

**SHARED WATERCOURSES MANAGEMENT IN THE SOUTHERN AFRICAN
DEVELOPMENT COMMUNITY: TOWARDS A MORE COMPREHENSIVE
SHARED WATERCOURSES MANAGEMENT PROTOCOL.**

by

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DECLARATION

I Farai Razano, student number 203 518 286, declare that:

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Professor M A Kidd

DEDICATION

This dissertation is dedicated to our daughter Kamikazi Eva Makanaka who was born on the 3rd of October 2009. Her highly anticipated birth gave me the courage to soldier on with this study in pursuit of making a useful contribution towards effective water resources management in the Southern African Development Community, for the benefit of her generation and many other generations to follow.

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CHAPTER 1: INTRODUCTION

1.1) Background of Study

The problem of water scarcity and the need for effective water resources management is not a recent phenomenon. It has been a challenge since time immemorial. However, fresh water resources have drastically dwindled in the recent past and continue to do so at an alarming rate. It is becoming apparent that, while many wars during the 20th century were fought over oil, conflicts in the 21st century will be over water.¹ Since 2005 it has been clear that demand and conflict over water has been on the increase and will continue to do so for the period 2005 to 2020.² Only about 2.5% to 3% of the world's water is fresh water and only a small portion of that water is readily available for human use.³ The main sources of fresh water in the world are rivers. It is estimated that there are 261 watersheds in the world that are shared by two or more countries.⁴ The interstate nature of these fresh water sources will inevitably heighten conflict as the scarcity of the resource intensifies. In fact, there are already widespread views that 'if there is going to be a conflict about freshwater it is likely to be about the sharing of the waters of international rivers.'⁵ This conflict will be fuelled primarily by the scarcity of the resource and the competing principles at international law regulating use of shared watercourses. Doctrines such as the doctrine of absolute territorial sovereignty and the

¹ S P Subedi 'Regulation of Shared Water Resources in International Law: The Challenge of Balancing Competing Demands' in S P Subedi (ed) *International Watercourses Law for the 21st Century: The Case of the River Ganges Basin* (2005) 7 at 7.

² A T Wolf 'Transboundary water conflicts and co-operation' in S D Keney (ed) *In search of Sustainable Water management: International Lessons for American West and Beyond* (2005) 131 at 142.

³ Ibid.

⁴ Ibid.

⁵ Subedi *op cit* n 1 at 7- 8.

doctrine of territorial integrity⁶ are (and continue to become more) difficult to reconcile in relation to the growing demand and scarcity of fresh water. Many riparian states have different water resource management strategies and lower riparian states, for instance, will have to bear the brunt of any water (mis)management strategies of upper riparian states.

From the foregoing, it is clear that there is an urgent need to effectively manage and control the available shared watercourses to meet the needs of present and future generations. This can only be achieved through legally binding treaties or conventions that promote integrated water resources management and co-operation among states in the management of shared watercourses. This has been the general trend in the recent past as a result of the universally accepted principles of sustainable development. The definition of sustainable development is not clear-cut, but the most often quoted definition is that of the Brundtland Commission. This definition provides that ‘sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.’⁷ From this definition, it is clear that sustainable development consists of a number of core elements. It dictates that the needs of the present and future generations must be taken into account (inter-generational equity); the needs of the world’s poor must be prioritised (intra-generational equity), and abject poverty must be eliminated, the environment needs to be

⁶ See generally the principles of the U N Convention on the Law of the Non-Navigational Uses of International Watercourses. United Nations (1997). The Convention is annexed to U.N.G.A. Res. 51/229, 21 May 1997 [the full text of this Convention can be found at: <http://www.un.org/ga/documents/gares51/ga51-229.htm>]

⁷ Report of the World Commission on Environment and Development: Our Common Future (1987). Transmitted to the General Assembly as an Annex to document A/42/427 – *Development and International Co-operation: Environment*. <http://www.un-documents.net/wced-ocf.htm> (accessed on 08/09/2009)

preserved to a significant degree and the economic, social, and environmental policies must be integrated.⁸ Thus shared watercourses should be utilised and managed in a manner that promotes the preservation of the resource as well as the environment in general.

The issue of regulatory frameworks for water resources management dominated international conferences and forums in the last three decades of the 20th century. There was a growth in attempts to rationalise shared watercourses management and balance the competing interests among states sharing watercourses.⁹ The basis of this was the recognition of the fact that fresh water is a finite and vulnerable resource essential to sustain life, development and the environment.¹⁰ Undoubtedly, the old model of optimum river basin development no longer encompasses the full range of economic, environmental and social dimensions of water use.¹¹ There is, therefore, a growing need for a new water use and management policy and law that reflects the consensus about sustainable development and integrated shared watercourse management.

On the global scale, this has already been acknowledged on various occasions, the most notable being Agenda 21 and the Rio Declaration on Environment and Development adopted at the United Nations Conference on Environment and Development

⁸ D B Magraw & L D Hawke 'Sustainable Development' in D Bodansky, J Brunnee & E Hey (eds) *The Oxford Handbook of International Environmental Law* (2007) 615 at 619.

⁹ Wolf *op cit* n 2.

¹⁰ Guiding Principle 1. Dublin Statement and Report of the Conference. International Conference on water and the environment: development issues for the 21st century, 26-31 January 1992, Dublin.

¹¹ L Guruswany & AD Tarlock 'Sustainability and the future of Western Water Law' in S D Keney (ed) *In search of Sustainable Water management: International Lessons for American West and Beyond* (2005) 155 at 155.

(“UNCED”)¹² as later affirmed at the World Summit on Sustainable Development.¹³ Agenda 21 calls for the development of integrated water resource management. This requires a holistic management of fresh water as a finite and vulnerable resource and the integration of sectoral water plans and programs within the framework of economic and social policy.¹⁴ This is particularly true as, ‘sustainable water use... cannot satisfactorily be achieved through fragmented and fractured overlay of policy and law, but could more efficiently and fairly be undertaken within the internationally offered framework of Integrated Water Resources Management (IWRM).’¹⁵ Water is one of a number of natural resource elements that need to be managed in a sustainable manner.¹⁶ Consequently, any emerging water vision should look at water as a naturally shared resource. It should call for co-operation and interdependence among states sharing the watercourses.¹⁷ This emerging concept, inevitably, encompasses wider principles and ‘involves the more complex task of analysing the different needs of water users in each riparian state, as well as joint management of the river systems.’¹⁸

In the context of the SADC region, ‘recent changes in economic and social developments ... have led to increased water demand and hence, pressure on the sub-continent’s water

¹² The United Nations Conference on Environment and Development, Rio de Janeiro, 3 – 14 June 1992. The conference is also informally known as the ‘Earth Summit’. The other documents that were adopted at this conference are; the Statement of Forest Principles, the United Nations Framework Convention on Climate Change and the United Nations Convention on Biological Diversity. See also <http://www.un.org/geninfo/bp/enviro.html> (accessed 12/10/09)

¹³ World Summit on Sustainable Development (WSSD) Johannesburg August 26 – September 4 - 2002.

¹⁴ Guruswany & Tarlock *op cit* n 11 at 161.

¹⁵ Guruswany & Tarlock *op cit* n 11 at 155.

¹⁶ O Al-Jayyousi ‘Global and Local agendas in water management: From vision to action’ in C.M Figueres, C Tortagada & J Rockstrom (eds) *‘Rethinking water management: Innovative approaches to contemporary issues’* (2003) 25 at 26.

¹⁷ J H Leestemaker ‘An analysis of the new international and sub national water laws in Southern Africa: Gaps between the UN-Convention, the SADC Protocol and national legal systems in South Africa, Swaziland and Mozambique’ <http://www.ppl.nl/bibliographies/water/files/4590.pdf> (accessed 27/07/09).

¹⁸ Ibid.

resources.’¹⁹ It is therefore imperative that efforts be channelled towards the adoption of a more comprehensive watercourse regulatory regime so as to fully utilise the opportunity for coordination of shared watercourses management that has been created through the political integration of the region. This could, as shall be argued in this research, be achieved through replacing the existing SADC Revised Protocol on Shared Watercourses (“the Protocol”).²⁰ The new regime should be based on clearly set out principles that conform to the emerging general international and other regional watercourse management trends. For effective implementation and compliance, the new regime should also clearly set out duties and roles of Member States in the region’s watercourses management, minimum standards that should be adhered to and timeframes within which Member States must comply with their obligations under the Protocol.

The above reforms are necessitated by the growing problems of water in the region; both in terms of quantity and quality. It is estimated that five of the SADC states depend on water generated outside their borders to supply more than half of their total water resource stock.²¹ This problem of water scarcity is exacerbated by the differences in the attitudes of Member States towards effective water management as well as pollution control. These differences present a great challenge to the region’s water quality and quantity. The efforts of lower riparian states are more likely to make little or no

¹⁹ G Lamoree & A Nilsson ‘A Process Approach to the Establishment of International River Basin Management in Southern Africa’ (2000) 25 *Physics & Chemistry of the Earth* 315at 315.

²⁰ Revised Protocol on Shared Watercourse Systems in the Southern African Development Community (SADC) Region. Signed by 13 SADC Member States in Windhoek on the 7th of August 2000 and came into effect on 22 September 2003, see generally <http://www.ecolex.org/ecolex/ledge/view/RecordDetails?id=TRE-001360&index=treaties> (accessed 29/12/09).

²¹ D Malzbender & A Earle ‘Water Resources of the SADC: Demands, Dependencies and Governance Responses’ African Centre for Water Research http://www.acwr.co.za/pdf_files/IGD_Water%20Resources.pdf (accessed 17/06/09).

significant differences to water conservation efforts in the region probably as a result of continued pollution and unsustainable water use practices of upper riparian states. Thus, for as long as this problem persists, fresh water resources will continue to dwindle and water scarcity will continue to be a major problem to the environment and economic development in the region.

Unsustainable water use and scarcity in the SADC region have been primarily amplified by the traditional shared watercourse management laws and strategies employed in the region. The core feature of shared watercourse management in the region has been a territorial sovereignty view; a direct contradiction to that called upon by the UN-Convention on the Law of non Navigational uses of international watercourses (“the UN-Convention”)²² which is more of a combination of theories, with a lot of emphasis on the theory of territorial integrity.²³ There has traditionally been no control of unsustainable upstream water uses and no provision for environmental protection of the river and estuary. Leestemaker²⁴ also observes that the concepts have generally not been in favour of the lower riparian states. This approach was premised on the need to protect each Member State’s sovereign rights to the use of shared watercourses within its territory. The basic philosophy has, therefore, been anthropocentrism calling simply for optimum river basin utilisation rather than management. Each member state is guaranteed of its rights to utilisation of the shared watercourses, albeit with some qualification. Each Member State is, in most instances, required to utilise shared watercourses in an equitable

²² U N Convention on the Law of the Non-navigational uses of International Watercourses, 1997. See also note 6 above.

²³ Leestemaker *op cit* n 17.

²⁴ *Ibid.*

and reasonable manner. While there is some form of restriction to the use of shared watercourses by Member States, it should be noted that there has been little emphasis placed on effective shared watercourses management that calls for integrated water resources management and spells out comprehensive principles for environmental watercourses protection.

Integrated Water Resource Management (“IWRM”) is a process ‘that takes cognisance of the interrelationship between different natural resources and aims at integrating them into a holistic management system.’²⁵ IWRM is defined as ‘a process which promotes the coordinated 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.’²⁶ According to Mitchell²⁷, integrated water management can be viewed from three distinct positions. Mitchell argues that integrated water management can imply, firstly, a systematic consideration of different dimensions of water such as surface and ground water, quantity and quality. Seen from this perspective, water comprises an ecological system formed by a number of components. These components have the potential to, and do in actual fact, influence each other, thus each component has to be managed taking other components into consideration. Secondly, integrated water management can imply that water is also a component that interacts with other systems such as land, and the environment. Thirdly, integrated water management is concerned with the interrelationships between water and

²⁵ Malzbender & Earle *op cit* n 21.

²⁶ H Thompson ‘*Water Law – a practical approach to resource management & the provision of services*’ (2006) 163.

²⁷ B Mitchell ‘Integrated Water Management’ in B Mitchell (ed) ‘*Integrated Water Management: International Experiences and Perspectives*’ (1990) 1at 1.

social and economic development. Focus in this instance is on ensuring water management and use so that development is sustainable. It is submitted that IWRM is not an end in itself, but a way to achieve three main strategic objectives; namely ‘efficiency to make water resources go as far as possible, equity, in the allocation of water across different social and economic groups and environmental sustainability, to protect the water resources base and associated ecosystems.’²⁸

This research will show that there is scope for improvement in terms of the Protocol’s principles and its implementation. It is therefore imperative for the SADC bloc to adopt an improved Protocol that is more comprehensive and sets out implementation guidelines for Member States. The improved Protocol should clearly set out well defined principles of integrated water resources management with particular focus on the shared watercourses of the region. The Protocol should also comprehensively set out the duties and roles of Member States. It should be mandatory for Member States to incorporate the principles of the Protocol and implement these in their municipal legislation. In addition, the Protocol should clearly set out guidelines for the effective incorporation of principles and effective monitoring and compliance measures by Member States.

Possible solutions for the strengthening of the SADC Protocol towards a much more comprehensive one are to be found in the emerging global as well as regional shared watercourse management practices. SADC will have to look beyond the confines of the region for these principles. Other regions such as the European Union (“the EU”) present possible guidelines to improve shared watercourses management law in the SADC

²⁸ Malzbender & Earle *op cit* n 21.

region. The EU, as shall become apparent in the latter parts of this research, has a long history of comprehensive shared watercourse management. It has managed to effectively control water quality and quantity in some of the world's largest rivers such as the Danube river basin and Rhine and Meuse river basin with a great degree of success. This, however, is not to suggest that water problems as well as climatic conditions unique to the SADC region must be ignored in favour of shared watercourses management strategies and laws that may not be well suited for the region. Differences will always be found in different regions as reality has already shown that 'different combinations of principles are being used serving each local shared watercourse up to their standard of co-operation or conflict avoiding behaviour.'²⁹ While acknowledging the importance of the unique attributes of the region, it is ideal that generally accepted principles of IWRM and regional co-operation be borrowed from other regions into SADC shared watercourses law. SADC should also look at the municipal legislation of Member States that have comprehensive water resources management strategies with a view of incorporating these strategies into the SADC Protocol or at least setting out guidelines and minimum standards for shared watercourses. This may promote uniformity and result in consistence in water resources management in the region and consequently improve management of the region's shared watercourses.

The adoption of a new or improved Protocol will certainly be a departure from, and may conflict with the, entrenched principle of territorial sovereignty of shared watercourses states. This will, however, assist in the promotion of principles such as common jurisdiction, equitable utilisation and sustainable shared watercourse management. These

²⁹ Leestemaker *op cit* n 17.

have been generally accepted as a perfect compromise of the above competing interests and the possible ways to effectively manage shared watercourses. In addition, where such conflict arises, the guiding rule should be whether such a consequence would be in the interest of sustainable shared watercourses management and environmental protection general.

1.2) Objectives of the study

This study generally concentrates on the management of shared watercourses in the SADC region. The specific objectives of the study being to;

- investigate the state shared watercourses laws in the SADC region;
- provide a critical comparative analysis of the laws; principles, implementation and enforcement of the SADC Revised Protocol and European Union Water Framework Directive;³⁰
- explore the possibilities of improving the SADC Revised Protocol for effective management of shared watercourses in the region; and
- provide suggestions for strengthening the protocol in terms of its provisions (principles) as well as implementation, monitoring and compliance.

³⁰Directive (2000/60/EC) of the European Parliament and of the Council of 23 October 2000 establishing a framework for community action in the field of water policy. [full text of the Directive can be accessed at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0060:EN:HTML>]

1.3) Statement of Research Problem

While certain measures have been already been taken to manage shared watercourses in the SADC region, water quantity and quality still continue to be major challenges. In light of this continued problem, it is worth investigating whether the existing shared watercourses management Protocol in the region provides a comprehensive solution, and lays a firm foundation, for sustainable shared watercourses management. In addition, it is also important to explore whether there is room to improve the Protocol on shared watercourses management.

1.4) Scope of the study

The area of shared watercourses management within the SADC region is quite broad. It ranges from the general approach of Member States at a regional level as the whole SADC bloc, bilateral or multilateral approaches or the approaches of individual Member States. In addition, the discourse is also wide in terms of the above approaches, namely the principles adopted and the effective implementation and enforcement of these. Due to the limited nature of this research, this study will be restricted to general regional approach or law (the SADC Revised Protocol on Shared Watercourses), its principles, implementation, enforcement and monitoring. This approach is informed by the fact that the challenges emanating from the growing scarcity for fresh water are vast. The only way of dealing with these effectively, is a holistic look at the causes and attempt to abate the causes rather than focus on the effects. This can be effectively achieved through

devising the best possible laws through principles of integrated water resource management, effective implementation, enforcement and monitoring.

This research investigates the current regime regulating shared watercourses management in SADC the European Union and internationally.³¹ It looks at the basic principles that any regional shared watercourses management law must have and proposes that these should be incorporated into the SADC Protocol. It also looks at the areas in which the SADC region can learn from the other regions mentioned above.

This research will provide a comprehensive analysis of the SADC Protocol in comparison to the Water Framework Directive and other international instruments.

This study does not intend, nor does it attempt, to provide a draft for a new Protocol. It provides a critical analysis of issues around the basic principles and areas that should be covered in any instrument that purports to effectively manage or regulate shared watercourses in the region. The study therefore highlights areas in which the SADC Protocol and shared watercourses management law in the region are lagging behind and to the extent necessary, suggests improvements modelled on lessons from the other regional and international instruments stated above.

³¹ Internationally, this research focuses on the Helsinki Rules, the UN Convention and the Berlin Rules.

1.5) Research methodology

This research relies on both primary and secondary sources of information. The primary sources relied upon include, but are not limited to, international and regional instruments such as agreements and treaties, case law, policy documents and, where necessary, legislation. Secondary sources will mainly be relied upon for comparative analysis of the problem and recommendations. These sources include books, journals and research papers. In addition to the above sources, this research also relies on useful and informative input from the internet and newspapers. However, reliance on these (internet and newspapers) will be with the greatest caution and scrutiny as these sources in some cases contain unverified data and untested arguments.

1.6) Chapter Review

Chapter 2 provides a discussion of the international instruments regulating shared watercourses management. It highlights key conventions, treaties or documents relating to this area in order to lay a foundation for the discussion of SADC and EU regional instruments. Chapter 3 provides a historical, political and ideological background to shared watercourses management in the SADC region. It also gives a brief outline and comparative analysis of the Revised Protocol and the original Protocol. Chapter 4 focuses on shared watercourses management in the EU, with particular reference to the Water Framework Directive. Chapter 5 provides a comparative analysis of the substantive and procedural aspects of the Protocol on the one hand, and the Helsinki Rules, the UN

Convention, Berlin Rules and the Water Framework Directive on the other. Chapter 6 then outlines the findings, recommendations and provides the concluding remarks.

CHAPTER 2: SHARED WATERCOURSE MANAGEMENT: AN INTERNATIONAL LAW PERSPECTIVE.

2.1) The history and hydro-politics of shared watercourse law

The roots of the development of international environmental law can be traced to as far back as the late 19th century, but the 1972 United Nations Conference on the Human Environment (“Stockholm Conference”) was, arguably, the turning point for international environmental law. It was at this conference that discussions on various environmental issues were pioneered. Currently these issues are centred on ozone layer depletion, climate change, freshwater surface water scarcity and pollution, ground water pollution, soil and air pollution and many others.³² The development of international water law has also taken place alongside international environmental law,³³ albeit at a slower pace. Fresh water scarcity was only recognised as a real international problem in the year 2000 when this was acknowledged in the Millennium Development Goals (“MDGs”) pioneered by the United Nations Secretary General.³⁴ The scarcity and management of shared watercourses and freshwater resources are fast becoming the most difficult challenges for international environmental law. The difficulty is orchestrated by competing interests over shared watercourses around the world. In the developing world for instance water, besides being a basic and vital human need, is a development issue.

³² H Elver ‘International Environmental Law, Water and the Future’ in Richard Falk, Balakrishnan Rajagopal & Jacqueline Stevens (eds) *International Law and the Third World: Reshaping Justice* (2008) 181 at 181.

³³ P Beaumont ‘The 1997 UN Convention on the Law of Non-navigational uses of International Watercourses: Its strengths and weaknesses from a water management perspective and the need for new workable guidelines’ (2000) 4 *Water Resources Development* 475 at 478.

³⁴ Elver *op cit* n 32 at 182.

As a result, water scarcity and management are invariably seen from a political and economic development perspective, rather than from an environmental angle. Thus, as Elver argues, solving the problem of water scarcity and management in an equitable way is difficult as doing so contradicts vital principles of international law such as absolute state sovereignty over natural resources.³⁵

The above problem is exacerbated by the lack of any guidance provided by international law on how to share freshwater resources among riparian states³⁶ and competing theories such as absolute territorial sovereignty, absolute territorial integrity, equitable utilisation, and limited territorial sovereignty. These theories form the basis of international watercourse law. As Thorson observes, they ‘give rise to varying degrees of rights and obligations all based on the concept of territorial sovereignty, which provides States the exclusive right to use the land, water, and other resources found within its borders.’³⁷

The absolute territorial sovereignty theory is also known as the Harmon Doctrine, following the then U.S. Attorney General’s, Judson Harmon (“Harmon”), articulation of the theory in the dispute involving the United States and Mexico over the Rio Grande.³⁸ In terms of this theory, a state exercises full and unlimited sovereignty over its national territory and can do as it pleases with the resources within its borders. In other words, the state’s sovereignty is not limited by the interests of any other state. The state may utilise natural resources within its borders regardless of the transboundary consequences of such

³⁵ Elver *op cit* n 32 at 182-183.

³⁶ Beaumont *op cit* n 33.

³⁷ E J Thorson ‘Sharing Himalayan glacial meltwater: The role of territorial sovereignty’ (2009) 19 *Duke Journal of Comparative & International Law* 487 at 493 - 494.

³⁸ Thorson *op cit* n 37 at 494. See also McCaffrey *op cit* n at 77.

conduct.³⁹ The absolute territorial sovereignty theory is a complete opposite of the theory of absolute territorial integrity which is the main contender to the theory of absolute territorial sovereignty.

The theory of absolute territorial integrity is more favourable to lower riparian states. This theory provides lower riparian states with a shield against any unsustainable water uses by upper riparian states. In terms of this theory, lower riparian states have an unlimited right to the continuous flow of water from upstream states. As a result, upstream states are required to refrain from obstructing flow of water to lower riparian states. The theories of absolute sovereignty and absolute territorial integrity have, however, over the years lost their absoluteness. Instead, they have been sidelined for less controversial theories such as limited territorial sovereignty and equitable utilisation.

The theory of limited territorial sovereignty is akin to the *sic utere tuo at alienum non laedas* principle. It gives states the right to utilise resources within their territories, taking into consideration the interests and rights of other states that may be affected by such use. Thorson submits that this theory ‘attempts to meld the rights-based theories of absolute territorial sovereignty and absolute territorial integrity into a holistic, integrated framework through an expression of rights coupled with an acknowledgement of duties.’⁴⁰ However, the most favoured theory is the theory of equitable utilisation. The theory of equitable utilisation has been adopted in numerous treaties and conventions in the 20th century such as the Helsinki Rules and the UN Convention and will be discussed

³⁹ Ibid.

⁴⁰ Thorson *op cit* n 37 at 497.

in more detail in the later sections of this chapter.

The development of shared watercourses law can be divided into two stages. The first stage was during what Elver⁴¹ classifies as the period of ‘abundance’ when states were only concerned with the navigational uses of rivers. During this period, comprising the first half of the 20th century, international rivers were primarily used as boundaries among states, providing major transportation networks for international trade and commerce in Europe.⁴² Water was generally abundant and there was less tension and conflict emanating from its utilisation beyond national borders. Multilateral treaties of this era concentrated on defence arrangements and confirmation of navigational rights and freedoms.⁴³ The second stage was just after the Second World War to present; the period of fresh water scarcity. Navigational regulations lost their importance immediately after the Second World War, paving way for other sectors of water uses to dominate disputes in the international arena.⁴⁴ Increased water scarcity and economic competition resulted in the management of shared water resources between two or more states becoming one of the most contested issues in international law.⁴⁵ Pursuit of national economic goals led to the construction of big development projects without taking into account environmental consequences or damage to neighbouring states. Thus, the uneven distribution of water and uneven distribution of wealth and political instability among states have inevitably resulted in water becoming a crucial focus of concern in

⁴¹ Elver *op cit* n 32 at 183.

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Ibid.

⁴⁵ Elver *op cit* n 32 at 185.

international politics.⁴⁶

In addition to the above, environmental degradation, excessive use and abuse of water everywhere, construction of massive dams, toxic dumping, wetland and forest destruction, urban and industrial pollution, factory farming and climate change have caused damage not only to the Earth's surface water resources badly, but also depleted ground water reserves at a faster rate than nature can replenish them.⁴⁷ Therefore, 'unless we dramatically change our ways, two thirds of humanity will be faced with severe fresh water shortages' by the year 2030.⁴⁸

2.2) General International Environmental Law

There are numerous conventions and treaties that laid the foundation for the development of international environmental law. These are primarily found under the auspices of the United Nations. This research does not intend, nor does it have the scope, to deal with each and every one of these conventions, suffice to mention that 'modern international environmental law has come to depend greatly on statements made in the 1972 Stockholm Declaration and later in the 1992 Rio Declaration.'⁴⁹ Most of the principles adopted in these declarations have been entrenched into the international watercourses law. Principle 21 of the Stockholm Declaration grants states the 'sovereign right to utilise resources within their territories pursuant to their own environmental policies, and the

⁴⁶ Elver *op cit* n 32 at 186-187.

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Beaumont *op cit* n 33 at 478.

responsibility to ensure that activities within their own jurisdiction or control do not result in damage to the environment of other states or areas beyond the limits of the state's jurisdiction.' This principle was also incorporated into the Rio Declaration with a minor modification, being the addition of two words 'and developmental'.⁵⁰

Cooperation is another principle that has played a pivotal role in the area of international environmental law. The Stockholm Declaration requires states to cooperate through multilateral, bilateral arrangements or other appropriate ways essential to effectively control, prevent, reduce and eliminate adverse environmental effects.⁵¹ This principle was further developed in the Rio Declaration. The Rio Declaration calls for '...a spirit of global partnership to conserve, protect and restore health and integrity of the Earth's ecosystems.'⁵² Developed and developing countries have a common but differentiated responsibility in this respect.⁵³ Developed countries are expected to assist developing countries to pursue development in a sustainable manner. The implementation of these principles must, however, pay due regard to the sovereignty of the states concerned.⁵⁴ The Rio Declaration further requires states to apply the precautionary approach in their interaction with the environment.⁵⁵ It makes it clear that lack of scientific certainty is not an excuse for postponing cost effective measures to prevent environmental degradation.

⁵⁰ See generally Beaumont op cit n 33 at 478. See also Principle 2 of the Rio Declaration. The new phrase now reads '*sovereign right to utilise resources within their territories pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their own jurisdiction or control do not result in damage to the environment of other states or areas beyond the limits of the state's jurisdiction.*'

⁵¹ Principle 24 of the Stockholm Declaration.

⁵² Principles 7, 9, 12, 13, 14, 24 and 27 all call for cooperation among states in one way or the other.

⁵³ See generally principle 24 of the Stockholm Declaration.

⁵⁴ Principle 24 of the Stockholm Declaration requires states to cooperate on a number of issues in a way that due account is taken of the sovereignty and interests of all states.

⁵⁵ Principle 15.

Where there has been pollution of the environment, the responsibility of cleaning up such pollution is that of the polluter. This is in view of the polluter pays principle as envisaged in principle 16 of the Rio Declaration.⁵⁶

Other principles of the Rio Declaration worth noting are principles 17, 18 and 19. Principle 17 requires environmental impact assessment to be undertaken before activities that are likely to have significant adverse impact on the environment are undertaken. Principles 18 and 19 on the other hand require states to timeously notify each other of any natural disasters or impending emergencies and share information on these and other activities that are likely to have adverse impact on the other states. These principles have, over the years, become the ‘ten commandments’ of international environmental law and most, if not all, multilateral or bilateral treaties or conventions on the environment have adopted these in one way or the other.

2.3) The development of international water law - the Helsinki Rules on the Uses of the Waters of International Rivers (“the Helsinki Rules”),⁵⁷ the UN Convention on the Law of the Non-Navigational Uses of International Watercourses (“the UN Convention”)⁵⁸ and the Berlin rules on Water Resources (“the Berlin Rules”).⁵⁹

⁵⁶Article 16 provides that ‘National authorities shall endeavor to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter, should in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade investment’

⁵⁷Helsinki Rules on the Uses of the Waters of International Rivers. Adopted by the International Law Association at the 52nd Conference, Helsinki, 20th August 1966.

⁵⁸UN Convention on the Law of the Non-Navigational Uses of International Watercourses. Adopted by the General Assembly in May 1997. See also note 6 above.

⁵⁹Berlin Rules on Water Resources. Adopted at the International Law Association 71st Conference Berlin, August 2004.

The last century has been characterised by the emergence of a huge body of customary law regarding shared fresh water and freshwater resources.⁶⁰ Despite the emergence of basic customary rules on water law, there still is no universal treaty on non-navigational uses of international watercourses.⁶¹ The Helsinki Rules and the Berlin Rules are works of the International Law Association (ILA), an international non-governmental organisation. As such, they lack legal status and are not binding on any state. The UN Convention on the other hand, is yet to come into force since its adoption in 1997. This section looks at the three instruments and compares the Berlin Rules on the one hand, and the Helsinki Rules and the UN Convention on the other.

2.3.1) The Helsinki Rules on the Uses of the Waters of International Rivers.

The Helsinki Rules have gained recognition internationally even though they do not represent enforceable rights and obligations.⁶² The Helsinki Rules were developed by the ILA in an attempt to bring uniformity to international watercourses law. They contain certain principles which are based on the commonly known doctrine of equitable and reasonable apportionment.⁶³ As mentioned above, the ILA operates as an international non-governmental organisation and enjoys no official status in international law. According to Thompson, this has resulted in the principles of the Helsinki Rules receiving little recognition as a codification of international water law.⁶⁴ Salman,

⁶⁰ J W Dellapenna 'The Berlin Rules on Water Resources: A new paradigm for International Water' <http://www.ualg.pt/5cigpa/comunicacoes/Berlin%20Rules%20Summary.doc> (accessed 11/12/09).

⁶¹ Salman M A Salman 'The Helsinki Rules, the UN Watercourses Convention and the Berlin Rules: Perspectives on International Water Law' (2007) 23 *Water Resources Development* 625 at 625.

⁶² Thompson *op cit* n 26 at 371.

⁶³ Ibid.

⁶⁴ Ibid.

however, correctly, argues that notwithstanding the Helsinki Rules' lack of formal standing and legally binding effect 'until the adoption of the UN Convention [in 1997], they have remained the single most authoritative and widely quoted set of rules for regulating the use and protection of international watercourses.'⁶⁵ Even after the adoption of the UN Convention, the Helsinki Rules continue to provide very useful guidance for policies and agreements in international watercourses use and management.

There is general consensus among scholars that the Helsinki rules established the principle of reasonable and equitable utilisation of international watercourses among riparian states as a basic principle in international law. This principle as explained above entitles each state in the catchment of a shared watercourse to a reasonable and equitable share in the use of the waters of that catchment.⁶⁶

The Helsinki Rules apply to water in an international drainage basin. Article II defines 'international drainage basin' as 'a geographical area extending over two or more States determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a common terminus.' This makes the Helsinki Rules much more useful as they consider water that falls on the drainage basin and is utilised prior to flowing into a common river (beneficial use).⁶⁷ They provide a non-exhaustive list of factors that should be considered by states in their efforts to reach agreement on allocations. These factors are, amongst other things; the geography of the basin, including the extent of the drainage area in the territory of each state; the hydrology of the basin,

⁶⁵ Salman *op cit* n 61 at 630.

⁶⁶ Thompson *op cit* n 26 at 372.

⁶⁷ Thompson *op cit* n 26 at 376.

including the contribution of water by each state; existing utilisation of the waters by each state in the catchment; and the availability of other resources to the negotiating states, and any other factor of relevance to the state concerned.

Article V (I) provides that what is a reasonable and equitable share should be determined taking into consideration all the relevant factors in each particular case. Article V (II) sets out a non-exhaustive list of these factors. These include, but are not limited to; (1) the geography of the basin, including in particular, the extent of the drainage area in the territory of each basin state; (2) the hydrology of the basin, including in particular the contribution of water by each basin state; (3) the climate affecting the basin; (4) the past utilization of the waters of the basin, including in particular, existing utilization; (5) the economic and social needs of each basin state; (6) the population dependent on the waters of the basin in each basin state; (7) the comparative costs of alternative means of satisfying the economic and social needs of each basin state; (8) the availability of other resources; (9) the avoidance of unnecessary waste in the utilization of waters of the basin; (10) the practicability of compensation to one or more of the co-basin states as a means of adjusting conflicts among uses; and (11) the degree to which the needs of a basin state may be satisfied, without causing substantial injury to a co-basin state.

These factors are to be considered together in determining what is reasonable and equitable, but they are not given the same weight. Each factor's weight is determined by its importance compared to the other.⁶⁸ No use or use category is accorded any inherent

⁶⁸ Article V(III).

preference over any other use or categories of uses.⁶⁹ Article VIII (1) calls for a reasonable use to be allowed to continue unless the factors justifying its continuance are far outweighed by other factors. If that is the case, the use shall be modified or terminated in order to accommodate a competing incompatible use. The Helsinki Rules do not explicitly set out a separate obligation not to cause harm, but ‘specify the injury that may result from the use of the river by one riparian state as one of the factors for determining equitable utilisation.’⁷⁰

Chapter 3 of the Helsinki Rules deals with pollution of international basins. It defines ‘water pollution’ as ‘any detrimental change resulting from human conduct in the natural composition, content, or quality of the waters of an international drainage basin.’⁷¹ Basin States are under an obligation to prevent or mitigate water pollution in an international drainage basin that would cause substantial injury in the territory of a co-basin state.⁷² This duty is imposed on basin States regardless of whether the pollution originates in that State’s territory or outside that State’s territory. The determining factor is the State’s conduct in causing the pollution.

The remaining chapters of the Helsinki Rules, Chapters 4, 5 and 6 deal with navigation, timber floating and procedures for the prevention and settlement of disputes, respectively.

The Helsinki Rules as mentioned above have played a very important role in the

⁶⁹ Article VI.

⁷⁰ Salman *op cit* n 61 at 630.

⁷¹ Article IX.

⁷² Article X.

development of international watercourses law despite their non-binding effect. A number of conventions, treaties and protocols concluded subsequent to the Helsinki Rules have adopted, or made reference to, these rules. Among these are the UN Convention and the Berlin Rules. The Berlin Rules were adopted recently and have replaced the Helsinki Rules.

2.3.2) The UN Convention on the Law of the Non-Navigational Uses of International Watercourses.

The Convention on the Law of the Non-Navigational Uses of International Watercourses (“the UN Convention”) was adopted on May 21, 1997 by the United Nations General Assembly after many years of deliberations.⁷³ The UN Convention is a framework agreement. It addresses basic procedural aspects and a few substantive ones. It ‘aims at ensuring the utilisation, development, conservation, management and protection of international watercourses, and promotion of optimal and sustainable utilisation ... for present and future generations.’⁷⁴ The UN Convention contains some thirty seven articles.⁷⁵ It is divided into seven parts, with the most important substantive and procedural provisions contained in Part II, General Principles, Part III, Planned Measures, and Part IV, Protection, Preservation and Management.⁷⁶ The UN Convention is not yet

⁷³ The Convention was adopted by a vote of 103 for and 3 against, with 27 abstentions.

⁷⁴ Salman *op cit* n 61 at 632.

⁷⁵ S McCaffrey ‘The UN Convention on the Law of the Non-Navigational Uses of International Watercourses: Prospects and Pitfalls’ in Salman M A Salman & Laurence Boisson de Chazournes, (eds) *International Watercourses: Enhancing Cooperation and Managing Conflict* (1998) Proceedings of a World Bank Seminar, World Bank Technical Paper No. 414, 17 at 17.

⁷⁶ *Ibid.*

in force, but is regarded as ‘the best summary of the customary international law.’⁷⁷

The definition of ‘watercourse’ in the Convention is broad and includes both underground and surface water. Article 2 (a) provides that a ‘watercourse’ is ‘a system of surface waters and ground waters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus’. Article 2(b) defines ‘international watercourse’ as ‘a watercourse, parts of which are situated in different states.’ McCaffrey, correctly, observes that the definition of watercourse draws the attention of states to the relationship of surface and groundwater as for instance, pollution to surface water has the potential to contaminate ground water, and vice versa.⁷⁸ This definition is however narrower than that adopted by the Helsinki Rules. The UN Convention does not consider any water from outside of the watercourse as part of water to be used equitably.⁷⁹ Similarly, it is not concerned with water used outside of the watercourse that may affect the quantity and quality of the water in the shared watercourse.

The UN Convention encourages states to enter into agreements for specific watercourses that are shared by such states.⁸⁰ Such agreements should apply and adjust the provisions of the UN Convention to suit the particular characteristics of the concerned watercourses. The UN Convention does not affect agreements that existed at the time of its adoption, but calls parties to such agreements to ‘consider harmonizing’ the existing agreements

⁷⁷ Dellapenna *op cit* n 60.

⁷⁸ McCaffrey *op cit* n 75 at 18.

⁷⁹ Thompson *op cit* n 26 at 376.

⁸⁰ Article 3(3).

with the ‘basic principles’ of the UN Convention.⁸¹ States are not under an obligation, but are encouraged, to harmonise existing agreements with the UN Convention. This has been regarded as a weakness of the Convention and Ethiopia raised a concern during the adoption discussion of the UN Convention as it believed harmonisation should have been obligatory.⁸²

Article 4 of the Convention gives rights to riparian states to participate in agreements that apply to an entire international watercourse as well as those that apply only to certain parts of the watercourse or to certain projects, programs or uses. All States on a watercourse are entitled to participate in the negotiation of, or to become party to, an agreement that applies to an entire watercourse. Where an agreement only applies to a certain part of a watercourse, a riparian State whose use may be affected by the implementation of the agreement may participate in consultations relating to the agreement ‘and, where appropriate, in the negotiation thereof in good faith with a view of becoming a party thereto, to the extent that its use is thereby affected.’⁸³

2.3.2.1) General Principles

Part II of the UN Convention sets the general principles that have over the years evolved to be regarded by many as the cornerstone of international watercourses law.⁸⁴ Article 5 deals with ‘equitable and reasonable utilization and participation’ in shared watercourses

⁸¹ Article 3(2).

⁸² See McCaffrey *op cit* n 75 at 18.

⁸³ Article 4(2).

⁸⁴ McCaffrey *op cit* n 75.

management. It imposes a duty on State Parties to use international watercourses in a manner that is equitable and reasonable in relation to other States sharing the watercourse.⁸⁵ For a water use to be equitable and reasonable, it is submitted that such use must be consistent with adequate protection of the watercourse from pollution and other forms of degradation.⁸⁶ However, there are a lot more factors that are considered in determining whether watercourse use is reasonable and equitable. These vary depending on, among other things, the nature of the use, watercourse and the climatic conditions of the States in which the watercourse is found. The Convention lays out a guideline of the factors that should be considered in determining reasonableness and equitability of watercourse use. These factors are listed in article 6 and include, but are not limited to; (a) geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character; (b) the social and economic needs of the watercourse States concerned; (c) the population dependent on the watercourse in the watercourse state; (d) the effects of the use or uses of the watercourse in one watercourse state on other watercourse states; (e) existing and potential uses of the watercourse; (f) conservation, protection, development and economy of the water resources of the watercourse and the cost of measures taken to that effect; and (g) the availability of alternatives, of comparable value, to a particular planned or existing use.

Article 7 of the UN Convention imposes a duty on State Parties not to cause significant harm. This principle is subject to competing interests among riparian States depending on their geographical location on the shared watercourse. Lower riparian States tend to seek

⁸⁵ Article 5 (1).

⁸⁶ McCaffrey *op cit* n 75 at 19.

refuge in the no harm rule to protect existing uses against the impact from acts undertaken by upper riparian States. Upper riparian States on the other hand favour equitable and reasonable utilisation because 'it provides more scope for states to utilise their share of the watercourse for activities that may impact on downstream states.'⁸⁷ There has never been agreement on which rule takes priority and article 7 is a compromise provision, accepting that harm may result. However, the State causing significant harm is required to take measures to eliminate or mitigate the harm 'having due regard to article 5 and 6.'⁸⁸ Despite the lack of clarity on which principle takes priority, there is general consensus among scholars that the UN Convention followed the Helsinki Rules and placed the obligation not to cause significant harm under the principle of equitable and reasonable utilisation. Salman submits that this conclusion emanates from a close reading of articles 5, 6 and 7 of the UN Convention. Article 6 sets out factors that are considered in determining reasonable and equitable use, and these factors include the effects of one State's use or uses on other watercourse States. Another basis for the conclusion is that article 7(1) further obliges watercourse States, in utilising a shared watercourse, to take all reasonable measures to avoid causing significant harm to other watercourse States.

The UN Convention also imposes a duty to cooperate on the States. States are required to cooperate through the establishment of joint mechanisms or commissions, information exchange, notification and consultation. Article 9 (1) imposes a duty on States to regularly exchange readily available data and information on the condition of the

⁸⁷ Salman *op cit* n 61 at 633.

⁸⁸ Article 7 (2).

watercourse. Where a State has been requested to provide information that is not readily available, such State is required to employ its best efforts to supply the requested information.⁸⁹ Similarly, States are required to exchange information and consult each other in relation to the possible effects of planned measures on the condition of an international watercourse.⁹⁰ Every State that intends implementing or permitting the implementation of certain planned measures which may have a significant adverse effect upon other watercourse States is under an obligation to timeously notify other watercourse States of such implementation or permission of implementation.⁹¹

2.3.2.2) Protection, Preservation and Management of Water Resources

Environmental concerns and the need to protect the ecological integrity of water systems are addressed separately from equitable utilisation in the UN Convention. It deals with the protection, preservation and management of water resources in Part IV, Articles 20 to 26. Watercourse States are under a duty ‘to individually, and where appropriate jointly, protect and preserve the ecosystems of international watercourses.’⁹² States are further required to prevent, reduce and control pollution of international watercourses that ‘may cause significant harm to other watercourse States or to their environment, including harm to health or safety, to the use of waters of any beneficial purpose or to the living resources of the watercourse.’⁹³ For the purposes of the UN Convention, ‘pollution of an international watercourse’ is ‘any detrimental alteration in the composition or quality of

⁸⁹ Article 9(2).

⁹⁰ Article 11.

⁹¹ article 12.

⁹² Article 20.

⁹³ Article 21.

waters of an international watercourse which results directly from human conduct.’⁹⁴ To achieve this, watercourse States are required to harmonise their policies in this connection. Article 21(3) further requires watercourse States to set mutually agreeable measures and methods to prevent, reduce and control pollution of international water courses. These measures include, but are not limited to, setting joint water quality objectives and criteria,⁹⁵ the establishment of techniques and practices to address pollution from point and non-point sources⁹⁶ and the establishment of lists of substances the introduction of which into the waters of an international watercourse is to be prohibited, limited or monitored.⁹⁷ While this is a remarkable requirement, there are two problems that arise from these provisions. First, the concept of negative listing of substances has proved to be less effective. Other environmental law conventions are generally moving towards positive listing, i.e. the lists of substances that can be introduced into the waters; any other substance not listed is prohibited unless an authorisation has been obtained. Hegg cites the 1996 Protocol to the 1972 London Convention on the Prevention of Marine Pollution from Dumping of Wastes and Other Matter (“the London Convention”) as a good example in this regard. He points out that the 1996 Protocol adopts a “reverse list” or “positive approach” and prohibits ocean dumping of all wastes except those specifically listed.⁹⁸ Secondly, in leaving the setting of standards solely in the hands of State Parties, the UN Convention created a potential

⁹⁴ Article 21(1).

⁹⁵ Article 21(3)(a).

⁹⁶ Article 21(3)(b).

⁹⁷ Article 21(3)(c).

⁹⁸ D P Hegg ‘Maritime Transportation of especially hazardous cargo’

http://wista.net/fileadmin/user_upload/USA_files/DOC_OTHERS/2008_Annual_Conferene/Hegg_Regulatory.ppt (accessed 02/01/10). Hegg illustrates the departure from the London Convention (in its original form) which adopted a ‘negative’ approach to dumping by listing substances that may not be dumped as well as a list of substances that may only be dumped with a special permit to the 1996 Protocol that uses a “reverse list” or “positive approach.” The 1996 Protocol entered into force in 2006.

problem of inconsistencies in the setting of such standards. Despite its framework nature, it would have been desirable to set at least the bare minimum standards applicable in any agreement, treaty or convention on shared watercourses.

Although the UN Convention sets out a number of basic principles in watercourses management, it is likely to have minimal impact in dealing with water conflicts because not all the countries that are parties to watercourse disputes have signed, or are likely to sign, the UN Convention.⁹⁹ It was designed to serve as a framework for more specific bilateral and regional agreements in the area of use, management and transboundary water resources preservation. It provides conflict prevention and resolution tools and promotes sustainable development, but its principles are substantially similar to the long established principles of equitable and reasonable utilisation as well as the obligation not to cause appreciable harm as adopted in the Helsinki Rules. Since the implementation of the UN Convention is left to State Parties, one would have expected it to provide basic implementation and enforcement mechanisms for its consistent and effective implementation. The UN Convention, however, does not set out implementation and enforcement mechanisms. It simply requires State Parties to cooperate in various matters, including in the establishment of joint mechanisms or commissions and the exchange of information on a regular basis. This abstract duty to cooperate adds to the confusion since ‘conflict and cooperation are both common and expressive of a rhetoric in traditional hydropolitics that maintains ambiguity with respect to the rights and duties of

⁹⁹ A K Biswas ‘Management of Transboundary Waters: An overview’ in O Varis, C Tortajada and A K Biswas (eds) *Management of Transboundary Rivers and Lakes* (2008) 15.

countries that share water resources.’¹⁰⁰ For as long as the duty to cooperate is not clearly defined, the confusion and ambiguity around it will continue.

The UN Convention should have been used as an opportunity to drastically change the shared watercourse law. Instead, it is vague and contains broad and general principles.¹⁰¹ It simply outlines very broad and general framework within which everything is considered without providing practical guidance and operational assistance. This leaves room for abuse by different countries as each country is able to legitimise its demands and views. Eckstein observes that the UN Convention failed to establish a balance between rights and obligations of upper and lower riparian states.¹⁰² Another challenge facing the UN Convention is ratification. It can only come into force on the nineteenth day following deposit of the 35th instrument of ratification, acceptance, approval or accession with the UN Secretary General. This has not yet happened and the UN Convention remains a dead instrument until the requisite number of states has ratified, accepted, approved or acceded to the Convention. Two decades have passed since the Convention was adopted, but only less than half of the required number of countries needed to ratify the Convention has done so. For as long as this status quo remains, agreements in individual transboundary basins shall, most probably, continue to occur.¹⁰³ The status of the UN Convention, like many other documents, will remain a guiding rather than a binding document in shared watercourse management.

¹⁰⁰ Elver *op cit* n 32 at 195.

¹⁰¹ *Ibid.*

¹⁰² G Eckstein ‘Development of International Water Law and the UN Watercourse Convention’ in A Turton and R Henwood (eds) *Hydropolitics in the Developing World: A Southern African Perspective* (2002) 84.

¹⁰³ Biswas *op cit* n 96 at 16.

2.3.3) Berlin Rules on Water Resources

The ILA met in Berlin in 2004 where it discussed and approved a revised set of rules. The new set of rules is entitled ‘The Berlin Rules on Water Resources’ (the Berlin Rules). The Berlin Rules are a result of revision of the Helsinki Rules formulated by the ILA on international water resources. The Berlin Rules are a set of comprehensive rules contained in 14 Chapters and 73 Articles. These cover a range of water resources issues and go beyond the Helsinki Rules and the UN Convention. The Berlin Rules are applicable to the management of all waters, both national and international.

Chapter II¹⁰⁴ of the Berlin Rules deals with diverse water related issues. These, as Salman succinctly sets out, include; participation of persons likely to be affected by decisions concerning water management;¹⁰⁵ management of surface waters, ground waters and other waters,¹⁰⁶ and the integration of the management of waters with the management of other resources and the sustainable management of water and the prevention and minimisation of environmental harm.¹⁰⁷

Shared watercourses are dealt with in Chapter III. Article 12(1) imposes a duty on all basin States in their respective territories to ‘manage the waters of an international drainage basin in an equitable and reasonable manner having due regard to the obligation not to cause significant harm to other basin States.’ States are required to develop and use

¹⁰⁴ This Chapter is entitled ‘*Principles of International Law governing the management of all water*’

¹⁰⁵ Article 5.

¹⁰⁶ Article 6.

¹⁰⁷ Article 7.

waters of a basin sustainably taking into account the interest of other basin States, consistent with adequate protection of the waters. This is a departure from the principle of reasonable and equitable share in the beneficial uses of international drainage basins and equitable and reasonable utilisation as enunciated in the Helsinki Rules and the UN Convention, respectively. The Berlin Rules instead impose an obligation on basin States to manage waters of international drainage basins in an equitable and reasonable manner. The Berlin Rules thus emphasise the obligation to manage shared watercourses in an equitable and reasonable manner. This is in direct contrast of the Helsinki Rules and the UN Convention that establish and emphasise the right of each riparian State to a reasonable and equitable share.¹⁰⁸ Thus, under the Berlin Rules, the principle of equitable and reasonable utilisation is subject to the obligation not to cause significant harm and emphasis is placed on management rather than utilisation.

Article 13 sets out factors to be considered in determining equitable and reasonable use within the meaning of article 12. These are similar to the factors set out in the Helsinki Rules. The Berlin, Rules however, make it clear that water shall first be allocated to satisfy vital human needs and no other use or category of use shall have inherent preference over any use or category of use. Article 16 requires basin States, in managing waters of an international drainage basin, to refrain from and prevent acts or omissions within their territories that cause significant harm to other basin States, paying attention to the right of each basin State to make equitable and reasonable use of the waters.

The Berlin Rules also contain comprehensive environmental provisions. These are set out

¹⁰⁸ Salman *op cit* n 61 at 636.

in Chapter V which requires the protection of the aquatic environment and application of the precautionary approach in the implementation of the obligations set out in the Berlin Rules. All basin States are required to apply the precautionary principle, and take all measures to sustain ecosystems dependent on certain waters, and to protect and prevent, eliminate, reduce or control pollution and harm to the aquatic environment.¹⁰⁹ Basin States are also under an obligation to undertake prior and continuing assessments of the impacts of their programs or projects that may have significant effect on the aquatic environment.¹¹⁰ Article 27 deals specifically with pollution and requires states to ‘prevent, eliminate, reduce or control pollution in order to minimise environmental harm.’ In addition States are required to ensure that wastes, pollutants, and hazardous substances are handled, treated, and disposed of using the best available techniques or the best environmental practices, as appropriate to protect the aquatic environment.¹¹¹ The Berlin Rules go a step further and require States to establish water quality standards to sufficiently protect public health, the environment and to provide water to satisfy certain needs.¹¹²

The Berlin Rules go further than the Helsinki Rules and the UN Convention in the utilisation and management of shared watercourses. The Berlin Rules are applicable to both national and international waters whereas the Helsinki Rules and the UN Convention are concerned with international waters only. The Berlin Rules express rules

¹⁰⁹ Article 22.

¹¹⁰ Article 29.

¹¹¹ Article 27(3).

¹¹² Article 28. These needs are, provision of drinking water of sufficiently good quality for human health, preserving ecosystems and providing water for agriculture and providing for recreational needs paying due regard to sanitary and aesthetic requirements.

of law in their present form and incorporate emerging principles while the Helsinki Rules and the UN Convention only reflect established principles. Finally, the Berlin Rules relegated the principle of equitable and reasonable utilisation and equated it to the obligation not to cause significant harm.

The implementation of the Berlin Rules is left to State Parties. Article 2(1) of the Berlin Rules requires State Parties to enact laws and regulations to accomplish the purposes of the rules. State Parties are also required to adopt efficient and adequate administrative measures, including management plans and judicial procedures for the enforcement of the laws and regulations enacted in terms of the Berlin rules. State Parties must also undertake educational and research programs necessary to fulfil their obligations specified in the Berlin Rules.¹¹³

The Berlin Rules further provide monitoring and implementation mechanisms in Chapter IV. State Parties are required to undertake continuous assessments of the impact of programs, projects or activities that may have a significant effect on the aquatic environment or the sustainable development of waters.¹¹⁴ In an attempt to ensure effective implementation of the Berlin Rules, article 31 further provides an outline of the impact assessment process. This is a useful tool as it assists State Parties with a yardstick of the standards they are required to meet. It also makes it easier for monitoring purposes as the evaluation of the State Parties' implementation of the Berlin Rules is done against clearly set out standards.

¹¹³ Article 2(2).

¹¹⁴ Article 29.

Chapter IX of the Berlin Rules also deals with implementation of the rules. State Parties are under an obligation to harmonise their national water laws and policies¹¹⁵ and establish basin wide or other joint management arrangements.¹¹⁶ In addition, State Parties are required to undertake reviews at regular intervals of the implementation of their commitments under agreements relating to shared watercourses, including their implementation of joint management mechanisms. These reviews may also include examinations of obligations of the States involved in a joint management mechanism in relation to the objectives, for which the mechanism was established,¹¹⁷ facilitation of the refinement of methodologies for effective implementation of the joint management mechanism or other agreements,¹¹⁸ establishment of subsidiary bodies as necessary or proper for the implementation of the joint management mechanisms or other agreements,¹¹⁹ and recommendations relating to any matter necessary or proper for the implementation of the joint management mechanism or agreements.

It is clear that modern international watercourses law has evolved and developed in line with developments in the overarching and mainstream international environmental law. Mainstream environmental law has gradually moved from respecting the exclusivity of the sovereign rights of States to pursue their developmental socio-economic policies without regard to the transboundary environmental consequences of their actions. Furthermore, the international community of States has moved from exclusive

¹¹⁵ Article 62.

¹¹⁶ Article 63.

¹¹⁷ Article 66(b).

¹¹⁸ Article 66(d).

¹¹⁹ Article 66(e).

isolationism when dealing with resources spanning of international boundaries to more regional cooperation and integrated approaches. It is no longer fashionable for States to take action without weighing the possible damage to the environment of the activity. Consequently various general environmental law principles such as the precautionary principle, the risk averse approach, the informed consent approach and general cooperation as a principle have found their way into modern international watercourses law.

As clearly shown above, there has been a flurry of activity in the field of international watercourses law that no State can claim ignorance or lack of guidance in matters to do with international and shared watercourses as well as other freshwater resources. Various documents exist and attempt to codify general principles in the field that have attained soft law status. While the failure of the international family of nations to come up with a comprehensive and binding document is regrettable, such failure is not a true reflection of international efforts to regulate management of shared watercourses. Perhaps, as will be seen from later chapters, regional efforts have proved more fruitful in coming up with binding documents that provide a regulatory framework from the concerned regions. However the international legal regulatory framework still provides the source of the rules found in regional instruments in the area of watercourse management.

CHAPTER 3: SHARED WATERCOURSES MANAGEMEMNT IN THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY (SADC) REGION – FROM THE INCEPTION OF SADCC TO PRESENT

3.1) The Southern African Development Community – The Political Set-up

The history of the Southern African Development Community (SADC) regional bloc dates back to April 1980 when the Heads of State of Government of Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe adopted the Southern Africa: Towards Economic Liberation Declaration in Lusaka, Zambia. The Declaration was the founding document of the then Southern African Development Coordination Conference (SADCC). The chief aim of SADCC was to pursue policies that would facilitate economic development and independence of the Member States from South Africa and promote integrated development of the region.¹²⁰ South Africa was excluded from the regional bloc as a result of widespread condemnation of the apartheid regime. However, by 1992 a number of significant political changes had occurred within the region, prompting reform of SADCC to adequately and effectively meet the demands of the region and be suited to meeting contemporary challenges.¹²¹ These changes resulted in the adoption of another Declaration¹²² and signing of a treaty constituting the Southern African Development

¹²⁰ R H Thomas 'Introductory Note' (1993) 32 *ILM* 116 at 117.

¹²¹ J M Kalima 'Environmental Impact Assessments in Southern Africa: Towards a regional protocol' unpublished LLM Dissertation (2001).

¹²² The declaration is entitled '*Towards a Southern African Development Community.*'

Community in 1992.

In terms of the Declaration, Member States committed to the establishment of the SADC to promote regional economic welfare and collective self-reliance and integration as equal partners. Due consideration was given to the successes and failures of the predecessor, SADCC, and it was agreed that the new SADC should adopt certain strategies on issues such as food security, natural resources, defence and the protection of the environment. The environment featured prominently in the deliberations and the Member States resolved to adopt measures and mechanisms necessary to protect the environment and to manage natural resource use and achieve intra- and inter-generational equity.

Membership of the SADC currently stands at fifteen, with Madagascar currently under suspension from the bloc following political unrest in the country after a coup d'état led by Andry Rajoelina in March 2009.¹²³

The regional body has six institutions namely; the Summit of Heads of State or Government, the Council of Ministers, Commissions, the Standing Committee of Officials, the Secretariat and the Tribunal. The Secretariat is the main administrative body and is responsible for, among other things, strategic planning and management of SADC programmes, coordination and harmonisation of the policies and strategies of

¹²³ Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. Madagascar was suspended on the 19th of March 2009. See 'SADC troika will not recognise Madagascar's new leader' Bua news online <http://www.buanews.gov.za/rss/09/09032011151006> (accessed 10/07/09)

Member States and implementation of the decisions of the Summit and Council.¹²⁴

The Treaty establishing SADC is modelled along the same lines as the Declaration. Its main objectives are to achieve economic development, poverty alleviation, improvement of the standards and quality of life of the people of the region and to achieve sustainable utilisation of natural resources and effective protection of the environment.¹²⁵ Article 22 of the SADC Treaty requires Member States to ‘conclude such Protocols as may be necessary in each area of co-operation, which shall spell out the objectives and scope of, and institutional mechanisms for, co-operation and integration.’

The SADC Treaty provides for cooperation that will contribute to and promote regional development and integration.¹²⁶ One of the areas of co-operation and integration as set out in the Treaty is the management of shared watercourses in the region. The management of shared watercourses is a key area of focus for the bloc because of the variation of the availability of water resources in Southern Africa between the North and the East, and the South and the West.¹²⁷ The North and the East receive better rainfall and are prone to flooding compared to the South and the West which are generally very dry and prone to droughts. These climatic variations create huge imbalances between the regions, with some (North and East) having excessive water while others experience severe water scarcity. This scarcity of water in the region is increasing as a result of the

¹²⁴ Article 14 of the Treaty.

¹²⁵ Articles 1(a) and (g) of the Treaty.

¹²⁶ Thompson *op cit* n 26 at 377.

¹²⁷ LA Swatuk ‘The new water architecture in Southern Africa: Reflections on current trends in the light of ‘Rio + 10’ (2002) 78 *International Affairs* 507 at 511.

region's population increases.¹²⁸

There are fifteen shared watercourses which are shared by two or more states in the region.¹²⁹ In fact, all continental SADC Member States share river basins with each other.¹³⁰ The utilization of these watercourses has traditionally been based on the sovereign rights of Member States in exclusive exploitation of natural resources within natural boundaries or exploitation based on bilateral or multilateral agreements between basin states.¹³¹ At the peak of the colonial period, bilateral agreements were only concerned with control and access to these rivers. Provisions of the agreements gave monopolistic access and trading opportunities to colonial powers in the colonies.¹³² The end of colonialism resulted in a slightly changed approach to national attitudes towards shared rivers. The newly independent States' concern was the protection of their hard won sovereignty and independence. Each State was 'very insistent on developing natural resources and avoiding foreign intervention'.¹³³ Thus, where there was any agreement between States, these agreements were (and are still) invariably drawn up with a specific issue for instance agriculture, industry, or primary water consumption that pursue the

¹²⁸Development and Management in the SADC Countries (1999-2004) http://www.sadcwscu.org.ls/rsap/rsap_dev1.htm (accessed) 16/09/09

¹²⁹ These are Buzi (Zimbabwe and Mozambique); Cunene (Angola and Namibia); Cuvelai (Angola and Namibia); Incomati (South Africa, Swaziland and Mozambique); Limpopo (Botswana, South Africa, Mozambique and Zimbabwe); Maputo (South Africa, Swaziland and Mozambique); Nile (Democratic Republic of Congo, Tanzania and 8 other countries out of SADC); Okavango (Angola, Namibia, Zimbabwe and Botswana); Orange (Lesotho, South Africa, Botswana and Namibia); Pungue (Zimbabwe and Mozambique); Ruvuma (Tanzania, Malawi and Mozambique); Save (Zimbabwe and Mozambique); Umbeluzi (Swaziland and Mozambique); Congo (Angola, Tanzania, Democratic Republic of Congo, Zambia and 5 other countries out of SADC) and Zambezi (Angola, Namibia, Botswana, Malawi, Mozambique, Tanzania, Zambia and Zimbabwe)

¹³⁰ M J Tumbare 'Equitable Sharing of the Water Resources of the Zambezi River Basin' (1999) 24 *Physics & Chemistry of the Earth* 571 at 571.

¹³¹ Ibid.

¹³² Elver *op cit* n 32 at 197.

¹³³ Ibid.

development agendas of the parties to such agreements. Consequently, there has been little attempt to rationalize or coordinate impacts of these agreements in the specific basins or in terms of the broader regional sensibilities.¹³⁴ It was only in 1995 that a meaningful departure from this approach was taken through the adoption of the SADC Protocol on Shared Watercourse Systems (the original Protocol). This original Protocol as shall be seen below, attempted to promote more cooperation among SADC Member States in the management of shared watercourses.

3.2) The SADC Protocol on Shared Watercourse Systems

The SADC Member States agreed to cooperate in different sectors and to establish organizations with the aims of harmonizing and rationalizing policies, strategies, programs and projects in these sectors.¹³⁵ Among these key areas of cooperation is the management of shared watercourses for which a Water Sector was established by the SADC Council of Ministers.¹³⁶ The main objective of the Water Sector was identified as to ‘promote cooperation in all matters in the SADC region for the sustainable and equitable development, utilization and management of water resources and contribute towards the upliftment of the quality of life of the people of the SADC region.’ It was believed that a full achievement of this goal would go a long way towards the ‘attainment of the Southern African Vision for Water in the 21st Century.’ The vision is one of equitable and sustainable utilization of water for social, environmental, justice, and

¹³⁴ Swatuk *op cit* n 127 at 515.

¹³⁵ Ibid.

¹³⁶ This was endorsed by the Summit of Heads of State and Government in 1996.

economic benefit for present and future generations.¹³⁷

While the adoption of the original Protocol was a landmark achievement towards shared watercourse management in the region, Swatuk argues that 1985 was the defining moment in the progressive approach to regional cooperation on shared water resources.¹³⁸

The Zambezi River was the first to be used as a pilot case in the UNEP: Environmentally Sound Management of Inland Waters (EMINWA) project in the region. Two years later, this was followed by the adoption of the Zambezi River Action Plan (ZACPLAN). The aim of the ZACPLAN was the management of waters of the entire Zambezi river basin in an integrated and sustainable way, including environmental use. This ZACPLAN, as Swatuk argues, became a template for the original Protocol.¹³⁹ The key aim of the ZACPLAN was the establishment of an integrated water resource management plan for the entire basin, based on sound management and sustainable development.

The original Protocol was, however, the first instrument legally binding on all SADC Member States in the field of shared watercourse management. It was originally signed by 11 Member States and entered into force in October 1998 after ratification by two thirds of the SADC Member States. The adoption of the original Protocol was preceded by relatively lengthy periods of discussion from around 1993 to 1998 when the Protocol came into force. The Protocol has local roots but was heavily influenced by international thinking and action in the field of water management.¹⁴⁰ This is evident in the preamble

¹³⁷ This vision was adopted by the SADC Sectoral Committee of Ministers in 1999.

¹³⁸ Ibid.

¹³⁹ Ibid.

¹⁴⁰ Swatuk, *op cit* n 127.

which clearly states that international principles and norms such as the Helsinki Rules, the works of the International Law Commission and Agenda 21 were taken into consideration. The original Protocol recognizes the generally accepted international concepts and principles relating to water resource development and management in an environmentally sound manner. These include principles such as absolute territorial sovereignty; absolute territorial integrity, limited territorial sovereignty, community of interests theory and the celebrated principle of *sic utere tuo ut alienam non laedas*.¹⁴¹

The original Protocol has a number of objectives including:

- To develop close cooperation for judicious and coordinated utilization of the resources of the shared watercourse systems in the SADC region, and to coordinate environmentally sound development of the shared watercourse systems in order to support sustainable socio-economic development;
- To build regional conventions on equitable utilization and management of the resources of shared watercourse systems in the SADC region and to consolidate other agreements in the SADC region regarding the common utilization of certain watercourses;
- To promote SADC integration process in accordance with Article 22 of the treaty establishing SADC.¹⁴²

The Member States also acknowledged the need for coordinated and environmentally sound development of shared watercourse development to promote sustainable socio-

¹⁴¹ Use your own as not to injure another's property. In this context, riparian states are required to use shared watercourses as not to cause harm to other riparian states that share the watercourse.

¹⁴² Swatuk *op cit* n 127.

economic development. The Protocol was not intended to supersede or abrogate the existing agreements in the SADC region related to utilization of certain watercourses, but to provide a framework for shared watercourse management.¹⁴³ The majority of shared watercourses in the region continue to be managed through ‘basic specific initiatives (that) have emerged in the form of standing commissions, technical units and the like (e.g. the Okavango River Commission; the Zambezi River Basin Commission).’¹⁴⁴

There are two important definitions in the Protocol namely; shared watercourse system and watercourse system. Shared watercourse system is defined as ‘a watercourse system passing through or forming the border between two or more basin states’. Watercourse system on the other hand means ‘the interrelated hydrologic components of a drainage basin such as streams, rivers, lakes, canals and underground water which constitute a unitary whole by virtue of their physical relationship’. While the definition of watercourse system covers components of the basin rather than a river, the exclusion of the environment is quite conspicuous.

Article 2 of the original Protocol lays out a number of principles applicable in the management of shared watercourses in the region. Utilization of shared watercourse systems is open to all riparian states for any watercourse system that is found in its territory without prejudice to each riparian State’s sovereignty.¹⁴⁵ Member States are required to equitably utilize watercourses and all the related resources. The original

¹⁴³ The preamble of the Protocol states that the Member States were ‘mindful of the existence of other agreements in the SADC region regarding the common utilization of certain watercourses.’

¹⁴⁴ Swatuk *op cit* n 127.

¹⁴⁵ Article 2(1).

Protocol also requires Member States to maintain a balance between resource development for improved standards of living and, conservation and enhancement of the environment to promote sustainable development.¹⁴⁶ In order to successfully achieve the objectives of the original Protocol, Member States are required to co-operate on matters likely to have an effect on the regime of the watercourse system.¹⁴⁷ There is also a requirement on Member States to utilize watercourse systems with a view of attaining optimum utilization and obtaining benefits consistent with adequate protection of the watercourse system. Non-domestic uses of watercourses or any discharge of all types of wastes into a water course system are regulated by Member States through a permit system.

The original Protocol further requires Member States to establish River Management Institutions for shared watercourse systems in the region. These institutions are established for the effective implementation of the original Protocol.¹⁴⁸ The duties of the institutions are, amongst other things, to develop a monitoring policy for shared water courses, promote equitable utilization of shared watercourse systems, formulate strategies for the development of shared watercourse systems and monitor the implementation of integrated plans in shared watercourse systems. The institutions oversee the harmonization of national water resource policies and legislation, as well as monitor compliance with water legislation and recommend amendments to existing legislation

¹⁴⁶ Article 2(3).

¹⁴⁷ Article 2(4).

¹⁴⁸ The objectives of the River Basin Management Institutions are to (a) to develop a monitoring policy for shared watercourse systems; (b) to promote the equitable utilization of shared watercourse systems; (c) to formulate strategies for the development of shared watercourse systems; (d) to monitor execution of integrated water development plans in shared watercourse systems.

and the introduction of new legislation where necessary.¹⁴⁹ The institutions are also responsible for designing and conducting studies, researching and conducting surveys relating to environmentally sound development and management plans for shared watercourses and encourage public participation in these plans.¹⁵⁰ The institutions are also required to make recommendations on matters such as the regulation of water flow and drainage, monitor utilization of water and the establishment of hydroelectric installations.¹⁵¹

The original Protocol also has a mechanism and framework to settle disputes along the lines similar to the SADC Treaty, with particular focus on amicable settlement of disputes and then arbitration, should the dispute not be settled amicably. All unresolved disputes are referred to the SADC Tribunal which will render a final and binding opinion on the parties. The SADC Treaty and Protocol have flexible provisions and mechanisms and these enable constant revision and amendment of the whole structure to take account of new challenges. The original Protocol was revised in light of this and now forms the main instrument governing and regulating shared watercourse management in the bloc.

3.3) The Revised SADC Protocol on Shared Watercourse Systems

The Revised SADC Protocol on Shared Watercourse System (the Protocol) is currently the main instrument for shared watercourses management in the region. It entered into

¹⁴⁹ Article 5(a).

¹⁵⁰ Article 5(b).

¹⁵¹ Article 59(c).

force in September 2003, repealing and replacing its predecessor¹⁵² as a legally binding framework for shared watercourses management in the region. The revision of the original Protocol was prompted mainly by the adoption of the UN Convention. The Protocol clearly indicates in the Preamble that it was adopted taking into account progress, development and codification on international law initiated by the Helsinki Rules, the UN Convention on the Law of the Non-navigational Uses of International Watercourses and Agenda 21. This resulted in a slight departure from the entrenched concepts like superiority of the principle of state sovereignty that its predecessor was heavily biased towards. The revision of the Protocol was championed by lower riparian States such as Mozambique that wanted the Protocol to mirror the UN Convention on the Law of Non-navigational Uses of International Watercourses (“the Convention”) that was regarded as tilted towards lower riparian states.¹⁵³

Despite the revision, the Protocol’s philosophy and underlying principles, however, still remain similar to those of the original Protocol. The most important definitions like shared watercourse and watercourse survived and were retained. The overall objective of the Protocol remains the fostering of closer cooperation for judicious, sustainable and co-ordinated management, protection and utilization of shared watercourses and advancement of regional integration and poverty alleviation. The Protocol seeks to achieve this objective through the promotion and facilitation of the establishment of shared watercourse agreements and shared watercourse institutions for the management of shared watercourses; advancing sustainable, equitable and reasonable utilization of

¹⁵² Article 16(1).

¹⁵³ Leestemaker *op cit* n 17.

shared watercourses; promotion of a coordinated and integrated environmentally sound development and management of shared watercourses and the harmonization and monitoring of legislation and policies for development, conservation, protection of shared watercourses and allocation of the resource. These will be facilitated through research and technology development and information exchange and capacity building in the shared watercourses.

3.3.1) General Principles of the Protocol

The underlying principles of the Protocol are substantially similar to those of the original Protocol albeit with some minor departures. The Protocol calls for unity and coherence of each shared watercourse. Parties are required to harmonize their water uses in the shared watercourses to ensure that all actions are consistent with the sustainable development of all watercourse States and observe regional integration and harmonization of their socio-economic policies and plans.¹⁵⁴ The use of shared watercourses is open to each watercourse State, in respect of watercourses within its territory, without prejudice to its sovereign rights. Such uses include agricultural, domestic, industrial, navigational and environmental use. This use is, however, not unlimited as Member States are required to maintain a balance between resource development and conservation and enhancement of the environment to promote sustainable development.¹⁵⁵ It is quite encouraging that the Protocol attempts to reconcile competing interest of sovereignty, development and the environment as shown by the subscription to the principle of sustainable development.

¹⁵⁴ Article 3(1).

¹⁵⁵ Article 3(4).

Sustainable development ‘is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.’¹⁵⁶

The reconciliation of these principles is, however, a difficult task more so amongst developing economies such as those of the region. In order to effectively achieve this, parties are obliged to cooperate in the study and execution of all projects that are likely to have an effect on the regime of shared watercourses¹⁵⁷ and utilize shared watercourses in an equitable and reasonable manner.¹⁵⁸ This obligation is further strengthened by Article 7(b) which expressly states that Member States shall participate in the use, development and protection of shared watercourses. The participation includes both the right to utilize and duty to cooperate in the protection and development of shared watercourses. Member States are required to take certain factors into consideration in their utilization of shared watercourses. These are the factors that are used to determine whether a Member State’s use of a shared watercourse or watercourses is reasonable and equitable. These are, among other things, geographical, hydrological, climatical, ecological factors; socio-economic and environmental needs; the effects of the use or uses of a shared watercourse in one watercourse State on the other watercourse States and the conservation, protection, development and economy of the use of the water resources of a shared watercourse.¹⁵⁹ The Protocol is still, to some extent, biased towards state sovereignty over watercourse preservation and the environment as shown in Article 3(10). This article is hugely concerned with, and comprehensively provides for, the prevention of significant harm to

¹⁵⁶ See note 7 above.

¹⁵⁷ Article 3(5).

¹⁵⁸ Article 3(7)(a).

¹⁵⁹ Article 3(8)(a).

other watercourse States. It further provides for compensation where such harm has resulted emphasizing the interests of persons, who have suffered or are under a serious threat of suffering as a result of harm to a shared watercourse.¹⁶⁰ Due to the dominance of the principle of state sovereignty in the Protocol, it is not surprising that the Protocol does not have effective remedies for watercourses such as the polluter pays principle, except to pay lip service to the idea that all appropriate measures to be taken.

3.3.2) Specific Provisions

Article 4 lays down specific provisions which Member States to the Protocol must adhere to. These include planned measures,¹⁶¹ provisions on environmental protection and preservation,¹⁶² provisions on the management of shared watercourses¹⁶³ and prevention and mitigation of harmful conditions.¹⁶⁴

Article 4(1) regulates planned measures and sets out the process to be followed by any Member State undertaking any planned measure. Member States are required to exchange information and consult each other and, where necessary, negotiate the effects of the planned measures on the condition of a shared watercourse.¹⁶⁵ This article specifically focuses on the effect of the planned measure(s) on the shared watercourse. This is a departure from the traditional approach seen throughout the Protocol in which focus is on

¹⁶⁰ Article 3(10) (b) & (c).

¹⁶¹ Article 4(1).

¹⁶² Article 4(2).

¹⁶³ Article 4(3).

¹⁶⁴ Article 4(4).

¹⁶⁵ Article 4(1)(a).

the harm caused to watercourse states. Article 4(1)(b) for instance, requires any state due to undertake any planned measure which may have ‘... a significant adverse effect upon other watercourse States...’ to notify such States of the possible effects, at least six months, before implementing or permitting the implementation of such measures. Such notification must include results of any environmental impact assessment to enable the concerned States to evaluate the impact of the planned measures. The notified States have six months within which to communicate their findings of research into the planned measures and raise any objections to the implementation of such measures.¹⁶⁶ In the absence of any reply to the notice or in the case of urgent implementation of planned measures, the notifying party may continue with the planned measures provided the implementation of the planned measures is consistent with principles of reasonable and equitable utilisation¹⁶⁷ of the watercourse and takes all the appropriate measures to prevent causing significant harm to other watercourse states.¹⁶⁸ Urgent implementation of planned measures is only permitted if such implementation is to protect public health, public safety or any other equally important interest.¹⁶⁹

Member States are also required to protect and preserve the ecosystems of shared watercourses individually and jointly (where appropriate).¹⁷⁰ Pollution of shared watercourses is one of the largest regional environmental challenges which the Protocol provides for. Article 4(2)(b) creates an obligation for Member States to prevent, reduce and control pollution and environmental degradation of shared watercourses that may

¹⁶⁶ Article 4(1) (e).

¹⁶⁷ Article 3(7).

¹⁶⁸ Article 3(10).

¹⁶⁹ Article 4(1) (i).

¹⁷⁰ Article 4(2) (a).

cause significant harm to other watercourse States. In order to effectively tackle the issue of pollution, Member States are obliged to take steps to harmonise their policies and legislation in the area of pollution control. This is particularly important if one considers the pollution control regimes of many of the SADC Member States that are lagging behind compared to other regions. South Africa, arguably the leading country in pollution control in the region, only strengthened its pollution control legislation recently (2008)¹⁷¹ and the majority of the SADC states are yet to do so. The Protocol, however, does not lay a clear cut procedure for so doing. Instead, it leaves it to Member States to initiate this process. Upon request of a Member State, Member States may set joint water criteria; establish techniques and practices to address pollution and establish lists of substances whose introduction into shared watercourses shall be prohibited, limited, investigated or monitored.¹⁷²

The management of shared watercourses is left in the hands of watercourse States that shall ‘... enter into consultations concerning the management of a shared watercourse, which may include the establishment of a joint management mechanism.’¹⁷³ A number of States have effected this provision and established these joint management mechanisms. In addition to establishing joint management mechanisms, Member States are required to co-operate to respond to the needs or opportunities for the regulation of the flow of shared watercourse waters.¹⁷⁴

¹⁷¹ National Environmental Management: Waste Act 59 of 2008.

¹⁷² Article 4(2)(b)(iii).

¹⁷³ Article 4(3)(a).

¹⁷⁴ Articles 4(3)(b).

Member States are under a duty to prevent and mitigate harmful conditions related to shared watercourses. There is no distinction between harmful conditions resulting from natural causes or human conduct, both must be prevented and mitigated. In a somehow odd placed provision, States are required to regulate water use by any person intending to use waters of shared watercourses for any other purpose than domestic or environmental use or who intends to discharge any type of waste into such waters within their territories.¹⁷⁵ Any person intending to embark on the above water uses must first obtain a permit, licence or other similar authorisation from the relevant authorities in these states. Such permit or authorisation shall only be granted after it has been determined, by the relevant State, that the use or discharge will not cause significant harm on the regime of the watercourse. This provision is a substantive obligation that one would have expected to have been self standing instead of being a sub-section of another clause. In addition, it should have been comprehensive, setting out the criteria and conditions to be met before such permit can be issued.

3.3.3) Institutional Framework for Implementation

There are five institutional mechanisms established for the implementation of the Protocol.¹⁷⁶ These are the SADC Water Sector Organs,¹⁷⁷ Shared Watercourse Institutions, the Committee of Water Ministers, the Committee of Water Senior Officials and the Water Co-ordinating Unit.

¹⁷⁵ Article 4(4)(b).

¹⁷⁶ Article 5(1).

¹⁷⁷ The Committee of Water Ministers; the Committee of Water Senior Officials, the Water Sector Co-ordinating Unit; and the Water Resources Technical Committee and sub-Committees.

The functions of the SADC Water Organs are to; oversee and monitor the implementation of the Protocol and assist in resolving potential conflicts on shared watercourses; guide and co-ordinate cooperation and harmonisation of legislation, policies, strategies, programmes and projects; advise and recommend to Council the creation of other necessary organs and provide regular updates to Council on the implementation of the Protocol.¹⁷⁸

The Committee of Water Senior Officials on the other hand is responsible for, the examination of reports and documents compiled by the Water Resources Technical Committee and the Water Sector; initiating and advising the Committee of Water Ministers on various matters including policies and strategies; recommending the creation of other necessary organs and providing regular updates to the Water Ministers' Committee on the implementation of the Protocol.¹⁷⁹ The Water Sector Co-ordinating Unit, on the other hand, monitors the implementation of the Protocol. It also provides guidance on the interpretation of the Protocol; advises Member States on matters pertaining to the Protocol and keeps an inventory of all shared watercourses management institutions and their agreements on shared watercourses within the Region.¹⁸⁰

In order to effectively implement the Protocol, Member States undertake to adopt appropriate measures such as the establishment of watercourse commissions, water

¹⁷⁸ Article 4(2)(a).

¹⁷⁹ Article 4(2)(b).

¹⁸⁰ Article 4(2)(c).

authorities or boards.¹⁸¹ The functions of these are however not set out in the Protocol, but left to the institutions to determine such in accordance with their objectives.¹⁸² The Protocol provides a fairly comprehensive framework for its implementation and enforcement. Its implementation and monitoring is, however, likely to be hindered by the absence of clear cut standards and timeframes for Member States to comply with their obligations.

Article 6 of the Protocol deals with Shared Watercourse Agreements and provides that nothing in the Protocol shall affect the rights or obligations of watercourse States arising from agreements in force at the time of the Protocol entering force, unless there is an agreement to the contrary.¹⁸³ Watercourse States may enter into agreements which apply provisions of the Protocol to certain watercourses. Where States enter into such agreements, they must define the waters to which the agreement applies.¹⁸⁴ These agreements will not affect the rights and obligations of other States, party to the Protocol, that are not parties to such agreements.

Disputes between Member States shall be settled in terms of Article 7 of the Protocol. States are urged to resolve all disputes arising from the implementation, interpretation or application of the Protocol amicably, failing which the dispute shall be referred to the Tribunal. Any Member State can, upon expiry of twelve (12) months written notice to the

¹⁸¹ Article 5(3)(a).

¹⁸² Article 5(3)(b).

¹⁸³ Article 6(1).

¹⁸⁴ Articles 6(4).

Executive Secretary, withdraw from the Protocol.¹⁸⁵ Such party shall cease to enjoy any rights and benefits under the Protocol, but shall remain bound by the obligations of the Protocol for a period of twelve months from the date of giving notice to the date the withdrawal becomes effective.¹⁸⁶

It is clear from this chapter that the SADC region has put a lot of effort towards developing shared watercourses law regime that is in line with international trends. This started in 1995 with the original Protocol. The original Protocol was then revised taking into account the Helsinki Rules and the UN Convention in a bid to strengthen shared watercourses management. The Protocol, in its present form, covers a lot of important aspects of the management of shared watercourses in the region. However, there is room for improvement by drawing lessons from other regional and international instruments. The Water Framework Directive is a good example of such regional instruments the Protocol may follow. As shall be shown in chapters to follow, the Water Framework Directive is certainly the leading regional instrument in the area of shared watercourses management. It is comprehensive, clearly sets out substantive principles and provides a practical and effective implementation, enforcement and monitoring mechanism.

¹⁸⁵ Article 13(1).

¹⁸⁶ Article 13(2).

CHAPTER 4: SHARED WATERCOURSES MANAGEMENT IN EUROPE: A CLOSER LOOK AT THE EUROPEAN UNION WATER FRAMEWORK¹⁸⁷

4.1) The history and development of European water resources legislation

The development of water resources legislation in Europe has a rich history that dates back to as far as 1885 when the first treaty between Holland, Switzerland and Germany over the waters of the Rhine basin was signed.¹⁸⁸ Since then, various treaties and conventions regarding different aspects of water resources have been concluded. The process, however, reached its pinnacle around 1975 with the issuing of the first major directive on surface and drinking water. Kaika¹⁸⁹ succinctly sums the development of water law in Europe in three stages. According to Kaika, the first stage was around 1975, followed by the second stage around 1991 and the final stage around the year 2000. Focus during the first stage was primarily on water quality standards and protection of surface water for drinking. This was primarily regulated by the Surface Water and Drinking Water Directive¹⁹⁰ that was enacted in 1975. The Directive laid down non-binding 'guide' values and binding 'imperative' values.¹⁹¹ It required Member States to

¹⁸⁷ Directive (2000/60/EC) of the European Parliament and of the Council of 23 October 2000 establishing a framework for community action in the field of water policy. [full text of the Directive can be accessed at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0060:EN:HTML>]

¹⁸⁸ The treaty established the Salmon Commission and limited the periods within which salmon fishing was permitted.

¹⁸⁹ M Kaika 'The Water Framework Directive: A new directive for a changing social, political and economic European Framework' (2003) 3 *European Planning Studies* 299 at 300.

¹⁹⁰ Council Directive 75/440/EEC concerning the quality required of surface water intended for the abstraction of drinking water in the Member States (OJ L 194, 25.7.75)

¹⁹¹ See generally 'Handbook on the Implementation of the EC Environmental Legislation' at <http://ec.europa.eu/environment/enlarge/handbook/water.pdf> (accessed 14/12/09); see also Kaika *op cit* n 189; Y A Mylopoulos & E G Kolokytha 'Integrated Water Management in shared water resources: The

monitor the quality of surface water sources of drinking water and to take measures to ensure that such sources complied with the minimum quality standards.

The second stage was during the period 1991 to 2000. During this period, a number of directives were enacted. These include the Urban Waste Water Management Directive (“Urban Water Directive”),¹⁹² Drinking Water Quality Directive,¹⁹³ Nitrates Directive¹⁹⁴ and the Directive for Integrated Pollution and Prevention.¹⁹⁵ The Urban Water Directive dealt with the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from selected industrial sectors. It aimed to protect the environment from adverse effects caused by the discharge of such waters. It established a timeframe for Member States to adhere to, for the provision of collection and treatment systems for urban waste water in agglomerations corresponding to the categories laid down in the Urban Water Directive.

The final stage, at least for now, was marked by the enactment of the Water Framework Directive in 2000. The management of transboundary waters, and water in general, in Europe is regulated by the Water Framework Directive. The Water Framework Directive

EU Water Framework Directive Implementation in Greece’ (2008) 33 *Physics & Chemistry of the Earth* 347

¹⁹² Council Directive (91/271/EEC) concerning urban wastes water treatment, 21 May 1991. [a full text of the Directive can be accessed at http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Directive&an_doc=91&nu_doc=271]

¹⁹³ Council Directive (98/83/EC) of 3 November 1998 on the quality of water intended for human consumption. [a full text of this Directive can be accessed at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1998:330:0032:0054:EN:PDF>]

¹⁹⁴ Council Directive 91/676/EEC) of 12 December 1991 concerning the protection of waters against pollution caused by nitrate waters from agricultural sources. [full text of the Directive can be accessed at <http://ec.europa.eu/environment/water/water-nitrates/directiv.html>]

¹⁹⁵ Council Directive (96/61/EC) of 24 September 1996 integrated pollution prevention and control [full text of the Directive can be accessed at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31996L0061:EN:HTML>]

‘gives directions for common approach, objectives, principles, definitions and measures for water management in Europe.’¹⁹⁶ The Water Framework Directive is legally binding to the European Union Member States and essentially provides a common framework for water management and protection. It was adopted in September 2000 and came into force in December of the same year. Its development started around 1995 following a general consensus among various stakeholders¹⁹⁷ to move towards a more global approach to water policy. This was a direct response to the ‘changing political, economic and social framework and to changes in what constitutes “social capital” at the local, regional, national and European levels.’¹⁹⁸ It has been celebrated as a policy with potential to transform the European water sector.¹⁹⁹ The Water Framework Directive covers a lot of water management aspects ranging from water quantity to quality.

4.2) The European Union Water Framework Directive: A brief outline

The Water Framework Directive replaced all the existing water resources legislation in the Europe Union. It created a new institutional framework on the management of shared waters in the regions as a result of the recognition that ‘water policy requires a transparent, effective and coherent legislative framework.’²⁰⁰ As is the norm with EU Directives, the Water Framework Directive contains a set of obligations that bind Member States. In essence, the obligations can be categorized into obligations to protect,

¹⁹⁶ Mylopoulos & Kolokytha *op cit* n 190 at 348.

¹⁹⁷ These various stakeholders are the Environment Commission of the European Union, the Environmental Commission of the European Parliament and the Council of Ministers of the European Union.

¹⁹⁸ Kaika *op cit* n 189 at 300.

¹⁹⁹ Kaika *op cit* n 189 at 299.

²⁰⁰ Preamble of the Water Framework Directive, paragraph 14.

to prevent, to reduce, to rehabilitate and to improve the state of water quality and water quantity. The obligation to protect covers protection of all surface and ground water bodies from conditions that would negatively affect water quality and quantity. The obligation to prevent, calls on Member States to take steps that would prevent deterioration and decline of water quantity especially by overuse or pollution. In the same vein, Member States are called upon to seek rehabilitation of ground water and reduce the impact of their socio-economic activities on ground and surface water bodies.

In addition, the Water Framework Directive adopts a yardstick to measure the status of water quality and water quantity before it could be said that the concerned water source needs protection. For instance, the Water Framework Directive requires good water status, good ecological status, and good qualitative water status. Action is needed if the status of the water is not good or if the ecological status of the water is not good. For the avoidance of doubt or ambiguity, all these terms are defined in the Water Framework Directive. This makes it easy for the Member States to follow the guidelines of the Water Framework Directive. Failure to discharge these obligations is indefensible since they take into account diverse conditions and needs of the EU that require different specific approaches.²⁰¹

The Water Framework Directive requires all waters to reach good status by the year 2015. The definition of good status in relation to both surface and ground water is however vague and lacks substance. The Water Framework Directive defines ‘good water status’ as the status achieved by a surface water body when both its ecological status and

²⁰¹ Preamble, paragraph 13.

its chemical status are at least ‘good’. The key objectives of the Water Framework Directive are to prevent further deterioration and protect and enhance the status of aquatic ecosystems and associated wetlands; promote sustainable water use based on long term protection of available water resources; enhance protection and improvement of the aquatic environment; ensure the progressive reduction of pollution of groundwater and prevent its further pollution, and contribute to mitigating the effects of floods and droughts.²⁰²

The primary concern of the Water Framework Directive is water quality; water quantity remains a concern, albeit at a subsidiary level. It aims at taking a holistic approach to water management, focusing both surface and ground water in both qualitative and quantitative terms. The Water Framework Directive combined the abovementioned approaches. It introduced an integrated approach and for the first time linked water resources planning to physical planning.²⁰³ This framework also seeks to, amongst other things, promote sustainable water use based on long-term protection of available water resources;²⁰⁴ enhance protection and the improvement of the aquatic environment,²⁰⁵ and ensure the progressive reduction of pollution of groundwater and prevents its further pollution.²⁰⁶ Article 3 of the Water Framework Directive requires Member States to assign river basins within their territories to a river basin district.²⁰⁷ In the case of a river basin covering the territory of more than one Member State, such shall be assigned to an

²⁰² Article 1.

²⁰³ Kaika *op cit* n 189 at 300.

²⁰⁴ Article 1(b).

²⁰⁵ Article 1(c).

²⁰⁶ Article 1(d).

²⁰⁷ Article 3(1).

international river basin district.²⁰⁸ This requirement is there to ensure that each river basin is placed under the appropriate administrative arrangements and competent authorities for the application of the Water Framework Directive within the territories of the Member States. Member States are under a duty to ensure that requirements of the Water Framework Directive for the achievement of environmental objectives are coordinated for the whole of river basin districts within their territories as well as ensure cooperation amongst states concerned in international river basins.²⁰⁹ The Water Framework Directive also requires Member States to provide the Commission with details of the competent authorities for international bodies in which they participate.²¹⁰ The details that must be provided to the Commission are set out in Annex I. These include, name and address, legal status, responsibilities, membership and international relationships of the competent authority.

Article 4 of the Water Framework Directive specifically deals with environmental objectives. It requires Member States to come up with river basin management plans. These plans must assist Member States in discharging a number of obligations. These obligations (in relation to surface water) as set out in article 4(1) are: implementation of measures necessary to prevent deterioration of the status of all surface water bodies; protection, enhancement and restoration of all surface water bodies; protection and enhancement of all artificial and heavily modified water bodies and implementation of measures to reduce pollution from priority substances and cease and phase out emissions, discharges and losses of priority hazardous substances. Article 4(1) (b) and (c) deal with

²⁰⁸ Article 3(2) & (3).

²⁰⁹ Article 3(4) & (5).

²¹⁰ Article 3(8).

ground water and protected areas, respectively.

Any deterioration of any water body (surface or ground) is a breach of the requirements of the Water Framework Directive. However, any temporary deterioration in the status of water bodies shall not amount to a breach of the Water Framework Directive if such is a result of circumstances of natural cause or *force majeure*. The Member State concerned should however show that the natural cause or *force majeure* is exceptional and could not be reasonably foreseen and a number of conditions have been met.²¹¹

To ensure that water status is maintained or improved, each Member State is under a duty to conduct an analysis of the river basin districts within its territory. The analysis is undertaken to determine factors influencing water quality and quantity. Factors considered in the analysis include inherent natural characteristics of each basin, impact of human activity and economic usage of water within the basin. In addition, each Member State must conduct a review of the impact of human activities on the status of surface waters and on ground water and economic analysis of water use.²¹² These analyses and reviews must be undertaken in accordance with the technical specifications set out in the

²¹¹ These conditions are set out in article 4(6) as follows; (a) all practicable steps are taken to prevent further deterioration in status and in order not to compromise the achievement of the objectives of this Directive in other bodies of water not affected by those circumstances; (b) the conditions under which circumstances that are exceptional or that could not reasonably have been foreseen may be declared, including the adoption of the appropriate indicators, are stated in the river basin management plan; (c) the measures to be taken under such exceptional circumstances are included in the programme of measures and will not compromise the recovery of the quality of the body of water once the circumstances are over; (d) the effects of the circumstances that are exceptional or that could not reasonably have been foreseen are reviewed annually and, subject to the reasons set out in paragraph 4(a), all practicable measures are taken with the aim of restoring the body of water to its status prior to the effects of those circumstances as soon as reasonably practicable, and (e) a summary of the effects of the circumstances and of such measures taken or to be taken in accordance with paragraphs (a) and (d) are included in the next update of the river basin management plan.

²¹² Article 5.

Water Framework Directive.²¹³ The analysis must be done in two distinct stages. The first stage entails the identification of the location and boundaries of surface water bodies and categorizing them into rivers, lakes, transitional water or coastal water. This is followed by the categorization of water bodies into types on the basis of the physical and chemical factors determining their characteristics.

The management of river basins is regulated by article 13 which requires all Member States to produce river management plans for the river basins lying within their territories. For river basins that are international, Member States are required to coordinate river basin plans with an aim of producing a single international river basin management plan.²¹⁴ These river basin management plans may be supplemented from time to time and must be reviewed and updated at the latest by the year 2015; 15 years from the date of entry into force of the Water Framework Directive.²¹⁵

The Water Framework Directive also introduced public participation in water resources management. This is a clear recognition of the fact that water management must respond to local conditions and needs. Article 14, while falling short of placing an obligation, requires Member States to ‘encourage the active involvement of all interested parties in the implementation of... the Directive, in particular in the production, review and updating of the river basin management plans.’²¹⁶ Copies of the river basin management plans and subsequent updates must be sent to the Commission and any other Member

²¹³ These are set out in Annexes II and III should have been completed at least in 2004; four years after the Water Framework Directive came into effect.

²¹⁴ Article 13(2).

²¹⁵ Article 13(5) & (7).

²¹⁶ Article 14.

State concerned within three months of their publication.²¹⁷

The implementation of the Water Framework Directive is largely left in the hands of the Member States. To ensure that the Member States effectively implement the Water Framework Directive, it puts in place very comprehensive implementation, enforcement and monitoring procedures. Article 15 of the Water Framework Directive requires Member States to submit copies of the river basin management plans and all subsequent updates of these plans to the Commission or any concerned Member State within three months of the publication of the management plans. Member States are also required to submit reports of the analyses of characteristics of river basins within their territories, reviews of human activity impact on water status and economic analyses of water use.²¹⁸ These analyses should be undertaken in line with clearly set out standards and guidelines that are contained in annexes II and III, to the Water Framework Directive, and must have been completed by the year 2004. Similarly, Member States are required to submit reports on programmes for the monitoring of water status and protected areas within their territories. These programmes were supposed to be operational in 2006 as required by article 8(2). Every Member States must within 3 years of the publication of its river basin management plan or update, submit a report describing progress in the implementation of the planned program measures.²¹⁹ Reporting duties are not limited to Member States, they also extend to institutions established under that Water Framework Directive.

The Commission is also obliged to publish a report on the implementation of the Water

²¹⁷ Article 15(1).

²¹⁸ Article 5.

²¹⁹ Article 15(3).

Framework Directive by the year 2012 and thereafter at a six year interval. The report must include, but is not limited to, (a) a review of progress in the implementation of the Directive; (b) a review of the status of surface water and groundwater in the Community undertaken in coordination with the European Environment Agency; (c) a survey of the river basin management plans submitted in accordance with Article 15, including suggestions for the improvement of future plans; (d) a summary of the response to each of the reports or recommendations to the Commission made by Member States pursuant to Article 12; (e) a summary of any proposals, control measures and strategies developed under Article 16. In addition, the Commission is required to publish a report on the State Parties' implementation of the Water Framework Directive. The report must also be submitted to the European Parliament 2 years from the dates of submission to the Commission by the parties.

Apart from reporting, the Commission is also required to convene conferences of interested parties on Community Water Policy from each of the Member States, to comment on the Commission's implementation reports and to share experiences.²²⁰ The Commission is also required to submit plans for future community measures to the Committee established in terms of article 21 to assist the Commission. The future measures should include an indicative plan of measures having an impact on water legislation, any control measures and strategies against water pollution. Article 24 of the Water Framework Directive takes its implementation a step further. It imposes a deadline for Member States to bring into force the laws, regulations and administrative provisions in line with the Water Framework Directive. All Member States were supposed to bring

²²⁰ Article 18(5).

these into force by December 2003; 3 years after the Water Framework Directive came into force. According to the Commission's report²²¹ transposition of the Water Framework Directive into national laws and policies was poorly met. Only a few EU-15 members incorporated the Water Framework Directive into their national laws and policies by the deadline. The new EU-12 members however progressed very well in this respect by the date of accession, 2004.

The Water Framework Directive, as mentioned earlier, has been hailed as the most significant and far reaching piece of water resources and environmental legislation in Europe to date.²²² It has managed to consolidate and modernize earlier European Union water resources laws, building on other environmental regulations and at the same time establishing a 'combined approach to pollution prevention and control.'²²³ The impact of the Water Framework Directive has been quite substantial, turning some of the most neglected rivers (such as the River Rhine and the Danube River) into the examples of properly managed water resources in Europe.

4.3) Watercourse management in the European Union: the Danube River basin – A case study.

The Danube river basin is the second largest river basin in Europe, after the Volga,

²²¹ COM (2007) 128 final. 22.3.2007 Communication from the Commission to the European Parliament and the Council: Towards sustainable water management in the European Union – First stage in the implementation of the Water Framework Directive 2000/60/EC [full text of the report can be accessed at: http://eur-lex.europa.eu/LexUriServ/site/en/com/2007/com2007_0128en01.pdf]

²²² M Griffiths 'The European Water Framework Directive: An approach to Integrated River Basin Management' European Water Management Online (2002) European Water Association http://www.ewaonline.de/journal/2002_05.pdf (accessed 03/12/09)

²²³ Ibid.

covering the greatest number of countries in the world. It covers a total of 18 countries, namely; Germany, Czech Republic, Poland, Ukraine, Switzerland, Austria, Slovak Republic, Italy, Slovenia, Hungary, Republic of Moldova, Croatia, Bosnia-Herzegovina, Serbia and Montenegro, Bulgaria, Albania and Macedonia. Some countries such as Austria, Hungary, Romania, Serbia and Montenegro and the Slovak Republic are largely situated within the Danube river basin. On the contrary, less than 5% of the territories of Albania, Italy, Macedonia, Poland and Switzerland lie in the basin.²²⁴ The rainfall pattern of the Danube river basin varies among the regions. The upper western regions receive high precipitation compared to the eastern regions that have lower precipitation and very cold winters.

The Danube river basin has various transboundary and regional aquifers. There are about 26 major tributaries of the Danube River. These tributaries all have their own sub-basins that are complemented by several freshwater lakes of different sizes. Among these lakes are the Balaton Lake (Hungary) and the Neusiedlessee (Austria and Hungary).

In 1998, the Commission for the Protection of the Danube River (“ICPDR”) was established to promote and coordinate sustainable and equitable water management practices in the river basin. The key practices are conservation, improvement and rational use of water in the basin. The ICPDR comprises of 13 cooperating Member States.²²⁵ The ICPDR is a platform for co-ordinating the development of the Danube River Basin Management Plan (“the Plan”). The Plan was scheduled to be implemented by 2009 in

²²⁴ UNESCO World Water Development Report *Water, A shared Responsibility* (2006) at 474.

²²⁵ The cooperating states are Austria, Bosnia, and Herzegovina, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Moldova, Romania, Serbia and Montenegro, Slovak Republic, Slovenia and Ukraine.

compliance with an obligation arising from the Water Framework Directive. The EU makes recommendations for the improvement of water quality, developing mechanisms for flood and industrial accident control, emission standards and ensures that these measures are reflected in Member States' national legislation and applied in their policies. The ICPDR also encourages Member States to implement the Water Framework Directive within their territories. States also cooperate in the ICPDR framework in order to achieve a single basin-wide coordinated framework and a basin-wide coordinated Danube River Basin Management Plan.

The main challenge that States encounter in the management of the Danube river is water quality. EU Member States are currently at different stages of implementing the Water Framework Directive in relation to the Danube river basin. The ICPDR continues to work towards the common goal of improving the quality of water resources. This is however hindered by the economical, sociological and topographical differences of these States. It is believed that these factors have heavily affected the implementation of the ICPDR and Water Framework Directive goals. By 2007 neither of the ICPDR or Water Framework Directive goals had been uniformly implemented throughout the region. While the Danube river basin is a very good example of a properly and effectively managed shared watercourse, it is submitted that 'there is still more to be done at the national level.'²²⁶

²²⁶ UNESCO *op cit* n 224 at 477.

CHAPTER 5: COMPARATIVE ANALYSIS: THE REVISED SADC PROTOCOL, WATER FRAMEWORK DIRECTIVE AND OTHER RELEVANT INTERNATIONAL INSTRUMENTS

The development of shared watercourses management law and policy in the SADC region emerged after the development of general international environmental law. While there has been considerable work to efficiently regulate specific environmental aspects and issues in the region, shared watercourses management law is still lagging behind and still needs further development. Shared watercourses management is one of the areas that have received considerable attention. The first major legally binding instrument as shown above was the original Protocol which was adopted in 1995 and came into force in 1998 after ratification by the requisite two thirds majority of the SADC Member States. This was replaced by the Revised Protocol (“the Protocol”) which entered into force in September 2003. The revision of the original Protocol was necessitated by the region’s continued efforts to keep shared watercourse laws at par with the rest of the world.

The Protocol introduced a number of new principles and at the same time strengthened some principles that were not given enough prominence under the original Protocol. While there has been a lot of development of shared watercourses management law in the region, it can be argued that the region is still lagging behind in this area. As shall become apparent in the later parts of this section, there are a number of areas in which SADC can learn from other regional shared watercourse management laws as well and non binding instruments such as the Helsinki Rules, the UN Convention and the Berlin

Rules.

This chapter looks at the strengths and weaknesses of the Protocol. It provides a comparative analysis of the Protocol in relation to the abovementioned instruments and the Water Framework Directive of the European Union which is, arguably, the leading legally binding instrument on shared watercourses management in Europe. This analysis is premised on the fact that the ability to regulate, allocate and control water resources depends on the presence of a comprehensive and effective legal framework dealing with water resources. This analysis is done paying attention to the differences or peculiarities of the SADC region from the rest of the world and Europe. This is due to the fact that ‘transboundary waters share certain characteristics that make their management especially complicated, most notable of which is that these basins require a more complete appreciation of the political, cultural and social aspects of water and that the tendency is for regional politics to regularly exacerbate the already difficult task of understanding and managing complex natural systems.’

²²⁷ However, taking these into consideration, there is consensus that for any shared watercourses management instrument to be effective it should contain certain principles, rights and obligations of the parties to the instrument, proper guidelines for the enforcement of such legally binding provisions and principles. These guidelines should include clearly set out standards and time frames for the implementation of the instrument. In addition, the instruments should set out clear monitoring and enforcement mechanisms.

²²⁷ Wolf op cit n 2 at 131.

5.1) General Principles

The Protocol, as is the case with the UN Convention, applies to international surface water and ground water that is connected to surface water. The definitions of ‘watercourse’ and ‘shared watercourse’ in the Protocol are substantially similar to those of the UN Convention. Watercourse is defined as ‘a system of surface and ground waters consisting by virtue of their physical relationship a unitary whole normally flowing into a common terminus such as the sea, lake or aquifer.’ Shared watercourse on the other hand is defined as ‘watercourse passing through or forming the border between two or more watercourse states.’ Thus, the Protocol and the UN Convention are only applicable to waters in international watercourses. The Protocol’s heavy reliance on the UN Convention in this respect is unfortunate. Water quantity is a major challenge in the region. As such, the Protocol should focus on all the water in the region rather than water that is flowing into, or in, shared watercourses only.

On the contrary, the Water Framework Directive and the Berlin Rules go beyond the Protocol, and the Helsinki Rules and the UN Convention. The Water Framework Directive applies to both surface water and groundwater, and to national and international water. The purpose of the Water Framework Directive is to ‘establish a framework for the protection of inland surface waters, transitional waters, coastal waters and ground water...’²²⁸ The Berlin Rules follow in the same vein and are applicable to the management of all waters, both national and international. Chapter II of the Berlin Rules, *inter alia*, deals with the management of surface waters, groundwater and other waters in

²²⁸ Article 1.

a unified and comprehensive manner, and the integration of the management of waters with the management of other resources.²²⁹

Watercourses do not adhere to physical and political borders. This makes cooperation among states one of the driving forces towards effective utilization and management of shared watercourses. The importance of cooperation is evidenced by a number of recent treaties and conventions that have incorporated a duty to cooperate. It is thus not surprising that the overall objective of the Protocol is the promotion of cooperation for judicious, sustainable and coordinated utilization of the resources of shared watercourses in the Region.²³⁰ The Protocol, in line with global trends, repeatedly²³¹ imposes a duty on Member States to cooperate in the utilization and management of shared watercourses. It requires Member States to harmonise their water uses and ensure that all actions are consistent with the sustainable development of all watercourse States and observe regional integration and harmonization of their socio-economic plans.²³² The UN Convention, which the Protocol emulates, imposes an obligation to cooperate through, among other things, the establishment of joint mechanisms or commissions and the exchange of information and data on a regular basis and through notification of other riparian States of planned measures that may result in significant adverse effects. Article

²²⁹ Salman *op cit* n 61 at 635. See also article 6 and 7 of the Berlin Rules.

²³⁰ Article 2.

²³¹ Articles 3(5) parties undertake to pursue and establish close cooperation with regard to the study and execution of projects that are likely to affect shared watercourses; (7)(a) duty to cooperate in the protection of watercourses; 4(1) requires State Parties to exchange information and consult each other on certain issues; 4(2)(b) requires states to, where appropriate, jointly prevent, reduce and control pollution and environmental degradation of shared watercourses; 4(2)(d) requires State Parties, where appropriate, to cooperate with other States in taking all measures in relation to the protection and preservation of the aquatic environment; 4(3)(b) places an obligation on State Parties to co-operate, where appropriate, in responding to the needs or opportunities for regulating the flow of waters of shared watercourses; 4(4) requires states to, where appropriate, jointly take appropriate measures to prevent or mitigate conditions related to shared watercourses that may be harmful to other watercourse States;

²³² Article 3(1).

8 of the UN Convention imposes a general duty to cooperate while article 21 imposes a duty to cooperate in the prevention, reduction and control of pollution. Similarly, the Berlin Rules require basin States to ‘cooperate in good faith in the management of waters of an international drainage basin for the mutual benefit of the participating states.’²³³ Chapter XI of the Berlin Rules also deals with international cooperation. It sets out areas in which State Parties must cooperate. These include, but are not limited to, information exchange,²³⁴ notification of programs, plans, projects or activities,²³⁵ consultations,²³⁶ establishment of basin wide or other joint management arrangements²³⁷ and sharing expenses.²³⁸ The Water Framework Directive on the other hand also requires close cooperation and coherent action at Community, Member State and local level for the success of the Directive. Cooperation is a key aspect of shared watercourses management as ultimately, Member States are responsible for the implementation of the Protocol and actions of each Member State are like to affect the effectiveness of the Protocol.

The core feature of shared watercourses management in the SADC region has been territorial sovereignty. The original Protocol²³⁹ clearly elevated territorial sovereignty above all the shared watercourses competing principles such as territorial integrity, community of interests theory and the doctrine of *sic utere tuo ut alienam non laedas*. As a result of a shift in environmental management approaches towards the end of the twentieth century, there have been attempts to water-down the principle in the Protocol.

²³³ Article 11.

²³⁴ Article 56.

²³⁵ Article 57.

²³⁶ Article 58.

²³⁷ Article 64.

²³⁸ Article 67.

²³⁹ See generally article 2(1) and article 4.

These attempts have, however, not been successful as the principle has been retained strongly. Article 3(2) of the Protocol gives Member States the right to utilise watercourses within their territories without prejudice to their sovereign rights. Although the Protocol attempts to qualify territorial sovereignty of the Member States by encouraging sustainable development, this principle still enjoys supremacy over the protection of watercourses and the environment. This is particularly true when one looks at article 3(10) which is hugely concerned with, and provides for, the prevention of significant harm to other States. It also provides for compensation where harm has resulted and emphasises the interests of the affected persons, but does not have any effective remedies for the affected watercourses or environments. Instead, the Protocol pays lip service to watercourse and environmental remediation by requiring States to take all the appropriate measures. The lack of specificity of the measures to be taken, compounds the Protocol's weaknesses.

This is quite different from the Helsinki Rules, the UN Convention and the Berlin Rules. The Helsinki Rules and the UN Convention are based on the doctrine of equitable and reasonable utilisation. Leestemaker, correctly, observes that in this respect, the Protocol contradicts the UN Convention which is more a combination of the sovereign right of states and territorial integrity of states.²⁴⁰ The EU bloc has also moved away from the traditional approach of giving prominence to doctrines of territorial sovereignty and integrity of States. Thus, unlike the Protocol, the Water Framework Directive does not mention territorial sovereignty at all. This is, however, not surprising if one considers the political integration taking place within the EU. The EU is working towards the

²⁴⁰ Leestemaker *op cit* n 17.

eradication of geopolitical and physical borders. This important fact is true of other EU treaties that form the backbone of its regional environmental framework such as the Berlin Rules.

The Berlin Rules are based on principles markedly different to those of the Protocol, Helsinki Rules and the UN Convention. The Berlin Rules for instance, place a duty on States to utilise shared water resources in a reasonable and equitable manner having due regard to the obligation not to cause significant harm to other basin states. The principle of equitable and reasonable utilisation under the Berlin Rules is subject to the obligation not to cause significant harm. Nevertheless, it is quite encouraging to note that the Protocol, although a lot needs to be done, attempts to reconcile the principle of State sovereignty with other environmental principles.

The Protocol requires Member States to participate in the use, development and protection of shared watercourses.²⁴¹ Participation includes both the right to utilise and a duty to cooperate in the protection and development of shared watercourses. The influence of the Helsinki Rules and the UN Convention is clearly seen in the duty imposed on each State Party to utilise a shared watercourse reasonably and in an equitable manner.²⁴² Article 8, although not a complete reproduction of article V of the Helsinki Rules, is substantially similar to the factors that should be considered in determining the extent of reasonableness and equitability. These are; (i) geographical, hydrographical, hydrological, climatical, ecological and other factors of a natural

²⁴¹ Article 7(a) and (b).

²⁴² Article 8(a).

character; (ii) the social, economic and environmental needs of the watercourse States concerned; (iii) the population dependent on the shared watercourse in each watercourse State; (iv) the effects of the use or uses of a shared watercourse in one watercourse State on other watercourse States; (v) existing and potential uses of the watercourse; (vi) conservation, protection, development and economy of use of the water resources of the shared watercourse and the costs of measures taken to that effect; and (vii) the availability of alternatives, of comparable value, to a particular planned or existing use.

As clearly shown by list above, these instruments are fairly comprehensive and the factors try to cover all important aspects. This is particularly so when one considers that the instruments do not place these factors in any hierarchy, thereby giving others more prominence at the expense of others. Further, this list takes into account the fact physical and socio economic conditions may not be similar across the region concerned.

5.2) Specific measures

The Protocol stipulates specific measures that Member States must adhere to. These include planned measures, provisions on environmental protection and preservation, management of shared watercourses and the prevention and mitigation of harmful conditions. These seem comprehensive at face value, but a closer look reveals that this is the area the Protocol is lagging behind most compared to its counterpart in the EU; the Water Framework Directive.

Article 4(2) of the Protocol requires States to protect and preserve the ecosystems of shared watercourses, and prevent, reduce and control pollution. Once again, the Protocol adopts a similar approach to that of the Helsinki Rules and the UN Convention in this regard. It simply requires Member States to take steps to harmonise their policies and legislation in this regard.²⁴³ It does not set out substantive standards that have to be adhered to or guidelines of what measures should be taken in full compliance of the obligations. Instead, in all these instruments, States are required to consult with a view to arriving at mutually agreeable measures and methods to comply with the obligations. These include setting joint water quality objectives and criteria, establishing techniques and practices to address pollution and establishing lists of substances whose introduction into shared watercourses is to be prohibited, limited, investigated or monitored.²⁴⁴ This is a great weakness as the gap between the principle and its application is huge. The lack of clear guidelines, duties and roles of the Member States, and timeframes within which this should be achieved further makes it difficult to evaluate or measure compliance among Member States.

The concept of negative listing of substances which the Protocol provides for²⁴⁵ is also not the best way to protect and prevent shared water courses from pollution. Instead of following the UN Convention on the negative listing approach, it would have been more desirable for the Protocol to adopt a positive listing approach as is the trend with other modern environmental conventions.²⁴⁶ Positive listing entails the listing of the substances

²⁴³ Article 3(2)(ii).

²⁴⁴ Article 3(2)(iii).

²⁴⁵ Article 3(2)(b)(iii)(cc).

²⁴⁶ A good example of such conventions is the 1996 Protocol to the London Convention, see note 98 above.

that may be discharged into the watercourses and prohibits the discharge of any other substance not listed unless if its effects or impact on the watercourse have been established. This approach accords well with the precautionary principle which the UN Convention prescribes and would be more beneficial to the region. The precautionary principle specifically prohibits damage to the environment due to lack of information or scientific uncertainty. As the situation in the regions stands, it is highly likely that there are more substances whose impact on water is unknown compared to the ones whose effects are known. As such, it would have been desirable to take precaution and adopt the positive listing principle.²⁴⁷

While the Protocol's approach in relation to setting specific standards is similar to that of the Helsinki Rules, the UN Convention and the Berlin Rules, it is completely different from that of the Water Framework Directive. Understandably, the three international instruments are general framework instruments which apply to various regions and it would be undesirable to set out specific standards. Instead, they simply set out some basic substantive and procedural aspects, leaving the details for the riparian states to complement in agreements that would take into consideration the specific characteristics of watercourses in question.²⁴⁸ This is so because the three instruments apply to different regions and watercourses may require different standards. Unlike these three instruments, the Protocol should thus have taken a similar approach to that of the Water Framework Directive as it applies watercourses in the same region.

²⁴⁷ See generally note 98 above.

²⁴⁸ Salman *op cit* n 61 at 632.

The Water Framework Directive is a framework instrument, but it goes a step further than the three (non-binding) instruments and the Protocol by actually setting the minimum standards to be adhered to by the EU Member States. It also sets out time frames within which these standards must be complied with. This approach is much more effective in maintaining uniform standards of water quality and quantity as it does not give Member States room to be complacent in negotiating such standards. The Protocol for instance is open to abuse depending on the geographic location and attitude of the States entering into a bilateral or multilateral instrument. An upper riparian State, in the absence of minimum standards, is more likely to advocate less stringent standards compared to a lower riparian State.

5.3) Implementation, Monitoring and Enforcement mechanisms

The Protocol and the other instruments discussed above, rely on Member States for their implementation. As a result, they all place obligations on Member States to implement their provisions. They also, with varying degrees of specificity, put in place certain enforcement and monitoring mechanisms to ensure effective implementation. The Helsinki Rules and the UN Convention do not explicitly contain implementation, enforcement and monitoring mechanisms. These mechanisms can only be filtered from other duties and procedures contained in these instruments. The Helsinki Rules for instance provide for the prevention and settlement of disputes and incorporate matters related to implementation in chapter 6. Article XXIX for instance lays out procedures that are related, and useful, to the implementation of the Rules. It requires states to exchange

information covering matters of drainage basins within their territories and activities in respect of such waters. Similarly, the UN Convention does not dedicate a single article or chapter to implementation and enforcement. It simply places State Parties under a duty to cooperate in various areas. Among these areas, are matters that are related to implementation of the convention such as the establishment of joint mechanisms or commissions and the regular exchange of data and information.

This absence of well defined implementation, enforcement and monitoring mechanisms is however understandable when one considers the wide application and generality of these instruments. The drafters had to take into consideration various disparities among regions, including socio-economic development and water needs, which make it difficult to set out certain minimum standards.

The Berlin Rules, though similar to the Helsinki Rules and the UN Convention in terms of their wide application, are different from the other two. They adopt a much more detailed approach and clearly set out implementation, enforcement and monitoring mechanisms. Chapter VI of the Berlin Rules provides a monitoring mechanism for the implementation of the rules. It requires State Parties to undertake continuous assessments and reviews of programs, projects or activities affecting shared watercourses. Chapter XI of the Berlin Rules also deals with implementation of the rules. It imposes a duty on State Parties to harmonise their laws and policies and establish basin wide or other joint management arrangements. It however does not go as far as setting out timeframes within which State Parties should comply with their obligations under the rules. As shall become

apparent below, the Protocol and the Water Framework Directive follow the same approach as that of the Berlin Rules. The Water Framework Directive, however, goes a little further and sets timeframes within which Member States must comply with their obligations.

The implementation of the Protocol is not directly left to Member States. The Protocol sets out a comprehensive framework for the establishment of a number of institutions that are tasked with its implementation. These are set out in article 5 and are classified as SADC Water Organs²⁴⁹ and Shared Watercourse Institutions. Their duties, scope and functions are also set out in this article, giving the Protocol a lot of potential in terms of implementation. This is a remarkable step taken by the SADC, bearing in mind that the main problem with the Protocol is lack of detail. Article 5 provides details on the institutions it establishes. However, the absence of timeframes within which these institutions and Member States must comply with their obligations is quite eye-catching. This is one of the areas that the Water Framework Directive far outweighs the Protocol in the area of shared watercourses management.

The Water Framework Directive is the leading instrument among the instruments looked at in this research substantively and procedurally in the management of shared watercourses management. It establishes various institutions for implementation, enforcement and monitoring, clearly sets out the duties and functions of these institutions, comprehensively spells out standards that Member States should meet as well as

²⁴⁹ These are the Committee of Water Ministers; the Committee of Water Senior Officials; the Water Sector Co-ordinating Unit; and the Water Resources Technical Committee and sub-Committees.

timeframes within which these standards and obligations should be met. In addition, it sets out obligatory reporting procedures for Member States and parties to any agreement(s) in relation to any river basin(s) within the EU. Article 15 requires Member States to submit copies of their river basin management plans and any updates to such plans to the Commission within three months of their publication.

Article 5 on the other hand places a duty on Member States to report to the Commission on river basin characteristics analyses within their territories, reviews of human activity impact on water status and economic analyses of water use. The analyses and reports should be compiled with following clearly set out procedures and standards set out in the annexes to the Water Framework Directive. In addition, Member States and the Commission are required to report on the implementation of the Water Framework Directive. Article 15(3) requires Member States to submit reports describing progress in the implementation of planned programmes and measures in complying with their duties under the Water Framework Directive. Article 18 requires the Commission to publish a report on the implementation of the Water Framework Directive by the year 2012. This is on of the areas that the Protocol is far outweighed by the Water Framework Directive.

A close look at the Protocol and the Water Framework Directive reveals that the implementation, enforcement and monitoring mechanisms of Water Framework Directive are far more advanced than those in the Protocol. The Protocol establishes a number of institutions that are important for its implementation, but fails to heavily equip these institutions with substantive duties and powers. The absence of timeframes for the

implementation of the Protocol by these institutions further weakens it. The Water Framework Directive on the contrary, addresses these issues in detail. It does not delegate too many functions and standards setting powers to the institutions. These are set from first instance and are contained in the Water Framework Directive.²⁵⁰

This chapter has provided a comparative analysis of the Protocol on the one hand, and the Helsinki Rules, UN Convention, Berlin Rules and the Water Framework Directive on the other in an attempt to show the areas in which the Protocol is still lagging behind. It has highlighted that the SADC watercourses management legal regime is less watertight. The Protocol, which is the main legally binding instrument on watercourses management in the region, is more of a compromise of the doctrine of territorial integrity and the sovereign right of States in utilising with water resources within their boundaries. It seems, for its efficacy, the treaty heavily depends on the goodwill of important riparian States that should take the lead in demonstrating sufficient political will to abide by the law and respect the needs of other riparian States. The fact that the Protocol is based on the traditionalist non-environmental principles makes it markedly different from the watercourses instruments of other regions, especially the EU. The EU has moved towards greater emphasis on cooperation, legally binding provisions, timelines for meeting certain targets and negative listing approaches to waste disposal that may be harmful to watercourses and water resources. These are benchmarks that are difficult to achieve for SADC as the current state of its water resources management law has too many gaps and inadequacies, leaving more room for further development.

²⁵⁰ These are set out in the annexes to the Water Framework Directive.

CHAPTER 6: CONCLUDING REMARKS AND RECOMMENDATIONS

This research has looked at the SADC Revised Protocol on Shared Watercourses (“the Protocol”) in relation to international and other regional instruments. It has investigated the state of regional watercourse regulation in the SADC region; provided a critical comparative analysis of the principles, implementation and enforcement of the Protocol, international instruments and the Water Framework Directive; explored the possibilities of improving the Protocol. It further provides suggestions for strengthening the Protocol substantively (principles) as well as its implementation, enforcement and monitoring.

The main comparison has, however, been drawn between SADC and the EU. This comparison has been conducted taking into consideration the climatic differences of the regions. The SADC region’s climate on the one hand is characterised by very distinct dry and wet seasons and years while such phenomenon is very much less pronounced in the EU.²⁴⁴ It is therefore not surprising that the EU is more concerned with flooding and water quality while the SADC, due to high levels of water stress, is primarily concerned with water quantity. However, notwithstanding these regional differences, there are certain fundamental principles of watercourse management that these regions cannot escape and have both adopted, albeit in varying degrees.

As van der Zaag and Savenije, correctly observe, there has been remarkable convergence between the SADC and the EU on the role given to river basin management as the unit of

²⁴⁴ P van der Zaag & H Savenije ‘The management of International Waters in EU and SADC compared’ (1999) 24 *Physics & Chemistry of the Earth* 579 at 579.

shared watercourses management. This is evidenced by the signing and adoption of a number of shared watercourses management instruments in the region. The First one was the 'Protocol on Shared Watercourse Systems' which was signed in 1995 and came into operation in 1998. It was later replaced by the 'Revised Protocol on Shared Watercourse Systems' ("the Revised Protocol") in September 2003. For the EU these include the UN/ECE 'Convention on the Protection and Use of Transboundary Watercourses and International Lakes', signed in March 1992, and the EU 'Framework for European Community Water Policy.' These were later consolidated into a single and more comprehensive instrument, the EU Water Framework Directive, 2000 ("the Water Framework Directive"). The Protocol and the Water Framework Directive have been looked at in detail in Chapter 3 and 4 of this research. The influence of international environmental law and watercourses law in the two regions is quite strong.

Chapter 2 has shown that the development of international law on shared watercourse law made an impact in 1966 when the Helsinki Rules on the Uses of the Waters of International Rivers were adopted. The Helsinki Rules introduced a number of principles that have remained important in the management of shared watercourses law. The much celebrated principle of reasonable and equitable utilisation of shared watercourses was formally introduced by the Helsinki Rules. This principle has been entrenched in shared watercourses law and a lot of treaties and conventions concluded after the adoption of the Helsinki Rules have incorporated the principle in one way or the other. The first convention specifically dedicated to the non-navigational uses of shared watercourses, the UN Convention on the Law of Non-navigational Uses of International

Watercourses (“the UN Convention”), specifically adopted the principle of reasonable and equitable use. It, however, differs with the Helsinki Rules in a number of areas such as the factors considered in determining reasonableness and equitability of use. Despite these minor differences, the Helsinki Rules and the UN Convention hold strongly on to the principle of reasonable and equitable use, a factor which distinguishes them from the Berlin Rules on Water Resources (“the Berlin Rules”).

The Berlin Rules, though non-binding and a framework instrument like the Helsinki Rules and the UN Convention, have taken shared watercourse law a step further. They have moved from reasonable and equitable use of shared watercourses to a much more responsible and sustainable approach. The Berlin Rules explicitly introduced an obligation not to cause harm and subjected reasonable and equitable use to this obligation. This has provided the much needed break through towards environmental and watercourses protection and preservation rather than the protection of state sovereignty or integrity. The Berlin Rules do not enjoy any legal standing or force, but are a combination of established and emerging principles that will continue to influence the development of shared watercourses customary international law.

On a regional scale the SADC and EU have made remarkable inroads in the area of shared watercourses law as shown in Chapter 3 and 4 above. The SADC region however still has a long way to go in this regard compared to the EU.

While the SADC and EU have both introduced integrated water resources management

("IWRM"), this has been done with varying degrees. The EU is leading in this respect with IWRM in the Rhine and Meuse river system and the Danube River clearly facilitated by high economic development, political will and comprehensive legally binding instruments such as the Water Framework Directive. The SADC has recognised the need for integration, but little has been done in this respect.

The Protocol remains heavily centred on state sovereignty and its emphasis of reasonable and equitable utilisation of shared watercourses in order to achieve optimal and sustainable utilisation as shown in Chapter 3. This position is unfortunate as it does not promote environmental and watercourse protection and preservation. The obligation to utilise water in an equitable and reasonable manner, to some extent, attempts to promote environmental and watercourse protection when one looks at the factors that are considered in determining equitability and reasonableness. This is however less effective compared to the Water Framework Directive which does not concern itself with state sovereignty completely. Perhaps the political integration has made it more favourable in the EU compared to SADC. The Protocol needs to address this issue with certainty.

The 'management' of water in a reasonable and equitable manner should be given supremacy instead of its 'use' in a reasonable and equitable manner. Emphasis should be on water management as this promotes a more eco-centric approach to the sharing of water in the region. This approach embraces interaction with water resources at all levels including water protection, preservation and use. It emphasises duties or obligations and responsibilities towards water resources and the environment as opposed to rights and

entitlements. At an international level, shared water management includes intergovernmental dialogue and addressing long term goals and objectives in relation to water resources.²⁴⁵ As a result, the general trend over the years has been a shift in the emphasis in shared water relations from use to management.²⁴⁶ The Water Framework Directive provides a good example of this shift from focusing on water use to water management. This has led to cooperation rather than conflict in sharing international watercourses.²⁴⁷ Management of water in a reasonable and equitable manner is thus much broader than concept of use or utilisation of water in a reasonable and equitable manner.

The concept of use of water in a reasonable and equitable manner is more utilitarian or anthropocentric compared to the above concept of water management in a reasonable and equitable manner. It is inclined towards the theory of state sovereignty and emphasises rights and entitlements, albeit with some qualifications. This approach is more likely to hinder cooperation amongst states in management of shared watercourses in the region. This is so because the concept encourages competition over shared waters, leaving little room for the promotion of common interests of the region. Thus, the Protocol should move towards emphasising water management rather than water use.

In addition, the Protocol should relegate the established and basic principle of international water law and place it at the same level with the obligation not to cause harm as the Berlin Rules have done. This will certainly resolve the issue of state sovereignty by placing attention on management of shared watercourses rather than their

²⁴⁵ UNESCO *op cit* n 224 at 377.

²⁴⁶ *Ibid.*

²⁴⁷ *Ibid.*

utilisation.

Chapter 5 has revealed that the Protocol also lacks detail and simply pays lip service to a lot of shared watercourses management principles. It, unlike the Water Framework Directive, does not elaborate on these principles. It does not clearly define the duties and roles of Member States. While the Water Framework Directive provides specific standards and guidelines to be adhered to by Member States, the Protocol does not do so. The Protocol places an obligation on Member States to harmonise their national laws and policies with its principles, but fails to set timeframes within which Member States should do so. Secondly, it does not set guidelines of standards the Member States should achieve. There is need to revise the Protocol in this respect and adopt a similar approach to that of the Water Framework Directive by setting out timeframes and the minimum standards that Member States should achieve. These guidelines and standards will have to take into consideration the region's economic and political development. They should be set with a view of a progressive realisation of the best available standards, rather than simply importing certain standards, which may not be compatible with SADC, from other regions.

In a nutshell, this research has shown that water resources are unequally and unevenly distributed across the globe and abundance of water is also affected by political factors, mismanagement and climatic variations. This is further aggravated by demands between various uses, urban against rural, present against the future demands of competing

regions, water quality against water concerns and other socio-economic priorities.²⁴⁸ The challenges of water scarcity and the management of shared watercourses continue to intensify notwithstanding efforts to effectively manage and sustainably utilize such watercourses, in the SADC region as well as the rest of the world. As the problem of water scarcity continues to escalate, the comprehensiveness of water planning and sharing has been subject of a lot of controversy and debate.²⁴⁹ It is increasingly becoming clear that a more systematic analysis of the broader environment is needed to maximize the benefits from any water resources project.²⁵⁰ While there have been a lot of efforts in the broadening of traditional management approaches in the SADC region, such efforts need to be complemented by laws and decision making processes that consider various water uses and water users.

Thus, as UNESCO proposes, an effective framework for sharing water should take certain factors into account.²⁵¹ These factors include natural conditions, a variety of uses, various sources of supply, upstream or downstream considerations and the socio-demographic conditions in which watercourses occur. This is particularly true when one takes into account natural rivers' non-adherence to political boundaries. This compounds the difficulties of joint planning, allocation of costs and benefits, advantages of scale and other integrated waste management issues. The impact and implementation of decisions is difficult to evaluate especially when these are measured in long periods of time such as

²⁴⁸ UNESCO *op cit* n 224 at 377.

²⁴⁹ UNESCO *op cit* n 224 at 373.

²⁵⁰ *Ibid.*

²⁵¹ *Ibid.*

decades.²⁵² Abstract laws and policies will not assist the region in fighting its water wars. Therefore there is a need to clearly set out short term goals and timeframes for the progressive realisation of strong and effective shared watercourses law in the SADC. Such laws must strive to incorporate the current and emerging principles in shared watercourses management.

The emerging water sharing paradigm in the SADC should attempt to bring together a multiplicity of ‘concerns with cross-cutting sustainability criteria, such as social equity, economic efficiency and environmental integrity.’²⁵³ It should be looked at in the context of the existing shared watercourses instruments. There are more than 3 800 unilateral, bilateral or multilateral declarations or conventions on water, 286 are treaties, 61 of which refer to over 200 international basins.²⁵⁴ These treaties or conventions are increasingly becoming viable instruments in the utilisation and management of shared watercourses. Efforts are being channelled towards reforming these to meet the changing concerns around shared watercourses.

The beginning of the 21st century, for instance, has seen the introduction of risk assessment and other proactive strategies *in lieu* of the renowned reactive approaches.²⁵⁵ The socio-economic transformation, social political upheavals and transitions underscoring the need for greater emphasis on environmental challenges, characteristic of the 1980s and 1990s, have moved from a search for sustainable development to much

²⁵² UNESCO *op cit* n 224 at 373.

²⁵³ Ibid.

²⁵⁴ www.unesco.org/water/wwap/pccpl (accessed 26/12/09)

²⁵⁵ UNESCO *op cit* n 224 at 376.

more combined ‘structural and non-structural solutions to persistent water resources problems and transitional interdependencies.’²⁵⁶

Shared watercourses are a responsibility of all and water should rightly be treated as a catalyst for cooperation rather than conflict.²⁵⁷ The emerging shared watercourses paradigm must employ reasonable and equitable management of water in making cooperative efforts more effective. Cooperation is an essential mechanism for managing natural resources by addressing the underlying historical, economic and cultural causes of water stressed economies. Thus, the emerging paradigm has moved towards emphasizing integrated water management, the duty to cooperate, equitable utilization, sustainable water use minimization of harm and public participation.²⁵⁸ These are however not effective unless properly complemented by comprehensive legally binding principles that clearly set out duties and rights of those states sharing watercourses and set standards for utilization and preservation of the watercourses. The SADC should therefore direct efforts towards setting up a Protocol that is comprehensive, promotes environmental protection, and sustainable utilisation and management of its shared watercourses. The Water Framework Directive is a good example in this respect.

Water basins should be managed as a single unit rather than a series of tributaries forming parts of a larger basin. Emphasis should therefore be placed on interstate approaches which address competing and conflicting uses of water among states in a shared watercourse basin. Shared watercourses management should be based on legally

²⁵⁶ Ibid.

²⁵⁷ Ibid.

²⁵⁸ UNESCO *op cit* n 224 at 376 – 377.

binding principles that promote intergovernmental exchange of ideas and deal with long-term purposes. States should thus be requested to employ the concept of subsidiarity or relegation of responsibility to the lowest level of governance and decision making.²⁵⁹

Progress in shared watercourses management will require a strong 'institutional order of cooperation, comprehensive management principles and sharing of experiences gained through practices of ecosystem principles of water' resource.²⁶⁰ The UN Convention and the Helsinki Rules have set the pace by adopting principles of limited territorial sovereignty alongside equitable and reasonable utilization. In addition to these, the SADC bloc faces an urgent need to recognize the difficulties associated with legalistic approaches that tend to emphasise utilisation rather than management especially when there is no agreed upon river regime.²⁶¹

²⁵⁹ UNESCO *op cit* n 224 at 377.

²⁶⁰ Vlachos, E 'Practicing Hydrodiplomacy in the 21st Century'
http://www.ucowr.siu.edu/updates/pdf/V111_A11.pdf (accessed 31/12/09)

²⁶¹ *ibid*

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