶⁶

6. The South African Constitutional Context

Our Constitution is the Supreme law of South Africa and any law or conduct contrary to it is invalid and whatever obligations imposed by it must be fulfilled.⁶⁷ What follows is a look at certain sections of our Constitution relevant to this study.

6.1. The Bill of Rights

The Bill of Rights found in Chapter 2 of our Constitution is the cornerstone of democracy in South Africa, and the State should respect, protect, promote and fulfil the rights in it.⁶⁸ It affords everyone with fundamental rights, which includes, amongst many others, the right to dignity,⁶⁹ life,⁷⁰ property⁷¹ and housing.⁷² There are a total of 32 sections in the Bill of Rights that affords everyone basic human rights. According to *Craythorn*, “the Bill of Rights does not deny the existence of any other rights or freedoms that are recognised or conferred by common law, customary law or

⁶³ Johannesburg 2002: http://www.johannesburgsummit.org/html/basic_info/basicinfo.html

⁶⁴ World Water Council, World Water Forum: <http://www.worldwatercouncil.org/forum.shtml>

⁶⁵ Third World Forum: http://www.jiid.or.jp/j/ICID_kokunai/jigyomontreal/22.html

⁶⁶ World Water Council: http://www.worldwatercouncil.org/act_report_kickoff.shtm

⁶⁷ Constitution: Section 2.

⁶⁸ Constitution: Section 7.

⁶⁹ Section 10.

⁷⁰ Section 11.

⁷¹ Section 25.

⁷² Section 26.

legislation, in so far as they are consistent with the Bill.”⁷³ Therefore, you may impose a right with the same amount of ‘constitutional backing’ as long as it is in conformity with our Constitution. These rights found in the Bill of Rights are fundamental, however they are not absolute. They may only be limited in terms of the limitation clause found in section 36 of our Constitution.

It should be remembered that our Constitution is absolute, but the various sections in its Bill of Rights' absoluteness could be subject to another section in our Constitution – where the latter would prevail. This is where the limitation clause⁷⁴ find its application. According to this clause, the rights in the Bill of Rights may only be limited in terms of the law of general application as long as the limitation is reasonable and justifiable in an open and democratic society taking into account certain factors.⁷⁵ Therefore, in applying the limitation clause to the right to protected rivers found in the environmental clause,⁷⁶ a river may be destroyed (and therefore and infringement of our right to have the environment protected entrenched in our Constitution) if it is justified by section 36 (limitation clause) of our Constitution. This can be illustrated by building a hospital over a river and channelling the water to a different location.

6.2 Equality Clause

Section 9 of our Constitution deals with equality. It affords everyone equality before the law and equal protection and benefit from it.⁷⁷ Furthermore it prohibits unfair discrimination.⁷⁸ In applying this to river conservation, protection and sustainable use, the State should not unfairly discriminate between the protection of rivers found in different communities in South Africa. Furthermore, the State should make water available to all South Africans on an equitable basis.

⁷³ *Craythorn*, 1997: p 19.

⁷⁴ Constitution: Section 36.

⁷⁵ See note 11 above.

⁷⁶ Constitution: Section 24(b).

⁷⁷ Constitution: Section 9(1).

6.3 Just administrative action

Activities that may have an effect on the environment has to be authorised by the relevant State authority. For example, if you want to undertake mining activities, you require a mining authorisation that is issued by the Director of Mineral Development.⁷⁹ This is when we deal with administrative action. According to *Hoexter et al*, “Administrative action refers broadly to the conduct of the public administration.”⁸⁰ “Environmental management falls to a large extent under the administrative control of government officials.”⁸¹ As our Constitution is the ultimate source of law, it is also the ultimate sources of administrative power or authority.⁸² Section 33(1) of our Constitution affords everyone the right to lawful and procedurally fair administrative action. If your rights have been adversely affected by administrative action, you have a right to be given written reasons.⁸³ According to *De Waal et al*, “[t]he Constitution requires the administration to act in accordance with fundamental principles of justice and rationality and prohibits the legislature from allowing and departing from these principles.”⁸⁴ With regard to administrative justice in relation to river protection, conservation and sustainable use, public officials may not make and implement decision affecting the environment without following procedurally fair administrative action.

6.4 Right of access to sufficient water

Without water, human beings cannot survive. Our absolute dependence on water for survival is illustrated by the fact that our Constitution gives everyone the right to access to sufficient water.⁸⁵ Furthermore, the State must take reasonable legislative and other measures within its available resources to achieve the progressive realisation of this right.⁸⁶ This is a fundamental right that has to be given effect to. In order for this right to be fulfilled, there firstly has to be sufficient water available for

⁷⁸ Constitution: Sections 9(2)-(5).

⁷⁹ Minerals Act 50 of 1991: Section 9.

⁸⁰ *Hoexter et al*, 2002: p3.

⁸¹ *Barnard*, 1999: p 325.

⁸² *Hoexter et al*, 2002: p16.

⁸³ Constitution: Section 33.

⁸⁴ *De Waal et al*, 2001: p 489.

⁸⁵ Constitution: Section 27 (1) (b).

⁸⁶ Constitution: Section 27(2).

everyone. Therefore all water resources need to be conserved and protected to make sure that everyone has access to sufficient water. This entails that our rivers, dams and lakes be protected as well as all other water resources. There is therefore a direct link between the constitutional rights to the conservation and protection of the environment (rivers) and the right to access to sufficient water.

6.5 The Environmental Clause: Content and analysis

The rights in the Bill of Rights⁸⁷ found in our Constitution are fundamental and the State should fulfil all obligations imposed by it and everyone (including the State) should abstain from depriving others from exercising and benefiting from their constitutional rights. The basis of our right to have our rivers conserved is our environmental clause⁸⁸ found in our Constitution. I shall now analyse and interpret our Constitution's environmental clause⁸⁹ to see what rights it affords us and what obligations it imposes upon the State with regard to river protection, conservation and sustainable use.

Section 24 of our Constitution (Environmental Clause) states the following:

Everyone has the right –

- (a) to an environment not harmful to their health or wellbeing; 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;
 - (ii) promote conservation; and
 - (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

This section “establishes the principle framework in terms of which other [environmental] legislation has to be interpreted.”⁹⁰ According to *Devenish*,⁹¹ it is clear from the environmental clause, “that the ‘environment’ is a composite and inclusive notion that consolidates the more specialised phenomena such as ‘nature conservation’, ‘protection’, ‘pollution’ and other cognate concepts.” Section 24 uses

⁸⁷ Constitution: Chapter 2.

⁸⁸ Constitution: Section 24.

⁸⁹ Section 24

⁹⁰ *Nel & du Plessis*, 2001: p2.

the words “[e]veryone has the right...”. There is therefore no qualification on who may use this right and therefore it applies to everyone in South Africa and to anyone visiting our shores. If any of the rights contained in this section are violated, the aggrieved party may approach a competent court for redress.⁹²

6.5.1 Section 24 (a)

Section 24 (a) affords everyone with two rights. The first is to an environment not detrimental to one’s health, and secondly, to an environment not detrimental to one’s wellbeing. These rights are both positive and negative in their application. In the positive sense, the State has an obligation to ensure that the environment is not detrimental to one’s health or wellbeing, this is illustrated below. In the negative sense the State and every individual has an obligation not to cause harm to the environment that would be detrimental to another’s health or wellbeing.

There is a distinction between an environment not being detrimental to your health and an environment not detrimental to your wellbeing. With regard to a right to an environment not detrimental to your health, according to *Glazewski*,⁹³ “this goes beyond the right to health care established by section 27 of the Bill of Rights which concerns the provisions of health care.” Therefore, if a neighbour conducts industrial activities that causes harm to your health, your constitutional right to an environment not detrimental to your health would be violated. In this regard you may approach a competent court to enforce and protect your rights. Furthermore, *De Waal et al*⁹⁴ states that “[a]ll government actions and legislation as well as individual conduct that impacts on the environment must now comply with the constitutional right to a healthy environment.”

With regard to everyone’s right to an environment not detrimental to their wellbeing, this refers to the physical environment around them and is not limited to nature. If for instance, a theme park that many people attend for relaxation and enjoyment has been demolished, this would affect the wellbeing of those who used it. Their right to an

⁹¹ *Devenish*, 1998: p 67.

⁹² Constitution: Section 38.

⁹³ *Glazewski*, 2000: p 87.

environment not detrimental to their wellbeing is therefore infringed. According to *Glazewski*,⁹⁵ “the term ‘well-being’ in section 24(a) implies that a decent and undisturbed environment has an inherent and intrinsic value for people.” Therefore, a national monument should at all time be maintained if it holds in it the pride of the Nation.

The State has a positive obligation to give effect to the right to an environment not detrimental to your health or wellbeing. Here the State should put procedures in place in order for this right to be protected and where necessary, enforced. An example of this could be for the State to create special environmental courts dealing with infringements of individuals rights to an environment not detrimental to their health or wellbeing. This would give substantive meaning to the right. If the State however does not fulfil its obligation and the environment is being harmed in a manner detrimental to one’s health or wellbeing, a competent court may be approached for an order directing the relevant authority to excise its duty in terms of our Constitution.

6.5.2 Section 24(b)

With regard to sub-section (b), which this work is primarily concerned with, it places a duty on the State to protect the environment through reasonable legislative and other measures. It “grants individuals a justifiable right in that the State cannot employ measures which could be considered retrogressive in relation to the protection of the environment, or which are actively harmful to the environment.”⁹⁶ In terms of sub-section (b), legislation, policy documents, by-laws, strategies, directives etc should be created from local to national government that prevents pollution and ecological degradation, promotes conservation and secures ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. How this is done and the contents of these measures are the State’s prerogative. However these measures should be reasonable and therefore workable.⁹⁷ These measures should do what our Constitution expects it to do with regard to the

⁹⁴ *De Waal et al* 2001: p 403.

⁹⁵ *Glazewski*, 2000: p 404.

⁹⁶ *De Waal et al*, 2001: p 403 in which a reference note was made to *Ex parte Chairperson of the Constitutional Assembly: in re Certification of the Constitution of the Republic of South Africa 1996* 1996(4)SA 744 (CC) para 78.

protection of the environment. If there are no legislative and other measures dealing with environmental protection that prevents pollution and ecological degradation, promotes conservation and secures ecologically sustainable development and use of natural resources while promoting justifiable economic and social development, everyone's right in section 24(b) would be violated.

If there are legislative and other measures that are intended to protect the environment, prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development, but it is not workable and therefore not reasonable – then everyone's section 24(b) rights would be violated as well. Therefore, if legislation were to be enacted that deals with river protection, conservation and sustainable use, but the state of our rivers were to continue to deteriorate over time, then these legislative and other measures created in terms of section 24(b) would not be reasonable and therefore not be constitutional. In this instance, everyone's right to reasonable measures concerning the protection of our rivers would be violated.

If the State does not fulfil its constitution obligation in terms of section 24(b), it would be violating the supremacy of our Constitution by acting contrary to it and furthermore rob all South Africans of their fundamental right to a protected environment.

6.6 Co-operative governance

National, Provincial and Local government all have a collective role to play with regard to the management of rivers in South Africa. National government may create legislation, which need to be implemented by local authorities. This is illustrated by the National Water Act of 1998, which was created by national government but which places and obligation on local authorities to create catchment management strategies. There therefore has to be some type of mandatory co-operation between the various spheres of government in order for legislation to be effectively implemented, for one sphere requires the assistance of the other.

⁹⁷ See *Grootboom* case in Chapter 8 below.

Chapter 3 of our Constitution deals with the principle of co-operative governance. This concept is to a manifest extent based on the German Constitution.⁹⁸ According to *Devenish*,⁹⁹ “[t]he subject matter of Chapter 3 is both new and unusual for a constitution.” Chapter 3 “is particularly important because it reflects a fundamental departure from the past in that the three traditional spheres ... are no longer regarded as hierarchical tiers with national government at the helm...”¹⁰⁰ These principles contained in chapter 3 determines the relationship among the different levels of government.¹⁰¹ “The Constitution envisages legislation for the establishment of structures and institutions in which government at the various levels will co-operate and through which the principle will be given effect.”¹⁰² In the application of this principle, there would exist no watertight separation between the various levels of government and their functions and powers.¹⁰³ Our Constitution states that the government of the Republic is constituted of the National, Provincial and Local spheres of government which are distinctive, interdependent and interrelated.¹⁰⁴ A principle of co-operative government and intergovernmental relations is that all spheres of government and all organs of State within each sphere must “exercise their powers and perform their functions in a manner that does not encroach on the geographical, functional or institutional integrity of government in another sphere.”¹⁰⁵

According to *Burns*, “[c]o-operative governance implies a willingness on the part of one government authority to co-operate or act in conjunction with other government authorities at the national, provincial and local government spheres.”¹⁰⁶ Furthermore,

[t]he importance of co-operative governance lies therein that:

Although each sphere of government has its own unique characteristics and place in the constitutional system, each sphere is nevertheless dependant on the other spheres of government and is constitutionally linked to these spheres in terms of the

⁹⁸ *Devenish*, 1998: p 105 Refers in its footnote to: The Basic Law of 1949.

⁹⁹ *Devenish*, 1998: p 105.

¹⁰⁰ *Glazewski*, 2000: p 128.

¹⁰¹ *Rautenbach&Malherbe*, 1997: p 254.

¹⁰² *Rautenbach&Malherbe*, 1997: pp 254-255.

¹⁰³ *Rautenbach&Malherbe*, 1997: p 255.

¹⁰⁴ Section 40(1).

¹⁰⁵ Constitution: Section 41(g).

¹⁰⁶ *Burns*, 1999: p 70.

requirement and relationship co-operative governance and intergovernmental relations.¹⁰⁷

A sharing of expertise and experience is brought about by this principle of co-operative government and it ensures the delivery of better services to the general public.¹⁰⁸ Therefore co-operative governance requires that there should be assistance and support between the various levels of government.¹⁰⁹

If the municipalities create by-laws, they need to be in conformity with broader national and provincial programmes.¹¹⁰ By-laws and regulations are *ultra virus* and invalid if they conflict with national and provincial legislation. Action taken in terms of such 'invalid' by-laws by municipal officials, may be challenged by a person affected by the action. In order to determine whether the action by the official is invalid or no, the rules of administrative law will be applied.¹¹¹

With regard to rivers in South Africa, all spheres of government should actively co-operate in its protection, conservation and sustainable use.

6.6.1 Co-operative governance with regard to river conservation

Schedule 4 of our Constitution deals with the Functional Areas of Concurrent National and Provincial Legislative Competence. According to Part A of Schedule 4, the Environment and Nature Conservation¹¹² falls under National and Provincial Legislative Competence. Therefore it is the duty of National Government to enact laws that deal with the protection and conservation of the environment. However, *Glazewski* states that "it should be noted that the Constitution designate 'environment' as a matter of concurrent national and provincial competence causing some uncertainty about the respective rights and responsibilities of national, provincial and local government regarding environmental matters."¹¹³

¹⁰⁷ *Burns*, 1999: p 70.

¹⁰⁸ *Burns*, 1999: p 71.

¹⁰⁹ *Burns*, 1999: p 70.

¹¹⁰ *Burns*, 1999: p 73.

¹¹¹ *Burns*, 1999: p 73.

¹¹² Excluding national parks, national botanical gardens and marine resource.

¹¹³ *Glazewski*, 2000: p 12.

In applying the principle of co-operative government to the protection, conservation and sustainable use of rivers in South Africa, it is clear that there needs to be co-operation between the various spheres of government. National government has expertise and experience in the field of river protection, conservation, and its sustainable use that would be invaluable to the local authorities. Local government cannot pass by-laws without first consulting national and provincial legislation and if there is some type of conflict it needs to be resolved in an amiable manner. Furthermore, if local or provincial authorities require financial assistance, the National government should co-operate in that regard. The study on the Water Services Act of 1997 in Chapter 16 below shows how the principle of co-operative government is manifested in legislation. There, Chapter VIII of the Water Services Act of 1997 which deals with monitoring and intervention of conduct of the various water services authorities is analysed.

7. 'Legislative' and 'other measures'

Our Constitution in its environmental clause clearly states that the State should take reasonable *legislative* and *other measures*.¹¹⁴ What the contents of these measures are is the prerogative of the State. However they have to be reasonable in light of our Constitution. What follows is an exposition of what these measures are, referred to in section 24(b) of our Constitution. This is followed by the judiciary's view of "reasonableness"?

7.1 Legislative measures

As stated earlier, the environment and nature conservation falls under concurrent national and provincial legislative competence.¹¹⁵ This means that both national and provincial government has to enact legislation that deal with nature conservation and the environment. Legislation thus far enacted by national government dealing with nature conservation and the environment are the Environment Conservation Act of 1989 and the National Environmental Management Act of 1998 respectively. Both of

¹¹⁴ Section 24(b).

them are analysed below.¹¹⁶ With regard to water and sanitation services,¹¹⁷ this is a local government matter that falls under the functional area of concurrent national and provincial legislative competence.¹¹⁸ We shall analyze the Water Services Act of 1997 and the National Water Act of 1998 in this regard. Furthermore, other legislative measure relevant to this work would also be analysed.

7.2 Other measures

The obligation imposed upon the State to take 'other measures' with regard to environmental protection, conservation and sustainable use can be executed in a variety of ways. However there is no closed or limited category. If the circumstances we live in change, the measures that should be taken also changes. Therefore a specific measure that was once relied upon may be of no use in a different time it finds itself in. What follows are measures that in my view should be taken with regard to the conservation, protection and sustainable use of rivers in South Africa.

7.2.1 Policies

A proper national plan or course of action is required in order to achieve environmental protection and conservation of all parts of the environment. For the purpose of this work, emphasis is put on rivers as part of the environment. These policy measures should be the blue print on which government should rely on in exercising their function in order to protect and conserve the environment for the benefit of present as well as future generations. There should be a national and local environmental policy in place in order to properly deal with our environment and conservation concerns. Chapter 11.1 below deals with the policy measures in place that assists in the conservation, protection and sustainable use of rivers in South Africa.

¹¹⁵ See Chapter 6 6.1 above.

¹¹⁶ See Chapter 18 below for an analysis of the Environment Conservation Act of 1989 and Chapter 14 for an analysis of the National Environmental Management Act of 1998.

¹¹⁷ See Constitution, Schedule 4, Part B: Limited to potable water supply systems and domestic wastewater and sewage disposal systems.

7.2.2 Action plans

The state of our rivers is deteriorating which are causing widespread public concern. There has to be action plans drawn up with short-term and long-term objectives and they should be implemented immediately. These plans should be simple and easy to implement. It should make all parts of society role players in its application and call for co-operation between all concerned. In the formulation of a plan, a wide spectrum of people needs to be consulted. These will range from the lay person affected by the environment to relevant expert groups. The plan should be reviewed on a continual basis for its effectiveness.

7.2.3 Strategies

Strategies are very effective tools to be used when you are dealing with a matter on a large scale. This would apply especially to measures dealing with the protection, conservation and sustainable use of rivers in South Africa. Chapter 2 of the National Water Act of 1998 makes provision for the establishment of a National Water Resources Strategy and catchment management strategies. Both these strategies are analysed in Chapter 12 below.

7.2.4 Programmes

Environmental programmes, if properly drafted and implemented is an effective measure that could be taken by the State with regard to the protection, conservation and sustainable use of rivers in South Africa. These programmes should contain in it, *inter alia*, a list of arrangements and procedures that has to be executed or applied by the relevant parties. Programmes could be created to clean polluted rivers or to collect information that would assist in its protection. In 1994, the Department of Water Affairs initiated the South African River Health Programme with the purpose of gathering information regarding the ecological state of river ecosystems in South Africa. The information they have gathered would be used to support positive

¹¹⁸ Constitution: Schedule 4, Part B.

management of these natural resources.¹¹⁹ Although programmes are mostly long-term measures, they are however effective measures.

7.2.5 Co-operation

Another measure is that of co-operation. As illustrated in Chapter 6.6 above, our Constitution entrenches the principle co-operative governance. In terms of this principle, all levels of government should work in cooperation with each other. Local spheres of government should receive support from the National sphere. This support should be in the form of advice and assistance and where necessary, financial support. With regard to rivers in South Africa, the various spheres of government should work in cooperation in ensuring that our rivers are protected for the benefit of the present and future generations.

7.2.6 Financial support

Financial support is what the national government should provide to provincial and local government in order for them to properly execute their functions. Therefore there should be measures in place that would allow for the proper facilitation of financial support from national to provincial and local government. Therefore, if provincial or local government require funds to protect or conserve its rivers, there should be functions in place from which the funds needed can be channeled.

7.2.7 Partnerships (Public & Private)

In order for our right to an environment not detrimental to our health or wellbeing and for our rivers to be protected and conserved to be realised, there needs to be a form of partnership between the public authorities and private individuals. Therefore, if there are any environmental harm taking place, it should be reported to the competent authority. Furthermore, the State should not lose the confidence of the public by not enforcing environmental legislation and regulations. Lastly, the public should be properly consulted before implementing any environmental measures.

¹¹⁹ State of the Rivers Report, 2001: p 1.

7.2.8 Water pricing and licenses

An effective measure that has to be taken with regard to river protection, conservation and its sustainable use is the issuing of licences with regard to the use of water obtained from rivers. With the issuing of licences, the use of the river would be regulated, as licences will be issued in relation to the amount of water the river can provide. Furthermore, the licence would prescribe a limit on the amount of water that may be used. In this manner, rivers as a water resource would be protected, conserved and its water would be used in a sustainable manner. Section 43 of the National Water Act of 1998 deals with compulsory licence applications in relation to water resources. What follows is the judiciary's view of what are reasonable measures.

8. The judiciary's view of the 'reasonableness' of such measures – the 'Grootboom test'

A question that has to be answered before looking at legislative and other measures dealing with river protection, conservation and its sustainable use, is what is meant by *reasonable legislative and other measures*? Our Constitution is clear on the point that the environment should be protected by the taking of reasonable legislative and other measures that, *inter alia*, promotes its conservation, and secure its sustainable use. An exposition of what is meant by 'reasonable' measures is therefore required. This I shall do by using the judiciary's view on reasonableness.

8.1 Grootboom analysis of reasonableness

In the case of *Government of the Republic of South Africa v Grootboom and others*¹²⁰ (hereafter referred to as 'the *Grootboom* case'), the Constitutional Court gave an exposition as what is meant by reasonable legislative and other measures with regard to the housing clause in section 26 of our Constitution. This section commences by affording everyone the right to access to adequate housing.¹²¹ It then states that the "state must take reasonable legislative and other measures, within its available

¹²⁰ 2000(11) BCLR 1169 (CC).

¹²¹ Section 26(1).

resource to achieve the progressive realisation of this right.”¹²² I submit that the same manner of interpretation afforded to the housing clause with regard to what is meant by 'reasonable legislative and other measures' applies equally to the environmental clause¹²³ of our Constitution. This is so, notwithstanding the fact that the housing clause uses the term “within its available resource” and the environmental clause does not have any such qualification. The reason for this qualification is that providing people with adequate housing is far more taxing on the State than providing everyone with the basic protection of the environment. In dealing with what is reasonable legislative and other measures, the Court firstly dealt with a national programme and how it should be implemented taking into consideration the principle of co-operative governance. The Court then set out what would be the substantive reasonable measures.

8.1.1 The Facts

In the *Grootboom* case, the respondents made an application to the High Court for an order directing the municipality forthwith to provide them and their children with basic temporary shelter or housing pending them obtaining permanent accommodation; or basic nutrition, shelter, healthcare and social service to the applicants who are children.¹²⁴ The appellants based their claims on our Constitution's housing clause mentioned above and section 28(1)(c) of our Constitution that provides that children have a right to shelter. The court a quo found in favour of the respondents. Application for leave to appeal was granted to the Constitutional Court. The part of the judgement that deals with what is meant by reasonable legislative and other measures shall now be examined.

8.1.2 Co-operative Government

According to the Constitutional Court, “[w]hat constitutes reasonable legislative and other measures must be determined in the light of the fact that the Constitution creates different spheres of government: national government, provincial government and

¹²² The right referred to is the right to have access to adequate housing: section 26(1) of our Constitution.

¹²³ Section 24(b).

local government.”¹²⁵ Although housing is a function shared by both National and Provincial Government, the Court stated that “[l]ocal government has an important obligation to ensure that services are provided in a sustainable manner in the communities they govern.”¹²⁶ And in order for a programme to be reasonable, it “must clearly allocate responsibilities and tasks to the different spheres of government and ensure that the appropriate financial and human resources are available.”¹²⁷ The court held that “... a co-ordinated State housing programme must be a comprehensive one determined by all three spheres of government in consultation with each other as contemplated by Chapter 3 of the Constitution.”¹²⁸ Chapter 3 of the Constitution deals with the principles of co-operative governance.¹²⁹ With regard to the allocation of national revenue, the Court said that it should be emphasised that national government bears an important responsibility to allocate the national revenue to the provinces and local government on an equitable basis.¹³⁰

8.1.3 Content of reasonable measures

The Court further dealt with the substantive aspect of reasonable measures. With regard to the contours and content of the measures to be adopted; the Court stated that this is primary a matter for the legislature and the executive, but they must ensure that it is reasonable.¹³¹ If any challenge is brought to court based on the housing clause “in which it is argued that the State has failed to meet the positive obligations imposed upon it by section 26(2), the question will be whether the legislative and other measures taken by the State is reasonable.”¹³² In considering reasonableness, the court “will not enquire whether other more desirable or favourable measures could have been adopted... [but] whether the measures that have been adopted are reasonable.”¹³³

¹²⁴ Grootboom, 2000: par12.

¹²⁵ par39.

¹²⁶ par39.

¹²⁷ par39.

¹²⁸ par40.

¹²⁹ See Chapter 6.6 above dealing with co-operative governance.

¹³⁰ par40.

¹³¹ par41.

¹³² par41.

¹³³ par41.

The Court held that “[l]egislative measures by themselves are not likely to constitute constitutional compliance [and] [m]ere legislation is not enough.”¹³⁴ The court further held that:

The state is obliged to act to achieve the intended results, and legislative measures will invariably have to be supported by appropriate, well-directed policies and programmes implemented by the executive. These policies and programmes must be reasonable both in their conception and their implementation. The formulation of a programme is only the first stage in meeting the State’s obligations. The programme must also be reasonably implemented. An otherwise reasonable programme that is not implemented reasonably will not constitute compliance with the State’s obligation.¹³⁵

With regard to determining whether a set of measures is reasonable, the Court held that “it will be necessary to consider housing problems in their social, economic and historical context and to consider the capacity of the institutions responsible for implementing the programme.”¹³⁶ “Conditions do not remain static and therefore the programme will require continuous review.”¹³⁷

The Court further held that “[r]easonableness must also be understood in the context of the Bill of Rights as a whole.”¹³⁸ With regard to the right to adequate housing, it is entrenched in the Constitution “because we value human beings and want to ensure that they are afforded their basic human needs.”¹³⁹

I shall now apply the Constitutional Court's exposition set out above to what would be reasonable legislative and other measures in relation to the protection, conservation and sustainable use of rivers in South Africa. This would be followed by a demonstration on how important it is for State officials to know their duties in terms of legislative and other measures and what constitutionally valid legislation entails.

¹³⁴ par42.

¹³⁵ par42.

¹³⁶ par43.

¹³⁷ par43.

¹³⁸ par44.

¹³⁹ par44.

8.1.4 Application of the *Grootboom* case to the Environmental Clause

Our Constitution is clear that the State should protect the environment by taking reasonable legislative and other measures that would prevent pollution and ecological degradation; promote its conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.¹⁴⁰ What this constitutional obligation obviously entails, is for the creation of valid legislation and not that which would be declared invalid under a constitutional challenge. If this were the case, then the measures created would not be reasonable. I shall now apply the principles laid down in the *Grootboom* case in determining what would be reasonable measures that deals with river protection, conservation and sustainable use.

8.1.5 Application of the *Grootboom* case to measures dealing with river protection, conservation and sustainable use

As shown earlier, the *Grootboom* case in dealing with what is meant by reasonable legislative and other measure does so in two parts. The Court firstly dealt with a national programme and how it should be implemented taking into consideration the principle of co-operative governance. Then the Court set out what would be substantive reasonable measures in terms of our Constitution. In applying the *Grootboom* case, it is clear that there should be a programme in place that deals with the conservation of various aspects of the environment. This programme has to be reasonable to meet constitutional compliance.

The programme should be formulated in light that there are three spheres of government and each one has to be allocated roles that would make the programme work. The environment, pollution control and nature conservation are the functional area of concurrent national and provincial legislative competence.¹⁴¹ Taking into account the various powers and functions of the various spheres of government – the programme should fully utilise them. The programme should therefore allocate responsibility to all spheres of government and local government has to ensure that

¹⁴⁰ Constitution: Section 24(b).

¹⁴¹ Constitution: Schedule 4.

services are provided for in a sustainable manner. With regard to local government and rivers, these services could include catchment management agencies and enforcement of pollution legislation within its jurisdiction.

All spheres of government should co-operate with each other in exercising their powers and duties. All spheres have important roles and local government has to ensure that environmental policies and directives should be implemented in a sustainable manner in the areas they govern.

In order for the programme to be reasonable, it has to allocate tasks and responsibilities to all spheres of government and make sure that there are finances in place and the necessary human resources to implement the programme. The measures would therefore only be reasonable if it allocates duties and responsibilities to all stakeholders and that there are the necessary manpower and resources to implement the programme. All spheres of government should where possible consult with each other in accordance with the principle of co-operative governance in determining what measures to put in place in order to conserve our rivers. Framework legislation from National government might also be required.

All spheres of government must accept responsibility with regard to the implementation of particular parts of the programme.

National government must assume responsibility for ensuring that laws, policies, programmes and strategies are adequate to meet the State's constitutional environmental responsibility. The National framework dealing with river protection, conservation and sustainable use must be designed so that these obligations can be met. At all times, national government bears the important responsibility with regard to the allocation of national revenue to all spheres of government on an equitable basis. Furthermore, national and provincial government must ensure compliance with executive obligations imposed by environmental conservation legislation.

The content and nature of measures taken dealing with river protection, conservation and its sustainable use is primarily a matter for the legislature and executive, however they must ensure that the measures are reasonable. If legislation created in terms of

the environmental clause¹⁴² were constitutionally challenged, it would only pass the test on the basis of it being reasonableness.

We have quite a handful of legislation dealing with the environment. However, they will only be reasonable if they meet the standard expected by our Constitution. The creation of mere legislation dealing with river protection, conservation and its sustainable use is not enough to pass constitutional muster. The legislative measures have to be supported by appropriate, well-directed policies and programmes implemented by the executive that would deal with river conservation. If these were created, it would have the desired constitutional result. The policies dealing with river conservation, protection and sustainable use must be reasonable in its conception and implementation. It has to be reasonable at both stages. If it is reasonably formulated but not reasonably implemented, it would not be compliant with our Constitution. This formulation of a programme dealing with river protection, conservation and its sustainable use is only the first stage in the road towards the State meeting its obligation toward our rivers. Reasonable implementation of the programme is the second.

In determining whether a set of measures dealing with river protection, conservation and sustainable use are reasonable, it is necessary to consider the environmental problems in their social, economic, and historical context and to consider the capacity of institutions responsible for implementing the programme. As conditions do not remain static, the programme needs to be continuously reviewed in order to meet the current environmental concerns. In looking at the Bill of Rights as a whole, the right to a protected and conserved environment is entrenched in it in order to ensure the health and wellbeing of everyone. By the State taking measures that deals with the protection of rivers, it assists in the application of the right to life, dignity and equality.

The Chapters that follows demonstrates how important it is that State officials know what their duties are in terms of law, what it entails, and what the consequence are

¹⁴² Constitution: Section 24(b).

with regard to the application of unconstitutional legislation. This knowledge adds to the reasonableness of the measures.

9. States responsibility to understand its environmental obligation demonstrated

Lets say legislation has been created that are reasonable in light of our Constitution, it is very important that all officials responsible for acting in terms of such legislation should know their responsibilities and what it entails. If they do not act in terms of their responsibilities, they would be acting unconstitutional but the legislation would be valid.

9.1 Makay Bridge Farm CC case

The case of *MEC for Economic Affairs Environment and Tourism v Makay Bridge Farm CC*¹⁴³ (hereafter referred to as the "Makay case") demonstrated how a lack of knowledge with regard to your duties as an official could possibly cause harm to the environment. In the Makay case, the respondent was engaged in, *inter alia*, "landscaping which includes the scraping away and sloping of the natural sheer bank of the [Sundays] river on the western side thereof."¹⁴⁴ The Applicant brought an application to court in which "the very relief claimed is claimed on the basis that the interdict should be of effect pending the applicant's decision in terms of law."¹⁴⁵ The decision in terms of law was what are its duties in terms of the Environment Conservation Act,¹⁴⁶ and he therefore required an adequate and reasonable time in which to find out its duties.¹⁴⁷ The relevant section in the Environment Conservation Act was, *inter alia*, section 31(A), which deals with the powers of, amongst others, the Minister, where the environment is damaged, endangered or detrimentally affected. If in the opinion of, amongst others, the Minister, "any person performs an activity as a result of which the environment is or may be seriously damaged, endangered or detrimentally affected, the Minister... may in writing direct such person-

¹⁴³ [1996] 3 All SA 340 (SE).

¹⁴⁴ *Makay*: p 342 E-F.

¹⁴⁵ *Makay*: p 345 A-B.

¹⁴⁶ Act 73 of 1989.

¹⁴⁷ *Makay*: p 344 H-I.

- (a) to cease such activity; or
- (b) take such steps as the Minister ... may deem fit, within a period specified in the direction, with a view to eliminating, reducing or preventing the damage, danger, or detrimental effect.”¹⁴⁸

The Court held that “[i]t is clear on the papers that the applicant has as yet formed an opinion in the matter and that on the applicant’s own showing it is also not clear that the work will cause irreparable harm.”¹⁴⁹ For a temporary interdict to be issued, the applicant has to first show at least a *prima facie* right to the relief sought.¹⁵⁰ According to the Court, “the applicant has not formed the required opinion within the meaning of section 31(A) of the Act.”¹⁵¹ An opinion is a prerequisite to use the powers in the Act and “before the exercise of that jurisdictional fact (the opinion) no rights accrue to the applicant in terms of the Act, and in my judgement, the Act regulates the Applicant’s powers and duties and it does so exhaustively.”¹⁵² The Court concluded, “the applicant has no right, not even a *prima facie* right to the relief which he claims...”¹⁵³

Therefore legislative and other measures may be reasonable and therefore constitutional, but would not be fully effective if those designated in applying the measures do not fully understand it – as demonstrated in the *Makay* case.

10. State Responsibility to create constitutionally valid legislation

In creating legislative and other measures, it is very important that it is constitutionally valid in that it conforms to the requirements of the Bill of Rights¹⁵⁴ and our Constitution as a whole. This is required in order for legislation to be reasonable. I shall now demonstrate how important it is for constitutionally valid legislation to be enacted.

¹⁴⁸ *Makay*: p 345 D-E. As stated in the case.

¹⁴⁹ *Makay*: p 345 G-H.

¹⁵⁰ *Makay*: p 346 D-E.

¹⁵¹ *Makay*: p 346 E-F.

¹⁵² *Makay*: p 346 E-G.

¹⁵³ *Makay*: p 346 G-H.

¹⁵⁴ Constitution: Chapter 2.

10.1 The Mumba Case

In the case of *S v Mumba*¹⁵⁵ (hereafter referred to as the "*Mumba* case"), the Court held section 110(1)(m) of the Nature Conservation Ordinance 12 of 1983(T) to be inconsistent with the 1993 interim Constitution.¹⁵⁶ This is due to the fact that the section violates other rights in the interim Constitution. The section reads as follows:¹⁵⁷

‘110(1) Where at criminal proceeding in terms of this ordinance –

...

(m) it is proved that any person was in possession or in control of an endangered species, such person shall be deemed to have imported such species into the province;

...

until the contrary is proved.’

The court held that this provision is a breach of the presumption of innocence and “therefore offends against s25 (3)(c) of the Constitution which provides that every person shall have the right to a fair trial, which includes the right to be presumed innocent and to remain silent...”¹⁵⁸ With regard to whether the imputed provision is saved by the limitation clause,¹⁵⁹ the Court held that the limitation criterion has not been met and therefore inconsistent with the interim Constitution.¹⁶⁰ Therefore, in creating reasonable legislative and other measures to protect the environment, the State should not lose sight of other constitutionally entrenched rights. If legislation is not constitutional, it is impossible for it to be reasonable.

11. Measures in place dealing with river protection, conservation and sustainable use

In Chapter 7 above, I dealt with possible measures that can be taken by the State with regard to river protection, conservation and its sustainable use. Chapter 8 dealt with what these measures should entail in order for it to be reasonable. What follows is an

¹⁵⁵ 1997(1) SA 854.

¹⁵⁶ *Mumba*: p 861 F-G.

¹⁵⁷ As quoted in *Mumba*: p 856 F-G.

¹⁵⁸ *Mumba*: p 856 I-857 B.

¹⁵⁹ Constitution: Section 36.

¹⁶⁰ *Mumba*: p 860 G-H.

analysis of the legislative and other measures thus far taken by the State that assists in the protection, conservation and sustainable use of rivers in South Africa. I shall commence this analysis with the 'other measures' contemplated in our Constitution.

11.1 Policy measures dealing with or affecting rivers in South Africa

Every State has to have a planned course of action or procedure in place when dealing with matters of national concern (or even international concern). One of these concerns we have in South Africa is a lack of fresh water resources. As seen in the introduction of this work, our water resources are under stress and therefore need to be protected, conserved and used in a sustainable manner. There is no policy that has as its main purpose the conservation or protection of rivers. However there are policies that deal with water resources which rivers are classified under. I shall now deal with policy measures that have an affect on our water resources in order to see how they assists in the protection, conservation and sustainable use of rivers in South Africa. National Legislation has thus far been promulgated giving effect to these policies.¹⁶¹

11.1.1 White Paper on Water Supply and Sanitation Policy

In 1994, the White Paper on Water Supply and Sanitation Policy was published. Its objective is to set out the policy with specific regard to water supply and sanitation services.¹⁶² However, it does not address the management of the quantity and quality of water resources (which is also a function of the Department of Water Affairs and Forestry) except insofar, as they are relevant to the main theme.¹⁶³ With regard to my analysis of the White Paper on Water Supply and Sanitation, I shall examine how much attention the policy pays to water conservation, protection and its sustainable use. This is due to the fact that most of our water comes from rivers and the policy deals with water supply and sanitation services, which makes use of the water originating from our rivers.

¹⁶¹ For example with reference to the White Paper on Water Supply and Sanitation Policy of 1994, the Water Services Act was enacted.

¹⁶² White Paper on Water Supply and Sanitation Policy, 1994: p 5.

11.1.2 Purpose

The White Paper has eight purposes.¹⁶⁴ They are to provide some historical background regarding water supply and sanitation development in South Africa; explain the development approach that has guided policy formulation; put forward certain basic policy principles; outline the institutional framework proposed for water supply and sanitation services; provide standards and guidelines for basic service delivery; set out policy for the financing of services; outline certain immediate initiatives which are being taken and provide supplementary policy and briefing information on important related topics.

The purpose most relevant to this work is the setting of basic policy principles regarding water supply and sanitation. This shall be examined next.

11.1.3. Policy Principles

Section C deals with the water supply and sanitation policy principles. These principles are based on local and international experience, and on the premises of the Reconstruction and Development Programme.¹⁶⁵ There are 8 in total. The principles are as follows:¹⁶⁶

1. Development should be demand driven and community based
2. Basic services are a human right
3. "Some for All", rather than "All for Some"
4. Equitable regional allocation of development resources
5. Water has economic value
6. The user pays
7. Integrated development
8. Environmental integrity

¹⁶³ White Paper on Water Supply and Sanitation Policy, 1994: p 5.

¹⁶⁴ White Paper on Water Supply and Sanitation Policy, 1994: p 5.

¹⁶⁵ White Paper on Water Supply and Sanitation Policy, 1994: p 8. In the policy document an explanation of the principle is given after stating the principle.

11.1.4. Application of principles to river conservation and sustainable use

The question is how does these principles assist with the protection conservation and sustainable use of rivers in South Africa. This is provided for in the application of principles 5, 6 and 8. With regard to the 'water has economic value' principle, the policy states that the manner in which water and sanitation services are provided for must reflect the growing scarcity of good quality water in South Africa. This should be done in a manner that reflects their value and does not undermine long term sustainability and economic growth.¹⁶⁷ With regard the 'user pays principle,' it is a central principle to ensure sustainable and equitable development, as well as efficient and effective management.¹⁶⁸ This principle assists in that if water is not provided for free of charge, it would lead to the responsible use thereof. The last principle, which is 'environment integrity', if properly applied, would greatly assist in the conservation and sustainable use of our water resources. What this principle entails is that it is necessary for everyone to ensure that the environment is considered and protected in all development activities.¹⁶⁹

From this limited study of the White Paper on Water Supply and Sanitation Policy, it is clear that it is a reasonable measure that would assists in the conservation of our water resource. This is due to the fact that in providing water for the people in South Africa, the State should take note of the growing scarcity of water in South Africa and that it is necessary for everyone to ensure the environment is protected in all development activities.

11.2. White Paper of Environmental Management Policy of 1997

In 1997, the Department of Environment Affairs and Tourism published a White Paper on Environment Policy. This policy laid the groundwork for the National Environment Management Act of 1998.¹⁷⁰

¹⁶⁶ White Paper on Water Supply and Sanitation Policy, 1994: p 8.

¹⁶⁷ White Paper on Water Supply and Sanitation Policy, 1994: p 8.

¹⁶⁸ White Paper on Water Supply and Sanitation Policy, 1994: p 8.

¹⁶⁹ White Paper on Water Supply and Sanitation Policy, 1994: p 8.

¹⁷⁰ Henderson, 2001: p 150.

The purpose of policy is twofold.¹⁷¹ Firstly it is to inform the public what the government's objectives are and how it intends to achieve its objectives. Secondly to inform government agencies and State organs what their objectives are and what they must do to achieve those objectives. Furthermore the policy sets out principles for environmental management. The policy deals with seven strategic goals for achieving environmental sustainable and integrated environmental management.¹⁷² These goals are within the framework of the overarching goal of sustainable development. For the purpose of this research, I shall examine one of the strategic goals of the policy, i.e. sustainable resources use and impact management which is goal number 2.¹⁷³

11.2.1. Strategic goal: Sustainable resource use and impact management

The purpose of this goal is to promote equitable access to, and sustainable use of, natural and cultural resources, and promote environmentally sustainable lifestyles. Furthermore, the purpose is to integrate environmental impact management with all economic and development activities to achieve sustainable development with the emphasis on satisfying basic needs and ensuring environmental sustainability.¹⁷⁴ The goal has supporting objectives. Two of them are sustainable resources use and water resource management that shall be examined next.

11.2.2. Sustainable resources use

This section deals with renewable and non-renewable resources. With regard to non-renewable resources, it makes reference to 'wise use' as opposed to sustainable use as in the case of renewable resources. With regard to renewable resources (e.g. rivers), a supporting objective is to ensure the sustainable use of them, taking account of the interests and needs of present and future generations; all environmental impacts

¹⁷¹ White Paper on Environment Policy, 1997: Introduction.
http://www.polity.org.za/html/govdocs/white_papers/envir.html

¹⁷² White Paper on Environment Policy, 1997: Section 4.
http://www.polity.org.za/html/govdocs/white_papers/envir.html

¹⁷³ White Paper on Environment Policy, 1997: Section 4.
http://www.polity.org.za/html/govdocs/white_papers/envir.html

¹⁷⁴ White Paper on Environment Policy, 1997: Section 4.
http://www.polity.org.za/html/govdocs/white_papers/envir.html

related to resource exploitation; the carrying capacity of the environment and concerns for the maintenance of biodiversity; the potential for developing alternative sources and technologies with less environmental impact and to ensure the integration of environmental considerations into macro economic and resource planning.¹⁷⁵

11.2.3. Water resource management

With regard to water resource management, a supporting objective is to ensure that the quantity, quality and reliability of water required to maintain ecological functions is reserved, so that the human use of water does not individually or cumulatively compromise the long term sustainability of aquatic and associated ecosystems.¹⁷⁶

From the above it is clear that the White Paper on Environment Management Policy is a reasonable measure which assists in the conservation, protection and sustainable use of rivers in South Africa. It places an objective on the State to formulate legislative and other measures that would promote equitable access to, and sustainable use of, natural and cultural resources, and promote environmentally sustainable lifestyles.

11.3 White Paper on a National Water Policy

The Department of Water Affairs and Forestry published a White Paper on a National Water Policy 1997. According to the Department, the publication of the White Paper was the highlight of water resource management in South Africa.¹⁷⁷ The objective of the White Paper is to set out the policy of the Government for the management of both quality and quantity of water resources.¹⁷⁸ With regard to the purpose of the White Paper,¹⁷⁹ it is to provide some historical background regarding access to and the management of water in South Africa; to explain the current development context in which South Africa finds itself; to explain the environmental and climatic conditions which affect the availability of water in South Africa; to put forward

¹⁷⁵ White Paper on Environment Policy, 1997: Section 4.

http://www.polity.org.za/html/govdocs/white_papers/envir.html

¹⁷⁶ White Paper on Environment Policy, 1997: Section 4.

http://www.polity.org.za/html/govdocs/white_papers/envir.html

¹⁷⁷ Department of Water Affairs and Forestry, Annual Report 1996/1997: p 2.

¹⁷⁸ White Paper on Water Policy, 1997: Section 1.1.

certain policy positions, based on the Fundamental Principles and objects for a new water law for South Africa; to outline the proposed institutional framework for water management functions; and to outline the steps which will follow the publication of this White Paper in order to translate the policy into law and action.

The policy looks at water law from a national and international context. With regard to our national water law, it directs that it must follow the spirit and letter of our Constitution and should give force to the moral, social and political values that our Constitution promotes.¹⁸⁰ It states that

[t]he need for the review of South African water law and for a fundamental change in our approach to water management is underpinned by the Constitution, both in relation to the creation of a more just and equitable society and, in relation to the broad need for more appropriate and sustainable use of our scarce natural resources, driven by the duty to achieve the right of access to sufficient water.¹⁸¹

The policy states the objectives of water policy in South Africa. They are equity and Water;¹⁸² equity in access to water services;¹⁸³ equity in access to water resources¹⁸⁴ and equity in access to benefits from water resource use.¹⁸⁵ Furthermore, the policy sets out its water resource management policy.¹⁸⁶ It deals with water resource management activities,¹⁸⁷ water use authorisations,¹⁸⁸ protection of water resources,¹⁸⁹ water utilisation and conservation,¹⁹⁰ water pricing policy,¹⁹¹ development of water resources,¹⁹² public safety and disaster prevention, monitoring assessing and auditing¹⁹³ and international co-operation.¹⁹⁴

¹⁷⁹ White Paper on Water Policy, 1997: Section 1.1.

¹⁸⁰ White Paper on Water Policy, 1997: Section 2.1.

¹⁸¹ Section 2.1.

¹⁸² Section 4.1.1.

¹⁸³ Section 4.1.2.

¹⁸⁴ Section 4.1.3.

¹⁸⁵ Section 4.1.4.

¹⁸⁶ Section 6.

¹⁸⁷ Section 6.1.

¹⁸⁸ Section 6.2.

¹⁸⁹ Section 6.3.

¹⁹⁰ Section 6.4.

¹⁹¹ Section 6.5.

¹⁹² Section 6.6.

¹⁹³ Section 6.8.

¹⁹⁴ Section 6.9.

From this overview of the policy, it is clear that it is a comprehensive document placing a major obligation on the State to protect and conserve our water resources. It sets out an obligation for the State to deal not only with the quantity of our water resources but also its quality. In the application of this policy, rivers as a water resource, would be protected, conserved and used in a sustainable manner.

11.4 Draft White Paper on Water Services

In October 2002 the Department of Water Affairs and Forestry published a Draft White Paper on Water Service¹⁹⁵. Although this White Paper is a draft, and therefore not the official policy of the Department, I shall nonetheless examine it to determine how it assists in the protection, conservation and sustainable use of rivers in South Africa. The White Paper provides an overall policy orientation of government towards the water supply and sanitation sector.¹⁹⁶ This policy takes cognisance of many concerns with regard to our limited water resources and attempts to address it. For the purpose of this research, I shall analyse the policy to see how it deals with water supply and sanitation and the limited availability of Water in South Africa.

11.4.1. The Policy

The Policy takes note of the link between reliable and efficient water services and economic growth. Coupled with our scarcity of water, the policy advocates that water resources are used wisely to ensure that services can be provided.¹⁹⁷ As there is an interface between water services and water resources, the policy addresses it with the object of achieving integrated planning and effective management through the whole water cycle.¹⁹⁸ Furthermore, the co-ordination of water resource planning is noted for strengthening. The policy states that the link between water services development plans and water resource planning needs to be strengthened.¹⁹⁹ The policy restates

¹⁹⁵ Downloaded in PDF from: <http://www.dwaf.gov.za>

¹⁹⁶ Section 1.4.

¹⁹⁷ Section 1.1.

¹⁹⁸ Section 1.4.

¹⁹⁹ Draft White Paper on Water Services, 2002: Section 4.4.2.

Integrated Water Resource Management that the National Water Act of 1998 gives effect to, which according to the policy, promotes the co-ordinated development and management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.²⁰⁰

Water conservation and demand management is an issue that the policy deals with.²⁰¹ It states that the water resources has to be managed in an integrated manner. With regard to the policy's environmental objective,²⁰² it states that it is "to promote environmental sustainability and to protect the environment through the appropriate regulation and management of water resource abstractions and discharges, and through the promotion of water conservation and demand management..."

Although the policy on Water Service is a white paper, it nonetheless deals with substantive issues that has an effect on our already limited water resources. It takes cognisance of the interface between water services and water resources and therefore water resources should be wisely used. This draft paper is a positive stride for the Department and takes note that as time changes, policies should do the same.

12. Water Management Strategies

Chapter 2 of the National Water Act of 1998 deals with the development of strategies to facilitate the proper management of water resources. This chapter is divided into two parts. Part 1 deals with the establishment of a national water resources strategy and part 2 with the establishment of catchment management strategies. According to *Glazewski*, "[w]ater resource management in South Africa will in future be based on the water management strategies and the classification system for the protection of water resources provided for in Chapter 2 and 3 of the Act [National Water Act of 1998], respectively."²⁰³ I shall now examine what the National Water Act of 1998 prescribes these strategies to entail. It should be noted that there are not final

²⁰⁰ Section 4.8.

²⁰¹ Section 6.6.

²⁰² Section 7.4.1.

²⁰³ *Glazewski*, 2000: p 518.

publications in place with regard to these strategies. However there is a proposed first edition of the National Water Resources Strategy in place that shall be analysed next.

12.1 National Water Resources Strategy

The framework for the protection, development, use, conservation, management and control of water resources for South Africa should be provided for in the National Water Resources Strategy²⁰⁴ (hereafter referred to as ‘the strategy’) and all our water resources must be protected, used, developed, conserved, managed and controlled in accordance with the strategy.²⁰⁵ This strategy is very important, as rivers as a water resource fall under the protection, conservation and management of the strategy. According to *Barnard*,²⁰⁶ this obligation for the Minister to develop this strategy on the basis of appropriate water use principles similar to a business or management plan for all water managers or users is typical of a management-orientated approach.

The strategy “may be established in a phased and progressive manner and in separate components over time; and (b) must be reviewed at intervals of not more than five years.”²⁰⁷ What follows is an exposition of what the National Water Act expects the strategy to entail followed by an analysis of the proposed first edition of the Strategy.

12.1.1. Contents of the Strategy

Section 6(1) of the National Water Act of 1998 deals with the contents of the strategy. It should “set out the strategies, objectives, plans, guidelines and procedures of the Minister and institutional arrangements.” These should relate to the protection, use, development, conservation, management and control of water resources within the framework of existing relevant government policy.²⁰⁸ This should be done in order to achieve, the purpose of the National Water Act²⁰⁹ and any compulsory national standards prescribed under section 9(1) of the Water Services Act of 1997.²¹⁰

²⁰⁴ National Water Act, 1998: Chapter 2, preamble to part 1.

²⁰⁵ National Water Act, 1998: Section 5(3).

²⁰⁶ *Barnard*, 1999: p 270.

²⁰⁷ Section 5(4).

²⁰⁸ Section 6(1)(a).

²⁰⁹ Section 6(1)(a)(i).

²¹⁰ Section 6(1)(a)(ii).

Furthermore, it should provide for at least the requirements of the Reserve and identify, where appropriate, water resources from which particular requirements must be met.²¹¹ They are international rights and obligations,²¹² actions to be taken to meet projected future water needs²¹³ and water use of strategic importance.²¹⁴

The strategy should also establish water management areas and determine their boundaries;²¹⁵ contain estimates of present and future water requirements;²¹⁶ state the total quantity of water available within each water management area;²¹⁷ state water management area surpluses or deficits;²¹⁸ provide for inter-catchment water transfers between surplus water management areas and deficit water management areas;²¹⁹ set out principles relating to water conservation and water demand management;²²⁰ state the objectives in respect of water quality to be achieved through the classification system for water resources provided for in this Act;²²¹ contain objectives for the establishment of institutions to undertake water resource management;²²² determine the inter-relationship between institutions involved in water resource management;²²³ and promote the management of catchments within a water management area in a holistic and integrated manner.²²⁴

These provisions are very extensive, setting out a wide range of requirements for the strategy. This is understandable seeing that the water resources of the Republic must be protected, used, developed, conserved, managed and controlled in accordance with this strategy.²²⁵ The more extensive the strategy, the greater the protection for our water resources.

²¹¹ Section 6(1)(b)(i).

²¹² Section 6(1)(b)(ii).

²¹³ Section 6(1)(b)(iii).

²¹⁴ Section 6(1)(b)(iv).

²¹⁵ Section 6(1)(c).

²¹⁶ Section 6(1)(d).

²¹⁷ Section 6(1)(e).

²¹⁸ Section 6(1)(f).

²¹⁹ Section 6(1)(g).

²²⁰ Section 6(1)(h).

²²¹ Section 6(1)(i).

²²² Section 6(1)(j).

²²³ Section 6(1)(k).

²²⁴ Section 6(1)(l).

12.1.2. Giving effect to the Strategy

With regard to giving effect to the national water resources strategy, “[t]he Minister, the Director-General, an organ of State and a water management institution must give effect to the National Water Resource Strategy when exercising any power or performing any duty in terms of this Act.”²²⁶ From this one can say that the National Water Resources Strategy would be ‘the guardian’ for water resources in South Africa.

Having outlined the content of the strategy and the manner in which it should be given effect to, it is clear that the National Water Resources Strategy will play a vital role in the protection of our water resources and most importantly, for the purpose of this research, to rivers. As *Barnard* states;²²⁷ “[t]he strategy will be the overarching framework for all water management taken in the Country.” In its development, it should closely grow within the ambits of the National Water Act. However, seeing that there is no official strategy published, I shall briefly examine the summary of the proposed first edition of the National Water Resources Strategy published by the Department of Water Affairs and Forestry.²²⁸

12.2. (Proposed) First Edition of the National Water Resources Strategy

As stated earlier, the Department of Water Affairs and Forestry has published a proposed First Edition of the National Water Resources contemplated in the National Water Act in August 2002. The proposed strategy was laid down for public comment until 31 January 2003, as was a requirement in the Act.²²⁹ The Full Final First Edition will be available early July 2003 after the Department has worked through all the comments submitted.²³⁰

²²⁵ National Water Act, 1998: Section 5(3).

²²⁶ National Water Act, 1998: Section 7.

²²⁷ *Barnard*, 1997: P 270.

²²⁸ Department of Water Affairs and Forestry: 2002, Proposed First Edition, National Water Resources Strategy, Summary.

²²⁹ National Water Act, 1998: Section 5(5).

²³⁰ I have telephoned the Department on 11 April 2003 with regard to the Final First Edition.

I shall analyze the summary of the proposed first edition of the National Water Resources Strategy to see how inline it is with the requirements laid down in terms of the National Water Act. This shall be done by highlighting certain parts relevant to river protection and conservation. The summary is a 67 -page document published in August 2002 in the Government Gazette of the Republic of South Africa.²³¹

12.2.1. Analysis of the strategy

As required by the National Water Act, the strategy should set out the strategies, objectives, plans, guidelines and procedures of the Minister and institutional arrangements which should relate to the protection, use, development, conservation, management and control of water resources within the framework of existing relevant government policy.²³² Chapter 3 of the strategy deals with Strategies for Water Resource Management. This chapter has separate parts dealing with, *inter alia*, the protection of water resources, its use, water conservation and demand management, and water management institutions. These shall be dealt with next.

12.2.2. Protection of Water Resources

According to the strategy, “[t]he aim of protecting water resources is to ensure their continuing availability for human use, by leaving enough water of appropriate quality in rivers and streams to maintain their ecological functioning.”²³³ The strategy employs two complementary approaches in this regard. They are Resource-Directed Measures and Source Directed Controls. The former focuses on the quality of the overall health of water resources and the latter deals with the control of water use activities at the source of impact.²³⁴

²³¹ Vol.446, No. 23711.

²³² Section 6(1)(a).

²³³ Department of Water Affairs and Forestry: 2002, Proposed First Edition, National Water Resources Strategy, Summary: Section 3.1.1.

²³⁴ Section 3.1.1.

12.2.3. Water Use

With regard to the regulation of water use, the strategy states how it will be achieved. It “will be achieved through the formal water use authorisation that will impose limits and restriction on water use. Conditions of use are the essential operational link between the need to protect water resources, and the need to use water for social and economic development.”²³⁵ Therefore, the more important the need for water use, the more priority it would be given in its allocation.

12.2.4. Water Conservation and Demand Management

The strategy acknowledges that “[t]he options for further augmentation of water supply by developing physical infrastructure are limited, and future attention must be devoted to managing the demand of water. Water conservation and water demand management relate to the efficient and effective use of water, and the minimisation of loss or waste of water.”²³⁶ The strategy makes reference to the National Water Conservation and Water Demand Management Strategy, which is currently being developed. This aforementioned strategy “is based on the premises that many water users can maintain their quality of life and achieve the desired outcomes from their water use whilst using less water, and that significant reductions in water use can be achieved by changes in behavior and the adoption of water saving technologies.

12.2.5. Requirement of the Reserve and water requirements

The strategy provide for the requirements for what it calls the ‘ecological reserve’. This is the amount of water that is needed to remain in rivers in order for them to maintain its ecological components. It provides us with a table in section 2.3 stating the natural mean annual runoff and comparing it to the ecological reserve. The strategy further makes reference to water originating from Lesotho and Swaziland which adds to our natural mean annual runoff.²³⁷ The strategy further deals with water

²³⁵ Section 3.2.1.

²³⁶ Section 2.3.

²³⁷ Section 3.3.1.

requirements across the country.²³⁸ In this regard it states the water use sectors²³⁹ and tables the available annual requirements for the year 2000.²⁴⁰

As the protection of the ecological reserve is a priority of the strategy, it would greatly assist in the conservation of water resources. This is done by it regulating the requirements of the reserve. In this manner, rivers would at all times be able to maintain themselves.

12.2.6. Water Management Areas

The strategy established water management areas and their boundaries²⁴¹ as prescribed by the National Water Act. There are 19 in total. They are the Limpopo, Luvuvhu/Letaba, Crocodile West and Marico, Olifants, Inkomati, Uutu to Mhlatuze, Thukela, Upper Vaal, Lower Vaal, Mvoti to Umzimkulu, Mzimvubu to Keiskamma, Upper Orange, Lower Orange, Fish to Tsitsikamma, Gouritz, Olifants/Doring, Breede and Berg Rivers.

The Strategy further contains the following, which are prescribed by the National Water Act with regard to Water Management Areas:

- i. It contains estimates of present and future water requirements.²⁴²
- ii. It states the total quantity of water available within each management area.²⁴³
- iii. It states water management area surpluses and deficits²⁴⁴ and provides for inter-catchment water transfers between surplus water management areas and deficit water management areas.²⁴⁵
- iv. Sets out principles relating to water conservation and demand management.²⁴⁶
These principles are set out in the National Water Conservation/Water Demand Management Strategy.
- v. It deals with the relationship among water management institutions.²⁴⁷

²³⁸ Section 2.4.

²³⁹ Section 2.4.

²⁴⁰ Table 2.2.

²⁴¹ Section 3.5.2.

²⁴² Section 2.4.

²⁴³ Section 2.3.

²⁴⁴ Section 2.5.

²⁴⁵ Section 2.5.

²⁴⁶ Section 3.3.2.

From this brief analysis of the strategy, it is clear that it effectively deals with the protection of our water resources. It takes cognizance of the fact that our water resources are under stress and measures have to be put in place in assisting in the conservation of our water resource. On the whole, it is a reasonable measure taken by the State.

12.3 Environment management and implementation plans

Chapter 3 of the National Environmental Management Act of 1998 deals with procedures for co-operative governance. This chapter deals with environmental implementation plans and management plans. Section 11(1) states that, every national department²⁴⁸ whose exercising functions may affect the environment, and every province must prepare an environmental implementation plan. With regard to national departments²⁴⁹ whose existing functions involve the management of the environment, they must prepare an environmental management plan. According to *Nel & du Plessis*, “[t]he requirement of NEMA that the EIPs and EMPs are to be generated by identified organs of state, is an important mechanism to ensure that diverse line function activities are aligned with NEMA principles.”²⁵⁰ These are very noteworthy sections of the Act in the sense that they place a duty not only on the relevant government departments whose functional areas are the environment,²⁵¹ but also to all national government departments whose existing functions may have an effect on the environment. Furthermore, the obligation to prepare these plans is placed on all the provinces as well. In this manner, environmental protection is made a key priority at the provincial sphere of government in South Africa.

²⁴⁷ Section 3.5.4.

²⁴⁸ According to schedule 1 of the National Environmental Management Act, these departments are the following: Department of Environmental Affairs and Tourism; Department of Land Affairs; Department of Agriculture; Department of Housing; Department of Trade and Industry; Department of Water Affairs and Forestry; Department of Transport and the Department of Defence.

²⁴⁹ According to schedule 2 of the National Environmental Management Act of 1998, these National Departments are: Department of Environmental Affairs and Tourism; Department of Water Affairs and Forestry; Department of Minerals and Energy; Department of Land Affairs; Department of Health; Department of Labour.

²⁵⁰ *Nel & du Plessis*, 2001: p 23.

²⁵¹ Department of Water Affairs & Forestry and the Department of Environmental Affairs & Tourism.

These plans have a direct affect on the protection, conservation and sustainable use of rivers in South Africa and fall within the ambit of measures contemplated in the environmental clause.²⁵² It is therefore necessary in this research to analyse what the National Environment Management Act expresses the purpose and content of these plans to be.

12.3.1. Purpose and object of these plans

Section 12 of the Environmental Management Act deals with the purposes and objects of environmental implementation and environmental management plans.

The purposes are to:

- “(a) co-ordinate and harmonise the environmental policies, plans, programmes and decisions of the various national departments that exercise functions that may affect the environment or are entrusted with powers and duties aimed at the achievement, promotion, and protection of a sustainable environment, and of provincial and local spheres of government, in order to—
- (i) minimise the duplication of procedures and functions; and
 - (ii) promote consistency in the exercise of functions that may affect the environment;
- (b) give effect to the principle of co-operative government in Chapter 3 of the Constitution;
- (c) secure the protection of the environment across the country as a whole;
- (d) prevent unreasonable actions by provinces in respect of the environment that are prejudicial to the economic or health interests of other provinces or the country as a whole; and
- (e) enable the Minister to monitor the achievement, promotion, and protection of a sustainable environment.”

Having stated the purpose of these plans, they are clearly noteworthy and would *prima facie* assist in the protection, conservation and sustainable use of rivers for the benefit of the present and future generations. Each government department mentioned above and province would have a document that should be looked at in exercising environmental decision making. The next question is what should be the content of

²⁵² Constitution: Section 24 (a) – “to have the environment protected... through reasonable legislative and other measures...”

these plans? As our Constitution states that reasonable legislative and other measures should be taken,²⁵³ and not mere measures, the content of these plans will determine whether these plans are a fulfilment of the constitutional objective and therefore add to the reasonableness of the measure. The content of the various plans will be dealt with separately.

12.3.2 Contents of environment implementation plans

What the contents of the environment implementation plans are, is dealt with in section 13 of the National Environmental Management Act. It should contain a description of policies, plans and programmes that may significantly affect the environment.²⁵⁴ It should further contain a description of the manner in which the relevant national department or province will ensure that the policies, plans and programmes mentioned will comply with the principles set out in section 2²⁵⁵ as well as any national norms and standards as envisaged under section 146(2)(b)(i)²⁵⁶ of our Constitution and set out by the Minister, or by any other Minister, which have as their objective the achievement, promotion, and protection of the environment.²⁵⁷ Furthermore, it should contain a description of the manner in which the relevant national department or province will ensure that its functions are exercised so as to ensure compliance with relevant legislative provisions, including the principles set out in section 2, and any national norms and standards envisaged under section 146(2)(b)(i) of our Constitution and set out by the Minister, or by any other Minister, which have as their objective the achievement, promotion, and protection of the environment as contained in the environment implementation plan.²⁵⁸

The crux of the plan is to state any activities that may affect the environment; how it would comply with the environmental management principles and laws dealing with the protection of the environment; and contain a description on how the relevant department or province will deal with complying with the aforementioned principles and measures. Therefore, if any activities of the province or the relevant national

²⁵³ Constitution: Section 24.

²⁵⁴ National Environment Management Act, 1998: Section 13(a).

²⁵⁵ See below Chapter 14.1 below: National environment management principles.

²⁵⁶ Section 146 deals with conflict between national and provincial legislation.

²⁵⁷ Section 13(b).

department could have an effect on our rivers, it should be stated in the plan, and also how it would attempt to comply with the environmental management principles and any other relevant laws. As I will demonstrate below with regard to the adoption of the plan, any plan that would be adopted would assist in the conservation, protection and sustainable use of our rivers. I shall now deal with the content of the environmental management plans.

12.3.3 Content of environmental management plans

With regard to the content of the environmental management plans, section 14 of the National Environmental Management Act deals with it extensively. It should contain a description of the functions exercised by the relevant department in respect of the environment²⁵⁹ and a description of environmental norms and standards, including norms and standards contemplated in section 146(2)(b)(i) of our Constitution set or applied by the relevant department.²⁶⁰ It should further contain a description of the policies, plans and programmes of the relevant department that are designed to ensure compliance with its policies by other organs of State and persons²⁶¹ and a description of priorities regarding compliance with the relevant department's policies by other organs of State and persons.²⁶² A description of the extent of compliance with the relevant department's policies by other organs of State and persons²⁶³ and a description of arrangements for co-operation with other national departments and spheres of government, including any existing or proposed memoranda of understanding entered into, or delegation or assignment of powers to other organs of State, with a bearing on environmental management²⁶⁴ should be contained in it. And lastly, it should contain proposals for the promotion of the objectives and plans for the implementation of the procedures and regulations referred to in Chapter 5 of the National Environmental Management Act.²⁶⁵ Chapter 5 deals with integrated environmental management.

²⁵⁸ Section 13(c).

²⁵⁹ Section 14 (a).

²⁶⁰ Section 14 (b).

²⁶¹ Section 14(c).

²⁶² Section 14(d).

²⁶³ Section 14(e).

²⁶⁴ Section 14(f).

²⁶⁵ Section 14(g).

Having looked at what the purpose and contents of these plans are, one can clearly say that *prima facie*, they look like reasonable measures that if properly constructed and implemented, would assist in the protection, conservation and sustainable use of the environment. However, the question is how can we guarantee these measures taken by the relevant departments and provinces would be reasonable in terms of our Constitution. Who would scrutinize these plans and what would be the outcome if they were not implemented? Can the government departments and provinces adopt any plan and what would be the consequences if these plans were not properly implemented? Next I shall deal with the scrutiny, adoption and compliance of these plans. These preliminaries before adoption all add to the ultimate reasonableness of the measures taken.

12.3.4. Submissions, scrutiny and adoption of plans

There are certain procedures that need to take place by the various departments and provinces in the adoption of the plans. Submissions have to be made and scrutiny has to take place. Section 15 of the National Environment Management Act of 1998 deals with submissions, scrutiny and adoption of environmental implementation and environmental management plans.

These plans must be submitted to a committee²⁶⁶. The Committee scrutinises every environmental implementation plan²⁶⁷ and either recommends its adoption or reports to the relevant Minister or Provincial Premier on the extent to which the said plan fails to comply with the environmental management principles in section 2,²⁶⁸ the purpose and objectives of environmental implementation plans²⁶⁹ and any relevant environmental management plan, and specific changes in the environmental implementation plan concerned.²⁷⁰

²⁶⁶ Section 15(1).

²⁶⁷ Section 15(2)(a).

²⁶⁸ Section 15(2)(a)(1).

²⁶⁹ Section 15(2)(a)(2).

²⁷⁰ Section 15(2)(a)(3).

12.4.1. Catchment management strategies and agencies

The National Water Act of 1998 makes provision for the establishment of catchment management strategies by catchment management agencies.²⁷³ The strategies should be established for the protection, use, development, conservation, management and control of water resources within its management area.²⁷⁴ A catchment "... means the area from which any rainfall will drain into the watercourse or watercourses or part of a watercourse, through surface flow to a common point or common points."²⁷⁵

The purpose for creating catchment management agencies "is to delegate water resources management to the regional or catchment level and to involve local communities in the management of water."²⁷⁶ There are 19 catchment management areas established in South Africa.²⁷⁷ According to *Barnard*, "[t]he detailed implementation and day-to-day execution of water management strategies, water use principles and other guidelines such as regulations passed in terms of section 26²⁷⁸ are devolved to catchment management agencies."²⁷⁹ Furthermore, they "provide coordinated frameworks for water resource management activities within WMAs [water management areas]."²⁸⁰ The catchment management agent, would be a body corporate, with the powers of a natural person.²⁸¹ For the purpose of this research, I shall analyse section 9 of the National Water Act that deals with the content of catchment management strategies. Seeing that strategies should be established for the protection, use, development, conservation, management and control of water resources within its management area,²⁸² rivers are to a large extent the subject matter of these strategies.

²⁷² Constitution: Section 24(b).

²⁷³ Section 8.

²⁷⁴ Section 8.

²⁷⁵ National Water Act, 1998: Section 1(1)(iii).

²⁷⁶ Department of Water Affairs and Forestry, Catchment Management Agencies: Page 1 of 2.

²⁷⁷ Department of Water Affairs and Forestry: 2002, Proposed First Edition, National Water Resources Strategy, Summary: Section 3.5.2.

²⁷⁸ Section 26 of the National Water Act deals with regulation of use of water.

²⁷⁹ *Barnard*, 1999: p 270.

²⁸⁰ *Peart & Govender*, 2001: p 53.

²⁸¹ Section 79.

²⁸² Section 8.

12.4.2 Content of strategies

According to section 9 of the National Water Act, the strategies must take into account the class of water resources and resource quality objectives contemplated in Chapter 3,²⁸³ the requirements of the Reserve and, where applicable, international obligations.²⁸⁴ Furthermore the strategy must not be in conflict with the national water resource strategy.²⁸⁵ It should set out the strategies, objectives, plans, guidelines and procedures of the catchment management agency for the protection, use, development, conservation, management and control of water resources within its water management area.²⁸⁶ It should further take into account the geology, demography, land use, climate, vegetation and waterworks within its water management area.²⁸⁷ It should contain water allocation plans which are subject to section 23,²⁸⁸ and must set out principles for allocating water, taking into account the factors mentioned in section 27(1).²⁸⁹ It should take account of any relevant national or regional plans prepared in terms of any other law, including any development plan adopted in terms of the Water Services Act of 1997.²⁹⁰ It should further enable the public to participate in managing the water resources within its water management area.²⁹¹ It should take into account the needs and expectations of existing and potential water users²⁹² and set out the institutions to be established.²⁹³

In executing their responsibility with regard to the establishment of a catchment management strategy, the catchment management agent must create a reasonable strategy in terms of section 24(b) of our Constitution. It should be one that is

²⁸³ Chapter 3 deals with the protection of water resources. See Chapter 15 on National Water Act below.

²⁸⁴ National Water Act, 1998: Section 9(a).

²⁸⁵ Section 9(b).

²⁸⁶ Section 9(c).

²⁸⁷ Section 9(d).

²⁸⁸ This section deals with the determination of the quantity of water that may be allocated by the responsible authority.

²⁸⁹ National Water Act, 1998: Section 9(e); Section 27(1) deals with the factors a responsible authority must take into account in issuing a general authorisation or licence. Two of them are the existing lawful water use (section 27(1)(a)) and the need to redress the results of past racial and gender discrimination (section 27(1)(b)).

²⁹⁰ Section 9(f).

²⁹¹ Section 9(g).

²⁹² Section 9(h).

²⁹³ Section 9(i).

workable and would cause the protection, use, development, conservation, management and control of water resources within its water management area.

12.4.3. Giving effect to catchment management strategies

With regard to giving effect to the strategy, the Minister and the catchment management agency concerned must give effect to any catchment management strategy when exercising any power or performing any duty in terms of the National Water Act.²⁹⁴ What this means is that the strategy would have a vital role to play with regard to the protection, use, development, conservation, management and control of water resources within its water management area.

From the above, it is clear that the establishment of a catchment management strategy in every catchment management area would assist in the protection, conservation and sustainable use of our rivers in South Africa. The strategy should be an extensive document dealing with all relevant factors concerning the protection of the catchment management area. It should be noted that these catchment management strategies only find application with regard to 19 catchment areas in South Africa.²⁹⁵

12.4.4 What would be a 'reasonable' strategy?

The catchment management strategy is one of the measures that can be taken in terms of our Constitution with regard to the protection, conservation and sustainable use of rivers in South Africa. However, the contents of the strategy established would affect the reasonableness of it. Seeing that there are no official strategies in place, I shall briefly set out what a strategy should entail in order for it to fall under the ambit of 'reasonableness' in the environmental Clause.²⁹⁶

The National Water Act of 1998 instructs the catchment management agent in section 9 to, *inter alia*, "set out the strategies, objectives, plans, guidelines and procedures of the catchment management agency for the protection, use, development, conservation,

²⁹⁴ National Water Act, 1998: Section 11.

²⁹⁵ See Chapter 12.2.6 above for a list of these catchment areas.

²⁹⁶ Constitution: Section 24(b).

management and control of water resources within its water management area.”²⁹⁷ This section clearly give the catchment management agent a duty to “set out” in detail form a comprehensive document that would deal with the protection, use, development, conservation, management and control of water resources within its management area.

This document should be workable setting out the procedures that need to be followed for the protection, use, development, conservation, management and control of water resources within its water management area. Therefore, if there is a specific structure within the management area that has a specific role to play, the strategy should set out in detail its role and the consequences that would follow if the role were not fulfilled. Therefore, a proper objective should be set which is reasonably achievable and plans should be laid down whereby all parties within the agency would know where they are heading to and how to get there.

Reasonable guidelines should be laid down to which all structures in the agency would reasonably be able to stick to. The procedures should be comprehensive and should set out step-by step how things should be done in order to ensure the protection, use, development, conservation, management and control of water resources within its water management area. Furthermore, National government should continuously monitor and assist the catchment management agent in fulfilling its duties in terms of the strategy and any disputes should be resolved in terms of the principles of co-operative governance.

Therefore, the strategy created should be drafted in a manner whereby all persons and structures within the agency would be able to work with detailed objectives and plans laying down procedures and guidelines. If this were not the case, the catchment management agent created would not be fulfilling its obligation with regard to the protection, use, development, conservation, management and control of water resources within its water management area. Our water resources would therefore be un-protected and un-conserved and everyone in the South Africa’s right to a healthy environment, which is afforded to them in our Constitution, would be violated.

²⁹⁷ Section 9(c).

12.5. Local government initiatives

Our Constitution in its environmental clause²⁹⁸ does not envisage measures only to be taken by national and provincial government with regard to the protection, conservation and sustainable use of the environment. The environmental clause directs all spheres of government to take reasonable measures with regard to the environment. Where national legislation does not impose an obligation for the various spheres to take certain measures, the relevant sphere should take the appropriate measures necessary to protect, conserve and secure the sustainable use of the environment. The initiatives taken should be in the confines of the principle of co-operative government. If municipalities create by-laws, they need to be in conformity with broader national and provincial programmes.²⁹⁹ What follows is a brief overview of certain measures taken in the City of Cape Town with regard to the Cape Metropolitan Area. This is done in order to examine whether the City of Cape Town as local government is fulfilling its constitutional obligation toward the environment by taking reasonable measures with regard to the protection, conservation and sustainable use of rivers.

12.5.1. Integrated metropolitan environmental policy for the City of Cape Town

The City of Cape Town has published an Integrated Metropolitan Environmental Policy in 2001.³⁰⁰ According to the policy, it “will form the basis for a series of strategies and programmes to ensure that the principles of sustainability are adhered to ... [which] would enable the meeting of current needs as well as the maintenance of our resources for the benefit of future generations.”³⁰¹

Local government, as part of an integrated environmental management strategy would implement this policy.³⁰² The policy sets out the City of Cape Town’s 2020 vision for the environment whereby local government would be guided towards in its

²⁹⁸ Constitution: Section 24(b).

²⁹⁹ *Burns*, 1999: P 70. See Chapter 6.6 on co-operative governance above.

³⁰⁰ City of Cape Town, Integrated Metropolitan Environmental Policy, 2001.

³⁰¹ Section 1.1.

³⁰² Section 1.2.1.

activities.³⁰³ There are 12 paragraphs in total dealing with its vision. Noteworthy to mention is the following:³⁰⁴

- There will be a high expectation from the people, of the authorities in respect of environmental management, monitory auditing, as well as accountability. Environmental issues will be dealt with in a structured and efficient way, and impact studies will have ensured a better aesthetic and ecologically balanced City of Cape Town.
- The environmental quality will have improved in terms of water, land and sea.
- Environmental poverty will no longer exist and all communities will live in an environment that is not detrimental to their health or well being.
- Water and energy resources and utilization will be optimally and efficiently managed.

The policy further sets our general policy principles.³⁰⁵ One of them is “[a] commitment to the protection of the Constitutional rights to a healthy environment and the recognition of the responsibilities and obligations of sustainable service delivery and ecologically sustainable development for the benefit of all.”³⁰⁶ From this brief study of the policy in place in the Cape Metropolitan Area, it is clear that the City of Cape Town as local government has an effective policy in place with regard to the environment. This policy, if properly implemented, would assist in the protection, conservation and sustainable use of rivers in the Cape Metropolitan Area. It is therefore a reasonable measure taken in this regard.

12.5.2 Catchment, stormwater and river management

The City of Cape Town has published an internal document in May 2002, entitled “Catchment, Stormwater and River management Strategy 2002 – 2007.”³⁰⁷ It deals with a range of issues from environmental drivers³⁰⁸ to business planning.³⁰⁹ The strategy holds on to the traditional role of stormwater management. However, more emphasis is placed on, *inter alia*, the “[p]rotection of urban water resources; including

³⁰³ Section 2.

³⁰⁴ Section 2.

³⁰⁵ Section 3.

³⁰⁶ Section 3.

³⁰⁷ City of Cape Town, Strategy, 2002.

³⁰⁸ Section 1.3.

rivers... from the potentially harmful impacts of development through the reduction of pollutant loads near the source as possible."³¹⁰

The strategy lays down visions and outcomes for the catchment, stormwater and river management service. The vision is "[e]ffective stormwater drainage and healthy rivers..." and its mission is to "[m]inimise flooding of property and improve the water quality and health of our rivers... through integrated management..."³¹¹ With regard to the desired outcomes of the service, they are, *inter alia*, improved water quality and ecologically healthy rivers.³¹²

One of the focus areas of the strategy is public safety and environmental protection.³¹³ This focus area deals with, *inter alia*, water pollution abatement.³¹⁴ Here it acknowledges the wide-ranging concerns regarding the deterioration of water quality in river systems and states a need for a programme to address specific issues by June 2003. One of these issues is the formulation of protocols dealing with pollution incidents. With regard to performance measurement and updating, each year there will be a review of the progress in implementing the strategy.³¹⁵

From this brief look at the strategy of the City of Cape Town, it is clear that it is a reasonable measure taken with regard to the protection of water resources. As the title of this work state, this work deals with measures dealing with river protection in South Africa. However, it would be out of the scope of this research to analyse all measures taken by local government with regard to, or assists in the protection, conservation and sustainable use of rivers in South Africa. I have therefore limited local government measures to the two measures taken in City of Cape Town.

³⁰⁹ Section 8.3.

³¹⁰ Section 1.5.

³¹¹ Section 4.1.

³¹² Section 4.2.

³¹³ Section 7.3.

³¹⁴ Section 7.3.2.

³¹⁵ Section 8.2.

13. Legislation dealing with rivers

Having analysed the reasonableness of measures other than legislation dealing with river protection, conservation and sustainable use, I shall now deal with legislation in the same context. This shall be commenced with a brief overview of our present environmental legislation followed by their analysis. For the purpose of this research, I shall deal with the following legislative measures: the National Environmental Management Act of 1998, the Environment Conservation Act of 1989, the National Water Act of 1998, the Water Services Act of 1997, the Sea-shore Act of 1935, the Mountain Catchment Act of 1970, the Conservation of Agricultural Resources Act of 1983, the Health Act of 1977 and the Minerals Act of 1991.

13.1 Our present environmental legislation

There is no legislative measure, which has rivers as its main area of concern.³¹⁶ This analysis therefore deals with various legislative measures that are in a large or small scale connected to river protection, conservation and sustainable use. We are not short of environmental laws, but short of effective environmental laws.³¹⁷ This ineffectiveness has two fundamental causes, i.e., an inadequate enforcement of the environmental laws and a lack of effective administration of environmental quality control.³¹⁸ With regard to enforcement and administration of environmental law, *De Waal et al*³¹⁹ states that it is ineffective due to penalties for environmental damage are seldom severe enough to deter the polluter. Few incentives are provided for in environmental laws to encourage sustainable industrial practices. With regard to the administration of environmental law and its development and improvement in the quality of its enforcement - it is hampered due to a lack of clear policy directions by the government.

This is quite a negative statement on the nature and quality of our environmental laws. However, *De Waal et al* states that “[t]he constitutional right to a healthy environment

³¹⁶ There is for example no piece of legislation named the "Rivers Act".

³¹⁷ *De Waal et al*, 2001: 402.

³¹⁸ *De Waal et al*, 2001: 402.

³¹⁹ *De Waal et al*, 2001: 402.

and the constitutional duty imposed on the State to actively protect the environment will go some way to re-invigorate South African environmental law."³²⁰

At present, there are many laws in place that deals with the environment and especially with water. According to *Soltau*, "[o]ur water law is an amalgamation of rules derived from a number of legal systems."³²¹ I shall commence the analysis of the legislative measures taken by the State with regard to river protection, conservation and sustainable use with the National Environmental Management Act of 1998.

14. National Environmental Management Act of 1998 (NEMA)

The National Environmental Management Act³²² (in this Chapter referred to as "the Act") was promulgated in 1998 and came into operation in January 1999. This is approximately two years after the 1996 constitutional environmental clause came into operation. The long title of this Act states:

To provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of state; and to provide for matters connected therewith.

It is a manifestation of the constitutional duty imposed on the State to take reasonable legislative with regard to environmental protection. It brings " ... South African environmental legislation in line with First World trends of sustainable development whilst aiming to maintain or improve the natural, biological and social environment."³²³

In analyzing this Act, I shall deal with the environmental management principles contained in it. The reason for using these principles in my analysis is that they apply

³²⁰ *De Waal et al*, 2001: pp 402-403.

³²¹ *Glazewski & Bradford*, 1999: p 236. In the paper entitled: Environmental justice, water rights and property, by *F Soltau*.

³²² Act 107 of 1998.

³²³ *Enviropros Bulletin*, 2001.

throughout South Africa to the actions of all organs of State that may significantly affect the environment.³²⁴ Therefore, if any organ of State has taken actions which may significantly affect rivers, these principles have to be applied. The principle of sustainable development analysed first below will assist in the sustainable use of our rivers. The more effective the principles, the better it would assist in the protection, conservation and sustainable use of rivers in South Africa. What follows is an analysis of the principles. In this Chapter I shall also deal with the duty of care and remediation of environmental damages in terms of the Act.

14.1 National environmental management principles

Section 2 of the Act sets out the national environmental management principles. These principles should serve as a general framework within environmental management³²⁵ and “serve as the general framework within which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment.”³²⁶ These principles play an extensive role in the formulation of environmental management plans contemplated in the Act.³²⁷ Seeing that there are 18 principles in total, I have limited my analysis to only three of these principles, which are that of sustainable development, environmental decision making and the polluter pays principle.

14.2. Sustainable Development

Rivers provide us with water that is vital for our survival. It should therefore be utilized in a sustainable manner so that it would provide for the needs of the present and future generations. Therefore the principle of sustainable development should play an integral role in the use of rivers. For this reason, I am examining the principle of sustainable development contained in the Act, as all action of all organs of State that significantly affect the environment should comply with it. In applying it to rivers, this principle would promote the sustainable use of it. According to

³²⁴ National Environmental Management Act of 1998: Section 2(1).

³²⁵ Section 2(b).

³²⁶ Section 2(c).

³²⁷ See Chapter 12.3 above.

Henderson, this principle “is well established and may be regarded as the founding distinctive principle of substantive law.”³²⁸

Section 2(3) of the Act states that development must be socially, environmentally and economically sustainable. Section 2(4)(a) commences with the first principle that is sustainable development requires the consideration of all relevant factors including the following:

- (i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- (ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- (iii) that the disturbance of landscapes and sites that constitute the nation’s cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;
- (iv) that waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;
- (v) that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;
- (vi) that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;
- (vii) that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and
- (viii) that negative impacts on the environment and on people’s environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

Section 2(4)(a) lays down a range of factors that should be included when considering all other relevant factors with regard to sustainable development. This is a very important section in the Act as our Constitution states in its environmental clause³²⁹ that the environment should be protected for the benefit of future and present generations which refers to sustainable development. This Act clearly brings sustainable development into the realm of environmental management in South Africa.³³⁰ In this manner the National Environmental Management Act through the environmental management principle of sustainable development promotes the

³²⁸ *Henderson*, 2001: p 183.

³²⁹ Section 24.

sustainable use of the rivers in South Africa. This is due to the obligation placed on every organ of State to consider all relevant factors with regard to sustainable development including those mentioned in section 2(4)(a) with regard to any actions or activities connected to rivers in South Africa. Next I shall deal with the polluter pays principle.

14.3. The Polluter Pays Principle

The reparation of harm caused to the environment is very costly. The rehabilitation of the environment could take years if not decades to achieve. Many times, complete rehabilitation is not always possible. The cost for repairing harm caused to the environment has to be borne by somebody. What follows is an analysis of the polluter pays principle that is one of the environmental management principles in the Act.

The Polluter pays principle is found in section 24(p) of the Act. This section states that:

[t]he costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.

According to *Bernie & Boyle*, “[t]he ‘polluter pays’ principle is essentially an economic policy for allocating the costs of pollution or environmental damage borne by public authorities, but it also has implications for the development of international and national law on liability for damage.”³³¹ According to *Henderson*, [t]he concept of the polluter pays principle has gained considerable national and international acceptance.”³³² The principle is a policy of the Department of Water Affairs and Forestry and many governments throughout the world has adopted it.³³³ According to *Glazewski*, “[t]he idea behind the polluter pays principle is that the cost of pollution

³³⁰ See Chapter 4.6 above on Sustainable use of rivers as a legal obligation.

³³¹ *Bernie & Boyle*, 2002: P 92.

³³² *Henderson*, 2001: P 174.

³³³ WRC Report, 1994: Pp 4-2.

should be borne by the generator of the pollution rather than society at large."³³⁴ According to the WRC Report "[i]t is in principle... possible to calculate exactly how much a polluter should pay to fully internalise the negative externalities imposed on the rest of society."³³⁵

The question that now need to be answered is how does the polluter pays principle assist in the protection, conservation and sustainable of rivers in South Africa. It does so in two ways. Firstly, by acting as a deterrent, it tells potential polluters that if they pollute rivers they have to pay for the damage caused to the environment. And secondly, by forcing polluters to pay for the harm they have caused to our rivers in order to bring it back to as much as possible to its original state. This principle would definitely assist positively in the protection, conservation and sustainable use of our rivers in South Africa. What follows, is an analysis of the part of the Act that deals with the duty of care and remediation of environmental damage.

14.4 Duty of care and remediation of environmental damage

Pollution to the environment takes place everyday. If it has occurred, the effects of the pollution must be minimised as much as possible. There therefore need to be a positive obligation place on everyone that causes, has caused or may cause significant pollution of degradation to the environment to takes the appropriate reasonable measures. In relation to rivers, if a person who causes, has caused, or may cause significant pollution or degradation to rivers has to take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring - such and obligation would assist in the conservation and protection of our rivers. For this reason I shall analyze the section in the Act dealing with the duty of care and remediation of environmental damage. The study of the National Water Act of 1998 below deals with water resource protection with specific reference to catchment management areas. It therefore only applies to the 19 catchment management areas in South Africa. The study of the Act below, applies to all rivers in South Africa, include catchment management areas.

³³⁴ *Glazewski, 2000: p 20.*

Section 28 of the Act deals with the duty of care and remediation of environmental damage. As mentioned earlier, rivers fall under the definition of the environment and therefore receives the same protection as any other part of the environment in the application of this Act.³³⁶ According to section 28(1) of the Act:

[e]very 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.

Section 28(1) uses the words 'every person.' According to the definition section of the Act,³³⁷ a person includes a juristic person. Therefore private persons as well as industries and large corporations find application in this section. Furthermore, the words, 'must take reasonable measures', are use. Therefore, the person³³⁸ has a legal obligation to take those measures necessary with regard to pollution or degradation of the environment. These measures should be taken even before pollution or degradation takes place. With regard to what measures are required by the Act, section 28(3) states that these

may include measures to—

- (a) investigate, assess and evaluate the impact on the environment;
- (b) inform and educate employees about the environmental risks of their work and the manner in which their tasks must be performed in order to avoid causing significant pollution or degradation of the environment;
- (c) cease, modify or control any act, activity or process causing the pollution or degradation;
- (d) contain or prevent the movement of pollutants or the causant of degradation;
- (e) eliminate any source of the pollution or degradation; or
- (f) remedy the effects of the pollution or degradation.

³³⁵ WRC Report, 1994: pp 4-2.

³³⁶ See Chapter 4.1 above that deals with rivers and the environment.

³³⁷ Section 1(xxiii).

³³⁸ According to 28(2) the person "...include an owner of land or premises, a person in control of land or premises or a person who has a right to use the land or premises on which or in which—

(a) any activity or process is or was performed or undertaken; or

The majority of these measures mentioned in section 29(3) are pre-emptory in nature. They are positive steps that have to be taken before pollution has taken place and to avoid it from taking place. However, if pollution or degradation has taken place, there is an obligation on the responsible person to remedy its effects.

Section 28 of the Act dealing with the duty of care and remediation of environmental harm would assist in the protection, conservation and sustainable use, of rivers in South Africa. It is a reasonable measure and forms part of the fulfilment of the State's obligation to have the environment protected through reasonable legislative and other measures. What follows is an analysis of the National Water Act of 1998 with regard to the protection, conservation and sustainable use of our rivers.

15. National Water Act of 1998

The National Water Act³³⁹ (in this Chapter referred to as "the Act") was promulgated in 1998. It was preceded by a process of intensive public participation.³⁴⁰ The Act replaced the old Water Act of 1954 that was in force for 40 years. It further "repeals and replaces over one hundred previous Acts dealing with water."³⁴¹ According to the National State of the Environment Report, the National Water Act "reformed the water law in South Africa, bringing into legislation aspects of policy that are at the forefront of sustainable resource use thinking internationally. The Act is based on the principles of sustainability of use and equity of distribution."³⁴² *Glazewski* states that, "... the Act is a remarkable and skilled piece of legislative social engineering which emphasises both redistributive and social justice in the context of resource management and environmental needs."³⁴³ Furthermore,

[a]n important and fundamental feature of the National Water Act is that it shifts the emphasis from the traditional approach of "supply management" which is concerned

(b) any other situation exists, which causes, has caused or is likely to cause significant pollution or degradation of the environment."

³³⁹ Act 36 of 1998.

³⁴⁰ *Barnard*, 1999: p 261.

³⁴¹ *Glazewski*, 2000: p 516.

³⁴² National State of the Environment Report – South Africa: Freshwater Systems and Resources: p 3.

with managing the supply of water through the building of dams and so on, towards “demand management” which seeks to conserve the nation’s water resources by lessening demand through pricing mechanisms and other innovative means.”³⁴⁴

According to *Soltau*, “[t]he national Water Act fundamentally changes the manner in which persons obtain the right to use water, and holders of water rights under the old law contended that the Act effectively expropriates their rights without compensation.”³⁴⁵ For the purpose of this research, I shall examine how the Act assists in the protection of our rivers. This shall be done by an analysis of chapter 3 of the Act that deals with the protection of water resources. The reason for using this chapter in my analysis is due to the fact that rivers are a water resource that falls under the Act’s protection. Depending on the manner in which it provides for water resource protection would determine the manner in which it affords protection for rivers.

15.1 Protection of water resources

In chapter 3 of the Act, provision is made for the protection of water resources.³⁴⁶ This protection is fundamentally related to their use, development, conservation, management and control.³⁴⁷ The Act deals with the protection of water resources in five parts whereby one part follows the other. They are, from parts one to five: classification system of water resource; classification of water resources and resource quality objectives; the reserve; pollution prevention and emergency incidents. All these parts are dealt with below. I shall deal with part 1 to 3 in one chapter. The reason for this is that the provisions of these parts have already been fulfilled. They are found in the National Water Resources Strategy analysed in Chapter 12 above.

15.2 Parts 1 to 3 of chapter 3 of the National Water Act

³⁴³ *Glazewski*, 2000: p 513.

³⁴⁴ *Glazewski*, 2000: p 510.

³⁴⁵ *Glazewski & Bradfield*, 1999: P 231. In the paper entitled: Environmental justice, water rights and property, by *F Soltau*.

³⁴⁶ National Water Act of 1998: Sections 12 to 20.

³⁴⁷ National Water Act, 1998: Chapter 3, the preamble.

Part 1: For the first stage of the protection process, the Minister³⁴⁸ must develop a system to classify the nation's water resources. The system developed must provide guidelines and procedures for determining different classes of water resources.³⁴⁹

Part 2: Next, water resource should be classified and resource quality objectives should be laid down. Here the classification system established in part 1 is used to determine the class and resource quality objectives of all or part of water resources considered significant.³⁵⁰

Part 3: This part deals with the reserve. The reserve consists of two parts.³⁵¹ They are the basic human needs reserve and the ecological reserve. The basic human needs reserve provides for the essential needs of individuals served by the water resource in question and includes water for drinking, food preparation and personal hygiene. With regard to the ecological reserve, it relates to the water required to protect the aquatic ecosystems of water resources. The Minister should determine the reserve for all or part of the water resources.³⁵²

Parts 4 and 5 that follow, deals with the measures to be taken to prevent water pollution.

15.3 Parts 4 of chapter 3 of the National Water Act

Part 4 deals with the prevention, and remedying effects of pollution on a water resource.³⁵³

Section 19(1) states that:

[a]n owner of land, a person in control of land or a person who occupies or uses the land on which -

(a) any activity or process is or was performed or undertaken; or

³⁴⁸ Minister of Water Affairs and Forestry.

³⁴⁹ Preamble to part 1.

³⁵⁰ Preamble to part 2.

³⁵¹ Preamble to part 3.

³⁵² Section 16(1).

³⁵³ National Water Act, 1998: Section 19.

(b) any other situation exists, which causes, has caused or is likely to cause pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.

Section 19(1) therefore places a positive obligation on the owner of the land, the person in control of it, or who occupies it to prevent pollution to water resources and if it has occurred, to remedy it. Section 19(2) provides us with measures³⁵⁴ that may be used to prevent any such pollution for occurring, continuing or recurring. According to section 19(3), if the relevant person fails to take the measures required under section 19 (1), the catchment management agent may direct that person to:-

- (a) commence taking specific measures before a given date;
- (b) diligently continue with those measures; and
- (c) complete them before a given date.

And should the person fail to comply, or comply inadequately with a directive given under subsection (3), the catchment management agency may take the measures it considers necessary to remedy the situation.³⁵⁵ According to section 19(5), if the catchment management agent had to take measures to remedy the situation, it may recover the cost jointly and severally from the responsible person or persons mentioned in the Act.³⁵⁶

³⁵⁴ These measures may include measures to –

- (a) cease, modify or control any act or process causing the pollution;
- (b) comply with any prescribed waste standard or management practice;
- (c) contain or prevent the movement of pollutants;
- (d) eliminate any source of the pollution;
- (e) remedy the effects of the pollution; and
- (f) remedy the effects of any disturbance to the bed and banks of a watercourse.

³⁵⁵ National Water Act, 1998: section 19(4).

³⁵⁶ According to Section 19(5), these persons are:

- (a) Any person who is or was responsible for, or who directly or indirectly contributed to, the pollution or the potential pollution;
- (b) the owner of the land at the time when the pollution or the potential for pollution occurred, or that owner's successor-in-title;
- (c) the person in control of the land or any person who has a right to use the land at the time when -
 - (i) the activity or the process is or was performed or undertaken; or
 - (ii) the situation came about; or
- (d) any person who negligently failed to prevent -
 - (i) the activity or the process being performed or undertaken; or
 - (ii) the situation from coming about.

The catchment management agent may also claim for the recovery of cost from any other person who, in its opinion benefited from the measures undertaken under subsection (4) to the extent of such benefit.³⁵⁷ The cost claimed must be reasonable and may include, without being limited to, labour, administration and overhead costs.³⁵⁸

From the study of Part 4 of the Act, it is clear that there are procedures and guidelines in place with regard to the pollution and potential pollution of water resources. It should however be noted that Part 4 only affords civil liability to the polluter and it is up to the catchment management agent to decide whether to recover cost or not. Although Part 4 sets down guidelines in dealing with pollution prevention, the question that needs to be answered is whether it in fact prevents pollution. Or could it assist pollution be facilitating a system of 'pollution for cash', whereby you may pollute as long as you can afford to pay for the cleaning up cost. Furthermore, if the polluter fails to remedy the harm caused, the catchment management agent is not under an obligation according the Act to remedy the harm caused. The harm caused may never be remedied. However looking at Part 4 on the whole, it is an effective instrument in the hands of the catchment management agent to deal with water resource pollution. However, its reasonableness is determined by whether the catchment management agent uses the measure.

15.4 Part 5

Part 5 deal with pollution of water resources following an emergency incident. An "incident includes any incident or accident in which a substance -

- (a) pollutes or has the potential to pollute a water resource; or
- (a) has, or is likely to have, a detrimental effect on a water resource"³⁵⁹

An example of an emergency incident occurring is when a harmful substance like an industrial chemical is spilled and finds, or may find its way into a river. "The responsibility for remedying the situation rests with the person responsible for the incident or the substance involved. If there is a failure to act, the relevant catchment

³⁵⁷ National Water Act, 1998: Section 19(6).

³⁵⁸ National Water Act, 1998: Section 19(7).

³⁵⁹ Section 20(1).

management agency may take the necessary steps and recover the costs from every responsible person."³⁶⁰ A positive duty is placed on the responsible person³⁶¹ and any other person involved in the incident, or who knows about the incident to as soon as reasonably practicable inform the Department of Water Affairs and Forestry, the South African Police Services and the relevant fire department or the relevant catchment agency.³⁶²

Furthermore, the responsible person must³⁶³ -

- (a) take all reasonable measures to contain and minimise the effects of the incident;
- (b) undertake clean-up procedures;
- (c) remedy the effects of the incident; and
- (d) take such measures as the catchment management agency may either verbally or in writing direct within the time specified by such institution.

If the responsible person fails to comply or inadequately complies with a verbal directive given to him, the catchment management agency may take such measure it considers necessary with regard to the emergency incident.³⁶⁴ The cost reasonably incurred may be recovered from every responsible person jointly or severally.³⁶⁵

Seeing that Part 5 only plays a role with regard to 'accidents', its compliance will not be put on the same level as Part 4 above. Part 5 places a positive obligation on the person responsible for the pollution to remedy it, but what if he or she does not remedy it. Here the same problem arises as in Part 4. If the responsible person does not remedy the harm caused, the catchment management agency is not under an obligation to remedy it. This being the case, harm caused by emergency incidents to water resources may never be remedied. However, there is an obligation placed upon the responsible person. If the responsible person fails to remedy the pollution efficiently, catchment management agent may clean up the pollution and claim the

³⁶⁰ Preamble to part 5.

³⁶¹ According to section 20(2), a responsible person includes any person who-

(a) is responsible for the incident;

(b) owns the substance involved in the incident; or

(c) was in control of the substance involved in the incident at the time of the incident.

³⁶² Section 20(3).

³⁶³ Section 20(4).

³⁶⁴ Section 20(6).

³⁶⁵ Section 20(7).

cost. Therefore the reasonableness of this measure is dependant on the catchment management agent.

16. Water Services Act of 1997

The Water Services Act (in this Chapter referred to as "the Act") was promulgated in 1997 with one of its main objects 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."³⁶⁶ This right to access to basic water and sanitation is derived from section 27 (1)(b) of our Constitution, which states that everyone has the right to have access to sufficient food and water. This is so, as a right to access to water does not only mean you should use it for drinking and therefore survival, but also for cleansing and sanitation. According to the State of the Environment Report-South Africa, "[i]n light of the uneven distribution of the water resources of the country and previous inequitable policies, the Water Services Act is important in ensuring that people's basic needs are met, i.e. water supply and sanitation. It ensures that there are sound planning and that water services providers are set up country-wide to cater for everyone."³⁶⁷

With regard to this research, the question is - how is the Water Services Act of 1997, which deals with 'water services,' connected to the conservation, protection and sustainable use of rivers? The connection is simple. Our main water supply comes from rivers – and the Water Service Act deals with the provision of water to people, industry etc. If the Act makes access to water limitless to the extent that water is being used up faster that it is being collected, the Act would not be assisting in the conservation, protection and sustainable use of rivers and would therefore be unconstitutional. In the same light, even if the Act provides for the allocation of water on an equitable and sustainable basis, but the application of its provisions by the water services authorities are not monitored, there would be room for abuse in the distribution of our already limited water supply. This latter conduct would affect the reasonableness of the Act. An analysis of this Act is therefore required.

³⁶⁶ Water Services Act, 1997: Section 2(a).

³⁶⁷ National State of the Environment Report – South Africa: Overview: Page 3.

For the purpose of this research, I shall analyse Chapter VIII of the Act that deals with the monitoring and intervention of the conduct of water service authorities. The reason for this is that if the water services authorities do not fulfil its duties with regard to the provision of water, then our limited water supply would be abused. This would place a tremendous strain on our rivers. But if the water services authorities are monitored, and a failure in their duties causes intervention by the Minister,³⁶⁸ the water service authorities would continue to fulfil their obligations and provide water to the nation in a sustainable manner.

16.1 Water Services Authority

According to section 11(1) of the Act, “[e]very 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 services. This duty is subject to, *inter alia*, the availability of resources³⁶⁹ and the duty to conserve water resources.³⁷⁰ If the water services authority does not fulfil its duty, our water resources would be abused. For this reason it is essential that the conduct of the water services authorities are monitored and if necessary, intervention to take place.

16.2 Monitoring and intervention of conduct of water services institutions

As stated earlier, in this Chapter, chapter VIII of the Act deals with monitoring and intervention of conduct of water services authorities. There therefore needs to be co-operation between the municipalities and national government in providing relevant information for efficient monitoring. There are two sections found in Chapter VIII of the Act, they are sections 62 and 63. Both these sections make co-operative governance the central principle when dealing with the monitoring and intervention of water services authorities.

³⁶⁸ Minister of Water Affairs and Forestry.

³⁶⁹ Section 11(2)(a).

³⁷⁰ Section 11(2)(e).

16.3 Monitoring of water services institutions (checks and balances)

Section 62 of Act deals with monitoring of water services institutions. It places a positive duty on the Minister and any relevant Province to monitor the performance of every water services institution.³⁷¹ This is in order to ensure compliance with all applicable national standards prescribed under the Act,³⁷² compliance with all norms and standards for tariffs prescribed under the Act;³⁷³ and compliance with every applicable development plan, policy statement or business plan adopted in terms of the Act.³⁷⁴ This section clearly brings about the mandatory monitoring of water services institution with the object of not allowing them to steer out of the ambit of their duties and responsibilities.

The Act further provides that every water services institution must furnish such information as may be required by the Minister after consultation with the Minister for Provincial Affairs and Constitutional Development.³⁷⁵ The water service institution must also allow the Minister access to its books, records and physical assets to the extent necessary for the Minister to carry out the monitoring functions.³⁷⁶

Clearly the Act envisages checks and balances take place. The water service institution has to at all times act in accordance with its duties as total disclosure is required. These checks and balance would clearly cause our water resources not to be abused. However, what would happen if the water service authority does not fulfil its obligation? Here intervention from the Minister is required which is regulated by section 63 of the Act.

16.4 Intervention

This is a long and extensive section that sets out the procedures that should be followed with regard to intervention by the Minister. All these procedures are an echo of the principle of co-operative governance. According to section 63(1), if a water

³⁷¹ Section 62(1).

³⁷² Section 62(1)(a).

³⁷³ Section 62(1)(b).

³⁷⁴ Section 62(1)(c).

³⁷⁵ Section 62(2)(a).

services authority has not effectively performed any function imposed on it by or under this Act, the Minister may, in consultation with the Minister for Provincial Affairs and Constitutional Development, request the relevant Province to intervene in terms of section 139 of the Constitution of 1996. This section deals with the provincial supervision of local government. What section 63(1) of the Act essentially does is to cause positive steps to be taken by national and provincial government against the water service authorities who cannot or does not fulfil an executive function in terms of the Act. Note the use of the word 'effective.' Therefore in order for the water authorities to act correctly, they need to do their work diligently or face intervention from national and provincial government.

Within a reasonable time after the request by the Minister, the Province fails to intervene or to do so effectively, the Minister may assume responsibility for that function.³⁷⁷ This should be done to the extent necessary to maintain essential national standards;³⁷⁸ to meet established minimum standards for providing services³⁷⁹ or to prevent that Province from taking unreasonable action that is prejudicial to the interests of another province or the country as a whole.³⁸⁰

In this manner, although the relevant water authority and Province does not fulfil its duty or do so effectively in terms of the Act, the Minister would step in to remedy the matter. This would cause that there is for no unreasonable period, an uncontrolled and improper functioning of water services. By intervening when necessary, our water resources would not be abused and intervention would regulate the proper distribution and protection of it.

If the Minister assumes responsibility, it must be approved by the National Council of Provinces. If this approval does not take place, the assumption of responsibility must end.³⁸¹ If however the Minister carries on assuming responsibility, the National Council of Provinces must regularly review that assumption of responsibility and

³⁷⁶ Section 62(2)(b).

³⁷⁷ Section 63(2).

³⁷⁸ Section 63(2)(i).

³⁷⁹ Section 63(2)(ii).

³⁸⁰ Section 63(2)(iii).

³⁸¹ Section 63(3)(b).

make appropriate recommendations to the Minister.³⁸² This section demonstrates the principle of co-operative governance in that national government has to work with other government spheres in the execution of its duties. In looking at section 63(3), it is clear that national government cannot exercise absolute decision making authority, but has to consult with other spheres of government.

The matter does not end after the Minister assumes responsibility. After assuming responsibility, the Minister may issue a directive to the water services authority to perform that function effectively.³⁸³ If the water services authority fails to comply with that directive, the Minister may intervene by taking appropriate steps to facilitate the performance of that function, including giving financial, managerial and technical advice and assistance,³⁸⁴ or on notice to the water services authority, take over that function.³⁸⁵

This clearly demonstrates the principle of co-operative governance whereby national government assists the local authorities in fulfilling their obligation. Intervention by national government is not absolute, but has to be exercised when necessary and after intervention, the intervening sphere must assist the intervened sphere to get back on track.

Section 26(6) deals with the functions of the Minister when he takes over any function of a water services authority. According to this section, the Minister may, *inter alia*, on behalf of that water services authority, exercise all the powers and carry out all the duties relating to that function³⁸⁶ and may utilise all financial and other resources available to that water services authority relating to that function.³⁸⁷ With regard to the National Council of Provinces, it may from time to time review the take-over of any function of a water services authority by the Minister and make appropriate recommendations to the Minister.³⁸⁸

³⁸² Section 63(2)(c).

³⁸³ Section 63(4).

³⁸⁴ Section 63(5)(a).

³⁸⁵ Section 63(5)(b).

³⁸⁶ Section 63(6)(b).

³⁸⁷ Section 63(6)(d).

³⁸⁸ Section 63(7).

From the above it is clear that in order for Chapter VIII of the Act to be effectively implemented, there need to be co-operation between the various spheres of government. At all times National Government has to oversee the conduct of provincial and local government and they need to co-operate in providing water to all. However, if local and provincial government does not fulfil their duties, national government would intervene. However, this intervention is reviewable by the National Council of Provinces.

From the above it is clear that the Act clearly assists in the protection and conservation of our water resources and therefore our rivers. By monitoring the conduct of water service authorities and intervening where necessary, the Act clearly makes sure that at all times the manner in which water is distributed is regulated in an equitable and just manner. This is clearly a reasonable measure taken by the State.

17. Pre-Constitutional Legislation – Its validation

The legislative measures analysed above were promulgated after the interim Constitution of 1993 and final Constitution of 1996 came into existence. Although the legislation that follows are pre-constitutional legislative products and was therefore not created in terms of our interim or final Constitution, the reason for including them in this study is set out in the following argument:

Our Constitution states that any law or conduct inconsistent with it is invalid.³⁸⁹ Section 24(b) of our Constitution states that the State should protect the environment through reasonable legislative and other measure that, *inter alia*, promotes its conservation. At the same time, legislation that are created 'in terms of our Constitution, but which does not protect it would be invalid. Legislation created before or after the coming into operation of our Constitution that promotes the conservation of the environment is valid. Therefore, if a measure promotes the conservation of the environment it would find its validity under our Constitution. Therefore, whilst finding it validity under our Constitution because it conforms to the environmental clause – means that it was re-validated when our Constitution came into effect. Therefore, pre-Constitutional legislative measures that where not created

³⁸⁹ Constitution: Section 2.

in terms of our Constitution but was validated by it would therefore falls under the ambit of our study. In creating legislation in terms of our Constitution would also mean striking down that which is contrary to it. With the same breath, legislation that is in conformity with our Constitution but created prior to our Constitution would be validated by the inception of our Constitution.

18. Environment Conservation Act 1989

The Environment Conservation Act³⁹⁰(in this Chapter referred to as "the Act") is a pre-1996 constitutional legislative product. Its date of commencement was 9 June 1989. This was the period when environment conservation became a matter of greater international concern. The Act is the policy document with regard to the conservation of the environment in South Africa. According to *Devenish*³⁹¹, our environmental clause must be read and construed together with the Environmental Conservation Act. The long title of the Act states, “[t]o provide for the effective protection and controlled utilisation of the environment and for matters incidental thereto.”

For the purpose of this work, we shall examine Part IV of the Act, which deals with the control of environmental pollution. This part has two sections, i.e. section 19 that deals with the prohibition and removal of litter and section 20 which deals with waste management. This is a very important part because many of our rivers are polluted which causes harm to them. In studying this Act, we should keep in mind that waste need to be disposed of, but in a controlled manner that would cause no harm, or the least possible harm to the environment. I shall now examine how the Act control environmental pollution that would cause our rivers to be conserved for the benefit of the present as well as future generations.

³⁹⁰ Act 73 of 1989.

18.1 Prohibition and removal of litter

According to section 19(1) of the Act, “[n]o person shall discard, dump or leave any litter on any land or water surface, street, road or site in or on any place to which the public has access, except in a container or at a place which has been specially indicated, provide or set apart for such purpose.” This section clearly makes it an offence to litter in any form. By doing this, it protects the environment because many of the substances discarded by people can cause great damage to the environment. With regard to rivers, many a time litter finds its way into it not by people throwing waste into it, but via other agents such as wind and rain water. By prohibiting pollution, it would make it less likely for waste to find its way into rivers.

Subsection (2) states that “[e]very person or authority in control of, or responsible for the maintenance of any place to which the public has access to at all times should ensure that containers or places are provided which will normally be adequate and suitable for the discharge of litter by the public.” This section clearly puts an obligation on the State and individuals in control of places, which the public has access to, to provide for disposal of litter. By doing so, litter would not be blown around and pollute the environment. However, this litter has to be removed. Section 19A states that,

“[n]otwithstanding the provisions of section 19(2) every person or authority in control of or responsible for the maintenance of any place to which the public has access, shall within a reasonable time after the litter has been discarded, dumped or left behind at such place (with the inclusion of any pavement adjacent to, or land situated between, such a place and a street, road or site used by the public to get access to such place) remove such litter or cause it to be removed.”

This subsection clearly places a positive duty on every person or authority in control of or responsible for the maintenance of any place which the public has access to, to keep it and to remove any litter lying around. By doing so, litter would not be blown into our environment causing it harm. Here special reference can be made to litter being blown or dumped into our rivers. From looking at section 19 of the Act, it is

³⁹¹ *Devenish*, 1998: p 67.

clear that it assists in the conservation and protection of our rivers. This is due to the fact that it makes pollution an offence and places a positive duty upon the State and people in authority of public places to provide for refuse facilities and to empty those facilities and remove any litter in the area of their control. According to *Craythorne*, “[t]he first line of defence of the environment is local government level, because a municipality is responsible for preventing litter and pollution.”³⁹² I shall now determine how section 20 of the Act assist in the conservation and protection of our rivers.

18.2. Waste management

Section 20 of the Act deals with waste management. It essentially entails the issuing of permits to those whose business concerns the disposal of large sums of waste. This is a very important section for many a time illegal dumping is exercised. If illegal dumping takes place close to a river, this waste would inevitably find its way to it. According to subsection (1),

[n]o person shall establish, provide or operate any disposal site without a permit issued by the Minister of Water Affairs and that the Minister may-

- (a) issue a permit subject to such conditions it deems fit;
- (b) alter or cancel any permit or condition in a permit;
- (c) refuse to issue a permit;

Provided that such Minister may exempt any person or categories of person from obtaining a permit, subject to such conditions as he [or she] may deem fit.

From the above it is clear the disposal of large sums of waste are regulated. Therefore, even on ones own property, you may not provide or operate a disposal sight on it without authority from the Minister. In providing for this, our environment would be protected for the benefit of present and future generations.

From the above it is clear that the Act assists in the protection and conservation of rivers in South Africa. It prohibits littering and places a positive duty on the State and individuals in control of areas, which the public has, access to, to provide for waste

³⁹² *Craythorne*, 1997: p 21.

disposal containers or other mechanisms. Furthermore, it places a positive duty on those in control of or responsible for the maintenance of any place to which the public has access to, to remove dumped or discarded litter on their premises. Finally it regulates waste disposal, which is very important, as unregulated disposal would cause harm to the environment. The Act clearly assists in the protection and conservation of our rivers as waste would be where it should be and not in our rivers. I shall now examine the Mountain Catchment Areas Act and see how it assists in the conservation, and protection of our rivers.

19. Mountain Catchment Areas Act of 1970

All rivers originate from a higher altitude than its catchment. Most of our rivers originated from mountains or high lying areas like hills. The manner in which these areas are used, managed and conserved has a direct affect on water situated in the catchment.

We have the Mountain Catchment Areas Act³⁹³(in this Chapter referred to as "the Act") which purpose is to "provide for the conservation, use, management and control of land situated in mountain catchment areas..."³⁹⁴ The Act gives the Minister the authority to define and declare any area as a mountain catchment area.³⁹⁵ The Director-General may then cause beacons to be erected on this area.³⁹⁶ The Minister may declare directions to be applicable with regard to land situated within any mountain catchment area³⁹⁷ or outside the mountain catchment area but within five kilometers from its boundary.³⁹⁸ With regard to areas within the mountain catchment area, directions may be given with reference to the conservation, use, management and control of such land³⁹⁹ and the prevention of soil erosion, the protection and

³⁹³ Act 63 of 1970.

³⁹⁴ Mountain Catchment Areas Act: Long title.

³⁹⁵ Section 2.

³⁹⁶ Section 2A(1).

³⁹⁷ Section 3(1)(a).

³⁹⁸ Section 3(1)(b).

³⁹⁹ Section 3(1)(i)(aa).

treatment of the natural vegetation, which is, in the opinion of the Minister, intruding vegetation.⁴⁰⁰

With regard to land outside the mountain catchment area but within five kilometres from its boundary, the Minister may declare a direction with regard to destruction of vegetation that is in the opinion of the Minister intruding vegetation.⁴⁰¹ This direction is binding on every owner and occupiers of the land as well as their successors in title.⁴⁰² In 1989 it was stated by *Rabie* that “[t]here are presently some seventeen declared mountain catchment areas on private land, covering over 600 000 hectares while almost 1,2 million hectares of state land is also managed as mountain catchments.”⁴⁰³ From the above it is clear that the Act assists in the conservation, protection and sustainable use of rivers in South Africa.

20. Conservation of Agricultural Resources Act of 1983

The creation of laws concerning the conservation, protection and sustainable use of water deriving from rivers are not enough to ensure their existence for the benefit of the present and future generations. Although they play a major role in the process, it is very important that the conditions of the land surrounding the rivers are regulated. Here the Conservation of Agricultural Resources Act⁴⁰⁴ (in this Chapter referred to as “the Act”) plays a positive role. The long title of the Act states that it is “[t]o provide for control over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation...”

The objectives of the Act “are to provide for the conservation of the natural agricultural resources ... by maintenance of the production potential of the land, by the combating and prevention of erosion and weakening or destruction of the water resources, and by the protection of the vegetation and the combating of weeds and invader plants.”⁴⁰⁵

⁴⁰⁰ Section 3(1)(i)(bb).

⁴⁰¹ Section 3(1)(ii).

⁴⁰² *Rabie*, 1989: *The Conservation of Rivers in South African Law*: p 192.

⁴⁰³ *Rabie*, 1989: *The Conservation of Rivers in South African Law*: p 192.

⁴⁰⁴ Act 43 of 1983.

Clearly if the land is not conserved, it would have a direct effect on a river close by. Furthermore, vegetation uses water from rivers in order to survive. Therefore, all weeds and invader plants have to be combated to minimize unnecessary consumption of river water.

The Act prohibits the spreading of weeds and makes it a criminal offence to do so.⁴⁰⁶ You may not “sell, agree to sell or offer, advertise, keep, exhibit, transmit, send convey or deliver for sale, or exchange for anything or dispose of to any person in any manner for a consideration, any weed;⁴⁰⁷ or in any other manner whatsoever disperse or cause or permit to dispersal of any weed from any place...”⁴⁰⁸ Weeds are a menace to rivers and vegetation as they choke them. This provision would assist in the protection, conservation and sustainable use of our rivers in South Africa.

From the limited study of the Conservation of Agricultural Resources Act, it is evident that it assists in the conservation of rivers in South Africa. A cause of river destruction is soil erosion, which finds its way into our rivers. Through conserving our soil and limiting its water use to that what is being grown would assist in the conservation and protection of rivers in South Africa.

21. Sea-Shore Act of 1935

One of the possible ending points of a river is the sea. According to the Sea-Shore Act⁴⁰⁹ (in this Chapter referred to as "the Act") the definition of ‘sea’ includes the water and the bed of any tidal river.⁴¹⁰ A tidal river is defined as “that part of the river in which a rise and fall of the water-level takes place as a result of the action of the tides.”⁴¹¹ Section 7 of the Act deals with the exercise of powers for public health. In term of section 7(b), the relevant local authority “may exercise, in respect of the sea-shore and the sea situated within its area of jurisdiction or adjoining any of the powers which are conferred by or under the Health Act, 1977 on a local authority.”

⁴⁰⁵ Section 3.

⁴⁰⁶ Section 5(6).

⁴⁰⁷ Section 5(1)(a).

⁴⁰⁸ Section 5(1)(b).

⁴⁰⁹ Act 21 of 1935.

⁴¹⁰ Section 1.

⁴¹¹ Section 1.

Therefore, in exercising its powers conferred under the Health Act of 1977, with regard to the sea-shore and sea, tidal rivers would also be afforded protection.

22. Health Act of 1977

The Health Act⁴¹² provides for regulations relating to water intended for human use and food processing.⁴¹³ According to Section 37(b), the Minister of Health may make regulations in respect of water intended for human use or food processing regulations relating to the “ protection of the catchment areas of rivers, watercourses ... against pollution constituting a danger to health...” Making such regulations with regard to rivers, would assist in its protection and conservation.

Although this provision uses the word ‘may’ and is therefore not peremptory for the Minister to apply it, it can be argued that the Minister has an obligation to make regulations against pollution constituting a danger to health with regard to rivers. This is due to the fact that everyone has constitutionally entrenched rights to an environment not detrimental to their health or wellbeing and a right to sufficient water. For this reason the aforementioned regulations has to be passed.

23. Minerals Act of 1991

Mining causes great harm and pollution to the environment. If mining activities take place close to a river, it would in some way be detrimentally affected by such activities. Therefore, there need to be regulations in place with regard to the issuing of mining permits where there are potential harms that may be caused to the environment.

The Minerals Act⁴¹⁴(in this Chapter referred to as "the Act") places certain restrictions in relation to use of the surface of land for mining.⁴¹⁵ According to Section 41(1) of the Act “[t]he Director: Mineral Development may issue directives and determine

⁴¹² 63 of 1977.

⁴¹³ Section 37.

⁴¹⁴ Act 50 of 1991.

conditions in relation to the use of the surface of land comprising the subject of any prospecting permit or mining authorisation in order to limit any damage to or the disturbance of the surface, vegetation, environment or water source to the minimum which is necessary for any prospecting or mining operations or processing of any minerals...” This regulation adheres to one of the factors to be considered for sustainable development found in the National Environment Management Act which states: “that pollution and degradation of the environment are [to be] avoided, or, where they cannot be altogether avoided, are minimised and remedied.”⁴¹⁶

The manner in which this section in the Act assists in the protection, conservation and sustainable use of rivers, is that if there is mining taking place close to a river, directives may be issued setting down conditions to limit any damage that may be caused to water sources. Furthermore, depending on the mining activity, conditions may be laid down before issuing a mining permit that would limit any damage to or disturbance to rivers. This would assist in the protection and conservation of the water surrounding the mining activity.

24. Brief overview of State’s measures taken

As has been illustrated in this work, there are no measures which have as its main area of concern the protection, conservation and sustainable use of all rivers in South Africa. However there are measures taken by the State with regard to the protection and conservation of the environment as a whole or that deal with the protection of certain aspects of watercourses that find application with regard to rivers. What follows is a brief overview of some of the measures taken by the State that I have analysed in this work.

24.1 Regional measures

Having analysed the SADC Revised Protocol on Shared Water Course,⁴¹⁷ it is clear that it would assist in the protection, conservation and sustainable use of rivers in

⁴¹⁵ Section 41.

⁴¹⁶ National Environment Management Act, 1998: Section 2(4)(a)(ii).

⁴¹⁷ See Chapter 5 above.

South Africa. This is due to it placing an obligation upon all States party to the protocol to individually and, where appropriate, jointly, protect and preserve the ecosystems of a shared watercourse. Furthermore its provisions dealing with the prevention, reduction and control of pollution would assist in the protection and conservation of our rivers which are shared with other States party to the Protocol.

24.2. Policies, strategies and plans

Having analysed the various policies, strategies and plans that have an affect on South African rivers, it was concluded that they all assist in some manner in its protection, conservation and sustainable use. With regard to the White Paper on Water Supply and Sanitation, it takes note of the growing scarcity of water in South Africa and that it is necessary for everyone to ensure the environment is protected in all development activities. The White Paper on National Water Policy is a comprehensive document placing major obligation on the State to protect and conserve our water resources. It sets out an obligation for State to deal not only with the quantity of our water resources but also its quality. In the application of this policy, rivers as a water resource, would be protected, conserved and used in a sustainable manner. The Environment Management Policy assists in the conservation, protection and sustainable use of rivers in South Africa by placing an objective on the State to formulate legislative and other measures that would promote equitable access to, and sustainable use of, natural and cultural resources, and promote environmentally sustainable lifestyles.

Where strategies are concerned, the National Water Resources Strategy will play a vital role in the protection of our water resources and most importantly, for the purpose of this research, the protection of rivers. As *Barnard* states, “[t]he strategy will be the overarching framework for all water management taken in the Country.”⁴¹⁸

With regard to the environmental management and implementation plans, they place a positive obligation on relevant national departments and provinces to comply with them when performing functions that affect the environment. Therefore, this measure

⁴¹⁸ *Barnard*, 1997: P 270.

that the National Environmental Management Act obliges relevant government departments and provinces to take as shown in this work, will protect our rivers and promote the conservation and sustainable use of rivers in South Africa.

24.3 Legislative measures

The National Environment Management Act is a reasonable measure taken by the State that would assist in the protection, conservation and sustainable use of our rivers in South Africa. It affords us with environmental management principles that serve as a general framework within environmental management⁴¹⁹ and “serve as the general framework within which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment.”⁴²⁰ Having analysed the principle of sustainable development and the polluter pays principle, it is clear that they would play a positive role in the protection, conservation and sustainable use of rivers in South Africa.

The Water Services Act prescribing the monitoring and intervention of conduct of the water services authorities clearly assists in the protection, conservation and sustainable use of our rivers. This is due to the fact that most of our water comes from rivers and the Water Services Act provides for the rights of access to basic water supply and basic sanitation. If the Act does not regulate the institution regulating water distribution - it would have a negative effect on our rivers.

From the brief analysis done on the Environment Conservation Act, it is clear that it assists in the protection and conservation of our rivers with reference to its provisions that deal with control of environmental pollution. The analysis clearly demonstrate that it prohibits littering and places a positive duty on the State and individuals in control of areas, which the public has access to, to provide for waste disposal containers or other mechanisms. Furthermore, it places a positive duty on those in control of or responsible for the maintenance of any place to which the public has access to, to remove dumped or discarded litter on their premises. Finally it regulates waste disposal, which is very important, as unregulated disposal would cause harm to

⁴¹⁹ Section 2(b).

the environment. This clearly assists in the conservation of our rivers, as waste would be where it should be and not in our rivers.

With regard to Chapter VIII of Water Services Act, it assists in the conservation of our water resources and thereby our rivers by the constant monitoring and intervention by the Minister of Water Affairs and Forestry over water service authorities. This duty to monitor the water service authorities is peremptory upon the Minister and the province. Therefore, if the water service authorities do not effectively execute their duties, the Minister may, in consultation with the Minister for Provincial Affairs and Constitutional Development, request the relevant Province to intervene. The chapter brings about transparency within government and there is always the application of checks and balances. Chapter VIII clearly need the application of the principles of co-operative government entrenched in our Constitution to be effectively applied. However if local and provincial government refuses to co-operate, the Minister may intervene and take control. This clearly would assist in the protection and conservation of our rivers.

With regard to the Minerals Act, it assists in the protection, conservation and sustainable use of rivers. If mining is taking place close to a river, directives may be issued setting down conditions to limit any damage to water resources. Furthermore, depending on the mining activity, conditions may be laid down before issuing a mining permit that would limit any damage to or disturbance to rivers.

From this brief overview of the legislative and other measures that assist in the conservation, protection and sustainable use of rivers in South Africa, it is clear that there are reasonable measures in place that would assist in the protection, conservation and sustainable use of rivers in South Africa.

⁴²⁰ Section 2(c).

25. Conclusion

As expounded and elaborated on in this work, water is a very precious natural resource which availability is limited in South Africa. Its scarcity is a matter of regional and international concern and South Africa should therefore form part of all international activities that would assist in countering water scarcity and promote the protection of our water resources.

This work dealt with an analysis of measures taken by the State with regard to the protection, conservation and sustainable use of rivers in South Africa. As I have shown, there are no national measures⁴²¹ in place that deal as its main area of concern with the protection, conservation and sustainable use of rivers in South Africa. This is so notwithstanding our Constitution instructing the State to take measures in this regard. However, the State need not take measures that deal specifically with the protection, conservation and sustainable use of rivers in South Africa if there are other measures in place that would assist in the conservation, protection and sustainable use of it. Therefore, this work analysed measures not intended specifically for rivers in South Africa, but only that which would assist in the protection, conservation and sustainable use of it.

Before having analysed the measures taken by the State that would assist in the conservation, protection and sustainable use of rivers in South Africa, it was necessary to first lay down an understanding of what should these measures entail in order to be reasonable as is required by our Constitution⁴²². In this regard, an exposition was given of the judiciary's view of reasonableness given by the Constitutional Court. The Constitutional Court laid down a very high criterion in order for measures to be reasonable and therefore comply with our Constitution. In sum, reasonable measures taken is not having put words on paper, but for the measures taken to cause the obligation placed upon the State by our Constitution to be fulfilled. With regard to rivers - that protects it, promotes its conservation and secures its sustainable use.

⁴²¹ Here I refer to national legislation and policies.

The measure that was looked at was international documents, legislation, policies, strategies, and plans. In analysing these measures I used various parts of it that would assist in the conservation, protection and sustainable use of rivers in South Africa, as well as demonstrating the reasonableness of those measures. Although I have shown no analytic proof of whether these measure are workable in its application, as is a requirement for a measure to be reasonable – my analysis demonstrate the measures to a *prima facie* reasonable.

The question that has to be answered is whether the State fulfilled its obligation imposed upon it by our Constitution with regard to the protection, conservation and sustainable use of rivers in South Africa. The answer to this is affirmative. Although there are no legislative measures that deal specifically with rivers in South Africa; the measures in place that assist in its protection, conservation and sustainable use are reasonable and discharges the State of taking other measures in this regard. Therefore, in answering the question posed in this thesis topic, the State has fulfilled its obligation.

What has been made evident in this work, is the fact that the principle of co-operative governance has to play an integral role in order to ensure that the measures taken by the State with regard to river protection, conservation and sustainable use are successful. This is so due to rivers are being monitored and controlled by local government institutions. If they do not receive the support and co-operation of national and provincial spheres of government, they would not be able to efficiently execute their duties.

To end, although our Constitution instructs the State to take reasonable measures with regard to the environment, everyone should take it upon themselves to do their bit regarding to the protection, conservation and sustainable use of our earth. As the earth is our global home, we should assist in its protection, conservation and sustainable use.

⁴²² Section 24(b).

26. Recommendations for future action

Recommendation #1

The first recommendation that I give is for research to take place within each municipal area in South Africa to determine whether the measures in place with regard to the protection, conservation and sustainable use of rivers are being implemented. This is due to local government being the most knowledgeable of what the needs and circumstances of its area of control are and is the functionary that implement the measures prescribed by law.

Recommendation # 2

Rivers usually start from a mountain and ends at a catchment where it ends up in our homes. There are many possibilities of pollutants making its way into a river through activities taking place alongside a river. It is therefore recommended that there be an integration of the relevant provisions of the Mountain Catchment Act⁴²³ (start of the rivers), the Conservation of Agricultural Resources Act⁴²⁴ and Minerals Act⁴²⁵ (regulation of pollution taking place close to the river) and the catchment management agencies (the source of water for public use). This would effectively assist in the protection and conservation of the entire river.

Recommendation # 3

It is recommended that there be an analytical study done with regard to whether there has been a difference with regard to the state of our rivers since the measures taken to protect, conserve and secure the sustainable use of our rivers came into effect. This would determine whether the measures in place are substantively reasonable.

Not recommended: Seeing that there are a number of measures in place that would assist in the protection, conservation and sustainable use of rivers as demonstrated in

⁴²³ Act 63 of 1970.

⁴²⁴ Act 43 of 1983.

⁴²⁵ Act 50 of 1991.

this work, I do not recommend that there should be as yet, new legislation that deals specifically with the protection, conservation and sustainable use of all our rivers. However, I do recommend that there be an integration of various measures that would assist in the conservation, protection and sustainable use of all our rivers. With regard to when would be the opportune time for the introduction of measures what deals specifically with river protection, conservation and its sustainable use; I submit that the ideal time would be once a proper interpretation has been given by our Constitutional Court with regard to the environmental clause⁴²⁶ in our Constitution.



⁴²⁶ Section 24.

BIBLIOGRAPHY

LEGISLATION

Conservation of Agricultural Resources Act 43 of 1983

Constitution of the Republic of South Africa Act 108 of 1996

Environment Conservation Act 73 of 1989

Health Act 63 of 1977

Interim Constitution of the Republic of South Africa Act 200 of 1993

Minerals Act 50 of 1991

Mountain Catchment Areas Act 63 of 1970

National Environmental Management Act 107 of 1998

National Water Act 36 of 1998

Sea-shore Act 21 of 1935

Water Services Act 108 of 1997

POLICY DOCUMENTS

Department of Environment Affairs and Tourism, 1997, White Paper on Environment Management Policy, 1997

(http://www.polity.org.za/html/govdocs/white_papers/envir.html 4/24/03)

Department of Water Affairs and Forestry, 2002, Draft White Paper on Water Services, 2002

Department of Water Affairs and Forestry, 1997, White Paper on a National Water Policy for South Africa, 1997

Department of Water Affairs and Forestry, 1994, White Paper on Water Supply and Sanitation Policy, 1994

BOOKS

D Barnard, 1999, *Environmental Law for All*, Impact Books CC, Pretoria, Second impression, 1999

PW Birnie, AE Boyle, 2002, *International Law and the Environment*, Oxford University Press, Oxford, Second Edition, 2002

Y Burns, 1999, *Administrative Law under the 1996 Constitution*, Butterworths, Durban, Revised Reprint, 1999

WG Camp, TB Daugherty, 1997, *Managing Our Natural Resources*, Delmar Publishers, Third Edition, 1997

DL Craythorn, 1997, *Municipal Administration: A handbook*, Juta & Co, Kenwyn, Fourth Edition, 1997

Davis et al, 1997, *Fundamental Rights in the Constitution, Commentary and Cases, A commentary of Chapter 3 on Fundamental Rights of the 1993 Constitution and Chapter 2 of the 1996 Constitution*, Juta & Co, Kenwyn, First edition, 1997

GE Devenish, 1998, *A Commentary on the South African Constitution*, Butterworths, Durban, First Edition, 1998

De Waal et al, 2001, *The Bill of Rights Handbook*, Juta & Co, Kenwyn, Fourth Edition, 2001

J Dugard, 1994, *International Law, A South African Perspective*, Juta & Co, Kenwyn, Second Impression, 1997

Environmental Options cc, 1994, *Know Your Environmental Rights, Your Guide to South African Environmental Protection*, Wildlife Society of Southern Africa, Mason, 1994

RF Fuggle, MA Rabie, 1998, *Environmental Management in South Africa*, Juta & Co, Kenwyn, Reprint, 1998

J Glazewski, 2000, *Environmental Law in South Africa*, Butterworths, Durban, First Edition, 2000

J Glazewski, G Bradfield, 1999, *Environmental Justice and the Legal Process*, Juta & Co, Cape Town, First Edition, 1999

Hoexter et al, 2002, *The New Constitution and Administrative Law*, Cape Town, Juta & Co, First Edition, 2002

Hugo et al, 1997, *The Ecology of Natural Resource Management, The Quest for Sustainable living, A text for South African Students*, Kagiso Publisher, Pretoria, First edition, 1997

M Kidd, 1997, *Environmental Law, A South African Guide*, Juta & Co, Kenwyn, First edition, 1997

GT Miller Jr., 1996, *Living in the Environment*, Wadsworth Publishing Company, United States of America, Ninth Edition, 1996

AS Mossman, 1974, *Conservation*, Intext Educational Publishers, New York, First Edition, 1974

IMF Rautenbach, EFJ Malherbe, 1997, *Constitutional law*, Butterworths, Durban, Revised Second Edition, 1997

REPORTS

Water Research Commission, 1994, *The Application of Economics to Water Management in South Africa*, 1994, WRC Report No 415/1/94

ARTICLES

Enviropros Bulletin, Environmental Management & Pollution Prevention Bulletin, Vol.2, No.1, January 2001

PGW Henderson, 2001, *Some Thoughts on the Distinctive Principles on South African Environmental Law*, (2001) 8 SAJELP

MA Rabie, 1989, *The Conservation of Rivers in South African Law*, (1989)4(1) SA *Public Law*186

MA Rabie, 1998, *Water for the Environment*, (1998)61(1) *Tydskrif vir Heedendaagse Romeins-Hollandse Reg*

J Nel, W du Plessis, 2001, *An Evaluation of NEMA based on a Generic Framework for Environmental Framework Legislation*, (2001) 8 SAJELP

R Peart, K Govender, 2001, *Natural Resource Policies for the New Millenium: Is South Africa Moving Towards a More Sustainable Path?* (2001) 8 SAJELP

CASE LAW

*Government of the Republic of South Africa and others v Grootboom*2000 (11) BCLR 1169 (CC)

MEC for Economic Affairs Environment and Tourism Makay Bridge Farm CC [1996] 3 All SA 340 (SE)

Minister of Public Works and Others v Kyalami Ridge Environmental Association and Another (Mukhwevo Intervening) 2001 (3) SA 1151
S v Mumba 1997 (1) SA 854 (W)
Wildlife Society of Southern Africa and Others v Minister of Environmental Affairs and Tourism of the Republic of South Africa and Others 1996 (3) SA 1095

GOVERNMENT PUBLICATIONS

City of Cape Town Development Service, 2002, Catchment, Stormwater and Rivers Management Strategy 2002-2007, City of Cape Town, Transport, Roads & Stormwater Directorate, Second and Final Draft, May 2002

City of Cape Town, 2001, Integrated Metropolitan Environmental Policy of the City of Cape Town, City of Cape Town, October 2002

Department of Water Affairs and Forestry, 1996, The Philosophy and Practice of Integrated Catchment Management: Implications for Water Resource Management in South Africa, Department of Water Affairs and Forestry, 1996

Department of Water Affairs and Forestry, 2001, Explanatory Memorandum and Protocol, Revised Protocol on Shared Watercourses in the Southern African Development Region, Parliament, August 2001

Department of Water Affairs and Forestry, 2002, Proposed First Edition, National Water Resource Strategy, Summary, Department of Water Affairs and Forestry, August 2002

South Waters Ecological Research and Consulting, Cape Metropolitan Area: Rivers Maintenance Manual, Version 1.0:2000

State of the Rivers Report, 2001, Crocodile, Sabie-Sand and Olifants River Systems, WRC Report No TT147/01 March 2001

WEBSITES

50/50 Fact Sheet: <http://www.5050.co.za/factsheet.asp?ID=55> 12/3/02

Agenda 21 Lacale, Brundland Report:

http://www.provincia.fe.it/agenda21/documenti/brundland_report.htm 5/6/02

City of Cape Town, Two Rivers Urban Park Spatial Development Framework And Phase 1 Management Plan: http://www.capetown.gov.za/reports/two_rivers/ 11/29/02

City of Cape Town, Water Resources:

<http://www.capetown.gov.za/imep/approaches/resources.asp> 9/20/02

Conservation: <http://botany.uwc.ac.za/Envfacts/facts/conserve.htm> 12/3/02

Department of Environment Affairs and Tourism, 1997, White Paper on Environment Policy: http://www.polity.org.za/html/govdocs/white_papers/envir.html

Department of Water Affairs and Forestry, Catchment Management Agencies:

<http://www.dwaf.gov.za/Projects/Capewaterplan/Page5.htm> 11/27/02

Environment Policy for South Africa:

http://www.poity.or.za/html/govdocs/green_papers/enviro1.html?rebookmark=1
11/29/02

General Dismantlement Input: http://www.dismantle.org/sub_more.htm 6/7/02

IUCN ROSA, THERE'S ANOTHER WAY THAT WORKS IN CAPE TOWN – SOUTH AFRICA, August 22, 2002, IUCN: http://www.iucn.org/wssd_news_a.htm

Johannesburg 2002:

http://www.johannesburgsummit.org/html/basic_info/basicinfo.html

Karath,K, Cape Cod Times: News, Wampanoag oppose Bosh Center project,
November 10, 1998

http://www.capecodonline.com/cctimes/archives/1998/nov98/11_10_98/bosh10.htm
12/3/02

La Voz del, United Nations World Summit on Sustainable Development:

<http://www.uctp.org/Volumes5/OctDec2002/index1.html> 05/11/2003

Lerisha & Jayshall, Water: POLLUTION PROBLEMS: <http://www.e-village.jp/opc/evc/o2water122/11/>

National State of the Environment Report, South Africa, Freshwater Systems and
Resources: <http://www.ngo.grida.no/soesa/nsoer/issues/water/> 9/13/02

Precious Water: <http://www.botany.uwc.ac.za/Envfacts/facts/water.htm> 11/2902

The Lotus River Project, Integrated Catchment Management in an Urban Context:
<http://users.iafrica.com/g/gr/grobicki/lotus.html> 11/27/02

The Water Page: http://www.thewaterpage.com/agenda_21.htm 05/15/2003

Third World Forum: http://www.jiid.or.jp/j/ICID_kokunai/jigyomontreal/22.html
05/15/2003

United Nations, General Assembly, 1992: Report of United Nations Conference of
Environment and Development, Annex I, Rio Declaration on Environment and
Development 5/01/03

<http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

World Water Council, World Water Forum:

<http://www.worldwatercouncil.org/forum.shtml> 05/11/2003

<http://habitat.igc.org/agenda21/index.html>

