

**The Efficiency of the Legal Environmental
Protection Measures of the Lesotho Highlands
Water Project**

by

Sechaba Lionel Mohapi

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Supervisor: Dr. Ilze Keevy

Co-supervisor: Prof. Loot Pretorius

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Key words

- Lesotho Highland Water Project
- Environmental protection
- Sustainable development
- Environmental justice
- Environmental Impact Assessments
- Instream Flow Requirements
- Cost benefits analysis
- International watercourses
- Equitable utilization
- Human security

Abbreviations

amsl	above mean sea-level
ANC	African National Congress
AU	African Union
AWIRU	African Water Issues Research Unit
CBA	Cost Benefit Analysis
DDP	Dams and Development Project (UNEP)
DEAT	Department of Environmental Affairs and Tourism
DTN	Delivery Tunnel North
DWAF	Department of Water Affairs and Forestry
EDF	European Development Fund (EU)
EFA	Environmental Flow Assessments (<i>cf.</i> EFR)
ESSG	Environmental and Social Services Group (LHDA)
EFR	Environmental Flow Requirements (<i>cf.</i> IFR)
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EU	European Union
FLN	Front-Line Nations
GA	General Assembly (UN)
GDP	Gross Domestic Product
GoL	Government of Lesotho
IBRD	International Bank for Reconstruction and Development (World Bank)
IBWT	Inter-Basin Water Transfer
ICJ	International Court of Justice
ICOLD	International Commission on Large Dams
IEM	Integrated Environmental Management
IFR	Instream Flow Requirements
IHP	International Hydrological Programme (UNESCO)
ILM	International Legal Material
IPCC	Intergovernmental Panel on Climate Change (UNEP)
IUCN	International Union for Conservation of Nature
JPTC	Joint Permanent Technical Commission
JTC	Joint Technical Committee
km	kilometre
KoL	Kingdom of Lesotho
LHDA	Lesotho Highlands Development Authority
LHWC	Lesotho Highlands Water Commission
LHWP	Lesotho Highlands Water Project
M	Maluti (Lesotho currency unit)
m ³ /s	cubic meters per second
MAR	Mean Annual Rainfall
MEA	Multilateral Environmental Agreement
MEC	Member of Executive Council (RSA)
MDGs	Millennium Development Goals
mm	millimetres
MW	Mega Watts (1 million watts)

NEAP	National Environmental Action Plan (Lesotho)
NEMA	National Environmental Management Act
NEP	National Environmental Policy (Lesotho)
NEPA	National Environmental Policy Act (USA)
NEPAD	National Economic Partnerships on Development
NES	National Environment Secretariat (Lesotho)
NGO	Non-Governmental Organisations
OAU	Organisation of African Unity
ORASECOM	Orange-Senqu Commission
OVTS	Orange-Vaal Transfer Scheme
PELJ	Potchefstroom Electronic Law Journal
PAC	Pan African Congress
PMU	Project Management Unit (LHDA)
RIS	Reservoir Induced Seismicity
RSA	Republic of South Africa
SACU	Southern African Customs Union
SADC	Southern African Development Community
SADCC	Southern African Development Coordination Conference
SADF	South African Defence Force
SAJELP	South African Journal of Environmental Law and Policy
STIs	Sexually Transmitted infections
TCTA	Trans-Caledon Tunnel Authority
TRC	Transformation Resource Centre (Lesotho NGO)
TWC	Transboundary watercourse
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
U.S.	United States of America
WCED	World Commission on Environment and Development
WCD	World Commission on Dams
WSSU	Water Sector Support Unit (SADC)

Chapter 1

1. Introduction to the study

1.1. Introduction

Throughout the ages, mankind has for economic and other reasons, constantly interfered with nature. In the past, this was often done without consideration of the effect upon the environment. Owing to new scientific insights and growing awareness of the risk for mankind – for present and future generations – of pursuit of such interventions at an unconsidered and unabated pace, new norms and standards have been developed, set forth in a great number of instruments during the last two decades. Such new norms have to be taken into consideration, and such new standards given proper weight, not only when states contemplate new activities, but when continuing with activities begun in the past. This need to reconcile economic development with protection of the environment is aptly expressed in the concept of sustainable development.¹

As a point of departure, the above dictum by Justice Weeramantry, the then Vice-President of the International Court of Justice, concisely and pertinently articulates the foundational outlook of this dissertation, with particular regard to the bi-national Lesotho Highlands Water Transfer Scheme, widely known as the Lesotho Highlands Water Project and simply referred to as the ‘LHWP’ or ‘the Project’ hereinafter. The main focus of this study is more particularly on evaluating the *legal environmental protection* measures² or the *legal environmental protection regime* of the LHWP.

The LHWP is an enormous bi-national, multi-dam water transfer project between the Republic of South Africa (RSA) and the Kingdom of Lesotho (KoL). The project

¹ Dictum by the then Vice-President of the International Court of Justice (ICJ), Justice Weeramantry in his Separate Opinion in the international *Case concerning the construction of the Gabčíkovo-Nagymaros Project* (Hungary/Slovakia) (1998) 37 *ILM* 162. See also in Glazewski, *Environmental Law in South Africa* (2013) at p. 1-16. One of the issues before the ICJ was essentially whether the termination of the treaty between the two states on the grounds of necessity could be based on ecological necessity. The Court rejected such proposition by affirming that a treaty could be adapted to new norms of environmental law which had developed after the completion of the treaty through the principle of sustainable development. By so holding, the Court affirmed the important principle of contemporaneity (which principle postulates that treaties are not static and that they must be implemented and developed in accordance with the contemporary law), and that such principle also finds expression in the concept of sustainable development. The Court also affirmed that the need to protect the environment through sustainable development has made inroads to the need for economic development. See in this regard Strydom and King, *Environmental Management in South Africa* 2nd ed (2009) at p. 138.

² The term “measures” is used in its limited legal sense to encompass only LHWP-specific forms of regulative and enforcement measures, which entail laws, regulations, policies, environmental principles, environmental impact assessments and implementation and monitoring institutions and structures in as far as they are of particular legal significance.

is one of the biggest inter-basin water transfer (IBWT) schemes in the world, and it is most certainly the biggest on the African continent.³ It comprises of a complex system of river catchments, also known as reservoirs, which are inter-connected by delivery tunnels, all of which are augmented to supply water initially aimed at transferring up to 70 m³/s (cubic meters of water per second)⁴ from the Senqu/Orange River basin in the highlands of the mountain Kingdom of Lesotho, into the Vaal River basin or rather sub-basin situated in the industrial hub of Lesotho's land-locking neighbour, the RSA in the latter country's Gauteng province.⁵ The Project further has a hydroelectric power component which generates electricity for the KoL⁶ during the gravity-assisted water transfer process downstream from the high altitude highlands of Lesotho to the lower altitude RSA.⁷

The LHWP was initially envisaged to be implemented in four phases when it was first planned, with only one of such phases being mandatory in terms of the LHWP Treaty.⁸ The subsequent planned Phases II to IV of the Project were subjected to further negotiations and ensuing feasibility studies between the two state-parties.⁹

³ See "A Brief History of Africa's Largest Water Project" (January 2005), International Rivers website "Africa's biggest water project" (17 March 2004), *SouthAfrica.info* website, Infrastructure link: <http://www.southafrica.info/business/economy/infrastructure/sa-lesothowaterproject.htm>.

⁴ The quantity of 70 m³/s of water is estimated to be about 40% of the water yield of the Senqu/Orange River basin particularly contributed by Lesotho to the formation of the Senqu/Orange River system. See Duc and Carrasco, "Success and failure in international river management: Case Study: Lesotho Highlands Water Project" in Bernauer *et al* (eds), *The Science and Politics of Large Dam Projects* (2007), p. 2. See also Chapter 3, sub-heading 3.4.2. on the Orange River basin setting.

⁵ See Article 1(1) definition of "Project" and Article 4(1) "Purpose of the Project" in the bilateral *Treaty on the Lesotho Highlands Water Project between the Government of the Kingdom of Lesotho and the Government of the Republic of South Africa of 1986* (24 October 1986), FAO (Food and Agriculture Organisation of the UN) website, Archives and Documents: <http://www.fao.org/docrep/W7414B/w7414b0w.htm> (Visited 14 September 2007). FAO has systematically archived over 2000 bilateral and multilateral agreements regarding international water resources. See Experts Group on Environmental Law of the World Commission on Environment and Development, *Environmental Protection and Sustainable Development* (1986), p. 463.

⁶ Article 4(1) LHWP Treaty.

⁷ The sub-basin extends above 2,000 metres above mean sea-level (amsl) at the eastern periphery, descending to lower elevations westerly towards the Orange River. See Orange-Senqu River Awareness Kit website on the Vaal Sub-Basin link at <http://www.orangesenqurak.org>. See also Chapter 3 on the cost-benefit of the LHWP as result of making use of gravity to transfer the water as opposed to the necessity of pumping water in respect of the OVTS.

⁸ See Article 6(1) of the LHWP Treaty, in terms of which Phase 1 consisting of sub-phases 1A (construction of a concave concrete walled Katse dam), and sub-phase 1B (construction of a rock-fill walled Mohale dam) are mandatory, while the rest of the successive phases are subject to the further consent and negotiations of the parties. See DWAF website at following link: <http://www.dwa.gov.za> (Visited 31 December 2009). See also the LHWP website at the following link <http://www.lhda.org.ls/overview/concept.htm> (Visited 31 December 2009).

⁹ See Annexure 1 of the LHWP Treaty, and in Articles 5(1) and 6(1) of the LHWP Treaty, the drafters of the treaty had the foresight and ingenuity of making the said provisions relating to the implementation of the subsequent planned

Even from its very planning stages, the envisaged LHWP phases were already anticipated to cause vast impacts on the affected natural environment, particularly in Lesotho where the project sites are predominantly situated.¹⁰ The Project was moreover also anticipated to have immense impacts upon the immediately affected rural communities of Lesotho because of the inevitable displacement of communities and the necessity for mass resettlements of such communities as a direct result of the massive Project developments. The LHWP Treaty therefore incorporated two separate articles that give due regard to the protection of the environment at all stages of the Project development, including in future developments¹¹, namely the implementation stage, the operational stage, and maintenance stage of the Project.

However, despite environmental protection having been one of the fundamental and explicit terms and conditions under which the implementation, operation and maintenance of the Project were to be undertaken from the very commencement of the project in terms of Articles 15 and 7(18) of the LHWP Treaty¹²; it is noteworthy that when the LHWP was first proposed and planned, it was at a time when there was little consideration for downstream impacts of dams on their affected rivers' ecosystems and on the riparian communities as correctly pointed out by Mochebelele *et al.*¹³ As a result, the initial planning and environmental cost forecasting for the LHWP, which included a detailed Environmental Impact

Project phases to be the pragmatic by subjecting them to further negotiations and by making provision to enable the state-parties to modify, by agreement, further developments of the Project through further protocols to the LHWP Treaty. While the initial binding condition of the Project's implementation was the implementation of Phase 1A and B, and the delivery of a minimum of 70 cubic meters of water per second for Phase 1.

¹⁰ Lesotho's *National Environmental Action Plan* (1989), sub-heading 6.8. "Water Management", where it is stated that the LHWP will have "major environmental impacts", accessed on the Department of Environment website, formerly the National Environmental Secretariat (NES) at: <http://www.environment.govls> (Visited 22 May 2011).

¹¹ Article 15 and Article 7(18) of the LHWP Treaty obliges the state-parties and the LHDA respectively to ensure that environmental and social welfare considerations are espoused into the Project from the beginning.

¹² In terms of Article 15 of the LHWP Treaty, the State Parties agreed to take all reasonable measures to ensure that the implementation, operation and maintenance of the Project are compatible with the protection of the existing quality of the environment; while in terms of Article 7(18) the LHWP Treaty enjoins the LHDA to effect all measures to ensure that the local communities affected by the Project in Lesotho are compensated and that their living standards are not affected by the project-related disturbances.

¹³ Mochebelele, *et al*, Submission to the World Commission on Dams: *Leading Edge Approach to Instream Flow Requirements for the Lesotho Highlands Water Project* (2000). See World Commission on Dams website, Articles link accessed at: <http://www.dams.org/docs/kbase/submissions/env196.pdf> (Visited 12 February 2009).

Assessment (EIA) for sub-Phase 1A, was undertaken with little regard for compensating the affected rivers' downstream flow requirements.¹⁴ The LHWP therefore substantially lacked a rigorous assessment of the downstream impacts of the Project dams on the ecological needs of the affected rivers' ecosystems and of the dams' impacts on the affected riparians.¹⁵ This was because the concept of ensuring sufficient downstream flows, called Instream Flow Requirements (IFRs), was itself a relatively new concept in environmental sciences and in the development of large-scale dams such as those of the LHWP.

Nevertheless, and albeit relatively late in the Project timeline, in October 1997 the LHDA began an IFR study as part of conducting the EIA for sub-phase 1B.¹⁶ The overall objective of the IFR study was to determine the IFR of the Project's affected rivers, and ever since the study was conducted, significant progress has been made to ensure that the downstream environmental impacts of the Phase 1 dams meet sensible ecological downstream requirements and that the natural integrity of the affected rivers is preserved.¹⁷ The EIA study for sub-Phase 1B also explicitly committed that second part of Phase 1 to a long term extensive IFR study¹⁸ and monitoring program to assess the efficacy of the IFR measures in Phase 1.

If any lessons can, therefore, be learned particularly from the above-mentioned

¹⁴ Ibid. See also Art. 6(9) of the LWHP Treaty, which provides that "Lesotho shall ensure *minimum* rates of flow are maintained to the natural river channel downstream..". Furthermore, the compensation flows were developed on the basis of maximising the water transfer yield of the scheme and with the least regard for the downstream impact on the environment.

¹⁵ The word *riparian* is defined in the *South African Concise Oxford Dictionary* (2002) as 'of, relating to, or situated on the banks of a river'.

¹⁶ Mochebelele, *et al*, (2000), at p. 2.

¹⁷ Ibid. Part of what the LHWP IFR studies achieved is the LHWP IFR Policy and Procedures to which has been attributed the necessity for the Low Level Outlet gates (LLOs) at the Katse dam to be fully opened to release floodwater as a periodical practice during summer months, where a certain magnitude of a flood for IFR requirements is released in accordance with the forecasted Hydrological Year Class based on what would naturally happen even before the LHWP development. The biggest floods that could be released as specified in the IFR Policy and Procedures range between 71 and 142 m³/s. See in this regard LHDA, *November 2006 Flood Downstream of the Katse Dam Structure* (2008), p. 3.

¹⁸ The main objective of the LHDA IFR study was to assess the negative impacts of the flows of rivers downstream the LHWP dams on the affected riverine ecology. The study was also aimed at determining compensation required for lost ecological and socio-economic values and to determine mitigation measures required. See LHDA, *Inception Report for Consulting Services for the Establishment and Monitoring of the Instream Flow Requirements for River Courses Downstream of LHWP Dams*, Report No 648-01, (December 1997).

significant development of IFRs as part of necessary measures to be undertaken for ensuring environmental protection within the LHWP, they are: that environmental protection in the LHWP is a cutting-edge, dynamic and continuing process which requires constant vigilance and foresight on the part of the LHWP decision-makers on environmental matters.¹⁹ This is further in line with Justice Weeramantry's assertion that "in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of damage to the environment".²⁰ Moreover, the sheer size of the LHWP itself makes it necessary to constantly review and modify its legal environmental protection measures in order to keep them abreast with environmental science developments and international environmental standards,²¹ since, as it has correctly been asserted by Dennill, 'monitoring the project is something of an industry in itself'.²²

In addition to the abovementioned, the important role of a "water lawyer" particularly in water transfer schemes such as the LHWP is correctly highlight in the following terms by Wouters:

Devising effective plans to meet the impending water crisis requires more than better science. Substantive issues on the ground, such as conflicts of uses between upstream and downstream users (especially in the case of water scarcity), need to be anticipated and addressed by a team of informed experts. An integral part of this team is the *water lawyer*, whose role it is to apply his or her expertise, in concert with other water specialists, in response to particular problems relevant to the project being considered. It is for the water lawyer to assess and evaluate the existing legal framework within which the development is to take place and to identify whether or not revisions to that framework prove necessary. These processes must not occur in isolation, but should be informed and assisted by the entire spectrum of water experts.²³

¹⁹ The Constitutional Court of South Africa correctly held that environmental concerns do not commence and end once the proposed development is approved, but that they were instead a continuing concern, and that the existing environmental legislation imposes a continuing and evolving obligation to ensure the sustainability of the development, in *Fuel Retailers Association of SA (Pty) Ltd v Director-General Environmental Management, Department of Agriculture, Conservation and Environment Mpumalanga Province and Others* 2007 (6) SA 4 (CC) at para 78. See also the *Gabčikovo-Nagymaros Project* case supra (n 1), at p. 78. The project authorities of the LHWP would be well advised to adopt this same kind of approach set out in the above-mentioned two judgements in the LHWP.

²⁰ See the *Gabčikovo-Nagymaros Project* case (1998) supra (n 1), at p. 78.

²¹ Sunkin, *et al*, assert that "those studying environmental law will quickly discover that this area of law is developing extremely rapidly. Lawyers must keep on their toes and must be aware of where the law is to be found at any given time". See Sunkin, *et al*, *Sourcebook on Environmental Law* (1998) at p. 1.

²² See Dennill, *Lesotho Highlands Water Project: Partners for Life* (2001) at p. 30, "Checks and Balances".

²³ Wouters, "The Relevance and Role of Water Law in the Sustainable Development of Freshwater – From "Hydrosovereignty" to "Hydrosolidarity" in *Water International*, Vol. 25, number 2, pp. 202-207 (2000), p. 205.

1.2. Focus of the study

The primary focus of this dissertation is to explore and evaluate the efficiency of the *legal environmental protection* measures²⁴ or the *legal environmental protection regime* of the LHWP, and to appraise the posture of such measures against the current international norms and standards of environmental law, set out in numerous international instruments²⁵, as well as in several applicable domestic laws²⁶, and against the important concept of sustainable development as legitimate benchmarks for a project of the LHWP's stature.²⁷ Put differently, this dissertation seeks to evaluate the success of the LHWP role-players, particularly the two state-parties to the bilateral LHWP Treaty, in keeping their Article 15 and Article 7(18) obligations.²⁸

²⁴ The term "measures" is used in its broadest legal sense to encompass all forms of regulative and enforcement measures, and shall therefore include laws, regulations, policies, environmental impact assessments, environmental principles and implementing and monitoring institutions and structures in as far as they are of particular legal significance. The *South African Concise Oxford Dictionary* (2002) defines *measure* as "a means of achieving a purpose: e.g. *cost-cutting measures* or a *legislative bill*."

²⁵ There are countless environmental treaties and declarations seeking to protect the environment which have either been signed or ratified by both state-parties to the LHWP. The most important for purposes of this study of which are the following: the *Stockholm Declaration of the UN Conference on the Human Environment* (1972) 11 *ILM* 1416, the *Rio Declaration on Environment and Development* (1992) 31 *ILM* 874, the *Convention on Biological Diversity* (1992), accessed at <http://www.cbd.int/doc/legal/cbd-en.pdf>, *Johannesburg Declaration on Sustainable Development* (2002) 2002 *Annual Survey* 149, and many other conventions that protect second-generation and more particularly third-generation rights relating to the right to a clean environment, under international human rights.

²⁶ Art. 6(13) stipulates that "Each Party shall enact appropriate legislation to enable it to give effect to the terms of [the] Treaty and shall ensure that all such legislation be enacted in time to allow for the effective implementation, operation and maintenance of the Project." In as far as legislation that advances the environmental protection objectives of Art. 15 and 7(18) are concerned, a brief examination of the legislation regarding the environment in both State-Parties is necessary, especially in Lesotho as its environment and communities are the most affected.

²⁷ The LHWP has world-class stature because of the magnitude of its implementation and development, and as well as the international institution involvement in its funding and monitoring. The Project has been funded by the influential World Bank (IBRD) which regularly sends its supervision mission to monitor the implementation of the project, and it has further been funded by the European Investment Bank (EIB) for the building of the 'Muela waterpower plant in Phase 1B; and the EIB monitors progress on the project through the European Union representative in Lesotho and also through supervision missions. The project infrastructure in the form of roads, bridges, telecommunications, power-lines and other necessary infrastructure for the project has also been funded by the Development Bank of Southern Africa (DBSA). See Dennill (2001) at p. 30.

²⁸ The general principle of international law *pacta sunt servanda* requires that state-parties to treaties undertake their treaty-obligations with good faith, and this principle has further been codified in Article 26 of the Vienna Convention on the Law of Treaties. This principle of good faith further obliges the parties to apply the treaty in a reasonable manner such as will ensure that the treaty purposes are realized, or that the treaty ends are not defeated. See in this regard the Vienna Convention on the Law of Treaties (1969) 8 *ILM* 689, which came into force on 27 January 1980.

The dissertation also seeks to further evaluate the Project's compliance with the 'new' international environmental 'norms and standards,' which are "aptly expressed in the concept of sustainable development".²⁹

Environmental protection, which is the central premise of this dissertation, constitutes an integral part of the crucial environmental law principle of sustainable development.³⁰ And since the latter concept is arguably the cornerstone of contemporary environmental issues globally, it is certainly one of the 'new norms and standards that have to be taken into consideration not only when states³¹ contemplate new activities, but when they continue with activities begun in the past', as postulated by Justice Weeramantry in the opening dictum of this work. Environmental protection is therefore discussed within the wide and broad encompassing concept of sustainable development.

The pressing need to protect the earth's natural environment has gradually moved to policy-making and jurisprudential centre stage, internationally, over the past years.³² This has especially occurred during the development of 'modern

²⁹ See opening dictum by Justice Weeramantry in the ICJ *Gabčíkovo-Nagymaros Project case* (1998), supra (n1).

³⁰ See Principle 4 of the Rio Declaration on Environment and Development (1992) 31 *ILM* 875, which states the following: 'In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.' See also Glazewski (2005), at p. 13, where it is stated that sustainable development, in essence, attempts to integrate three facets, which are: environmental protection, economic development and social upliftment, which are also referred to as the "pillars of sustainable development into decision-making".

³¹ The bi-national LHWP is a mutual benefit water transfer scheme between two states, i.e. the Kingdom of Lesotho and the Republic of South Africa wherein the respective governments of the states have entrusted the implementation, operation and maintenance of the Project, in terms of the LHWP Treaty (1986), to their respective treaty-created para-statal bodies known as the Project-Authorities. Such Project Authorities undertake the Project works in their respective national territories. They are the Lesotho Highlands Development Authority (LHDA) in Lesotho, and the Trans-Caledon Tunnel Authority (TCTA) in the RSA. See Articles 6(4), 6(5), 6(10), 7(1) and 8(1) of the LHWP Treaty (1986).

³² See Kidd, *Environmental Law: A South African Guide* (1997) at p. 1. In the opening paragraph of the work, the author notes that environmental issues, in the early twenty-first century, dominate political agendas and that, international efforts are being made to address global environmental problems such as global warming and the extinction of species. It has been further noted by Robinson that environmental law is rapidly growing through multilateral environmental agreements and new national statutory regimes in practically every nation, and that as a result, there is a substantial body of recent legal experience that assesses the alternatives taken by other nations to address comparable environmental or developmental issues. See Robinson, "Comparative Environmental Law Perspectives on Legal Regimes for Sustainable Development" (1998) in *Pace University Law Faculty Publications*. Paper 377, accessed at <http://digitalcommons.pace.edu/lawfaculty/377> (Visited 31 November 2011), p. 249. See also Kidd, "Greening the Judiciary" *PER* 2006 (3). It is also quite noteworthy that three relatively recent Nobel Peace laureates (which is one of the most prestigious international awards), former U.S. presidential candidate for the Democrats Al Gore, jointly with the Intergovernmental Panel on Climate Change (IPCC) and the late Kenyan politician Wangari Maathai received their

environmental law'³³ with origins in the early 1970s. Such developments of modern environmental law have mostly been attributed to the adoption of the 1972 Stockholm Declaration³⁴, which for the first time, fostered 'international concern for environmental degradation on a global scale'³⁵, and in the subsequent more recent years, there has been a significant proliferation of international instruments on environmental protection and sustainable development.³⁶ However, most of such important modern environmental law developments ensued long after the commencement of the LHWP.

The LHWP is therefore a particularly pertinent case-study for the following reasons:

1. The Project's conceivable broad impacts on the environment, where a huge number of indigenous people of Lesotho have been and are expected to be affected;
2. The Project's bi-national nature, whereby two sovereign states through economic cooperation are engaged in the water transfer scheme for mutual benefit within the context of an international watercourse that is shared between two other SADC states. Also within the context of a global "looming water crisis"³⁷ caused by the growing scarcity of fresh water resources which

prizes in 2004 and 2007 respectively, due to their remarkable contributions to promoting environmental awareness on the key environmental issues of the day. See Nobel Prize website, Laureates link http://nobelprize.org/nobel_prizes/peace/laureates/ (Visited 13 March 2009).

³³ Kidd (1997) *supra* (n 25) at p. 11, provides a brief summary of the "History of Environmental Law".

³⁴ Stockholm Declaration on the Human Environment (1972) 11 *ILM* 1416. See Sunkin (1998) at p. 36.

³⁵ See Sunkin (1998) at p. 36. Sunkin does, however, point out that prior to that, 'there had been bilateral, regional and even global instruments agreed [upon] between states addressing specific environmental problems.'; Kidd on the other hand asserts that 'although there was significant legislative activity in the environmental sphere prior to the 1970s', such activity can best be described as piecemeal and it has been characterized by addressing environmental problems on an *ad hoc* basis. See Kidd (1997), at p. 11-12. Guruswamy and Doran also submit that 'up to about the time of the Stockholm Conference, international environmental problems had been dealt with in a sporadic and *ad hoc* manner resulting in few significant treaties. The authors further submit that such treaties were isolated events which did not constitute a recognizable *corpus* of international environmental law.' See Guruswamy and Doran, *International Law in a Nutshell* 3rd ed (2007) at p.34.

³⁶ Dixon and McCorquodale, *Cases and Materials on International Law* 4th ed (2003) at p. 455. The learned authors note that 'increasing environmental degradation and awareness that environmental issues are not contained within State borders have been major factors behind the development of international environmental law.'

³⁷ The phrase "looming water crisis" is borrowed from the Prologue of Cosgrove, *Water Security and Peace: A Synthesis of Studies Prepared under the PCCP-Water for Peace Process* (2003), p. 1. Accessed on the Waterwiki website at

threatens international peace and security between states, but it also threatens human security;

3. The multiple phases of the Project's implementation which span over decades, over which more scientific insight and awareness are being gained on environmental issues, which awareness and insight, must therefore inform the further implementation and maintenance of the Project;
4. Finally, the LHWP is a particularly pertinent case study because on 11 August 2011 the RSA and KoL signed the Agreement for the implementation of Phase 2 of the LHWP after the conclusion of detailed feasibility studies for the second phase of the Project.³⁸ Phase 2³⁹ was approved by the South African cabinet after extensive negotiations between the state-parties on the phase.⁴⁰ The development of the phase is estimated to cost of up to R 7,3 billion⁴¹, and for which comprehensive Phase 2 feasibility studies began in February 2004 are now complete.⁴² Actual construction works began

http://waterwiki.net/images/e/e8/W.Cosgrove_Water_security_and_peace_synthesis_2003.pdf (Visited 20 November 2011).

³⁸ Lesotho Ministry of Trade and Industry, Cooperatives and Marketing, *Lesotho Review: An overview of the Kingdom of Lesotho's economy 2013 Edition* (2013), p. 68.

³⁹ Initially Phase 2 of the LHWP was planned in 1986 to see the construction of a second Delivery Tunnel from Katse Dam to the Ash River Outfall, as well as the construction of the Mashai Dam with a storage capacity of 3,306 million cubic meters. See LHWP website, Conceptual Overview link: <http://www.lhwp.org.ls/overview/concept.htm> (Visited 5 September 2007). However, after the most recent LHWP Phase 2 Feasibility Studies which commenced in October 2005 and were completed in May 2008, the more energy efficient and cost effective option of constructing the Mokhotlong-based Polihali Dam was approved, as water will flow through a tunnel from there into the Katse Dam reservoir, instead of the downstream Mashai Dam option, which would require water from Mashai to be pumped into Katse Dam. See LHWP website, <http://www.lhwp.org.ls/news/Archive2006/Phase2Feasibility.htm> (Visited 29 April 2009). See also Khathibe, *Lesotho Highlands Water Project* (2009), an unpublished paper presented at the International Forum on Integrated Water Management on 3 June 2009 at Quebec, Canada, p. 1. The approval and adoption of the more cost-effective option of Polihali Dam will involve the construction of a 165 meter high dam wall, and the reservoir will have the catchment capacity of 2,2 billion cubic meters and it will increase the existing hydro-electric power capacity of the Project. See Engineering News, "Water project to stimulate economic growth" (Southern Africa Projects & Trade) 5-11 June 2009, p. 56.

⁴⁰ Ibid. See also Business Report, "Lesotho Water Scheme Extension gets nod" (*Sunday Tribune*) Sunday, 7 December 2008, p. 1.

⁴¹ Ibid.

⁴² See *Lesotho Budget Speech to Parliament for the 2009/2010 Fiscal Year*, at para 48, p. 13. See also in this regard LHDA, *Lesotho Highlands Water Project*, Vol. 1, Issue 1 (2004), p. 2, accessed at <http://www.lhda.org.ls/Reports/PDF/LHWP%20Further%20Phases.pdf> (Visited 7 March 2009). In the latter source it is noted that the Phase 2 feasibility studies included: civil engineering works studies; dams, tunnels and hydropower augmentation studies; pump stations studies; socio-economic impacts analysis studies; environmental impact

sometime in 2012 after the appointment of a Project Management Unit (PMU) to implement the phase on behalf of the LHDA.⁴³

Throughout the study, it is stressed that a delicate balance must be struck by the Project's policy-makers or role-players, between the pressing needs for economic growth, poverty alleviation and social development on the one hand, and the vital need for environmental protection and environmental justice on the other hand, within the integrative framework provided by the key concept of sustainable development.⁴⁴

1.3. Issues

It is pertinent to point out right from the start that this study was undertaken with the preliminary view that significantly vast environmental impacts are inherent and inevitable in large-scale and long-term water transfer schemes such as the LHWP.⁴⁵ This is because the LHWP involves multiple phases of dam and tunnel construction and the flooding of vast land masses.⁴⁶ This is especially because owing to the

assessments including IFRs; economic analysis studies; legal framework studies particularly on the applicable treaties and protocols; and reconnaissance and hydrological studies.

⁴³ Business Report, "Lesotho Water Scheme Extension gets nod" (*Sunday Tribune*) Sunday, 7 December 2008, p. 1. See also *Lesotho Review* (2013), p. 69. In the latter source it has been indicated that the services of four specialists were engaged on short term contracts to provide technical assistance in civil engineering, environmental studies and socio-economic issues. Two contracts were awarded for construction of a 3,8 km access road to the site where a weir will be constructed to measure the downstream river flow from the planned Polihali dam. More importantly, community consultations and community leader workshops have been, and are being held with the Phase 2 affected communities jointly by the LHDA and TRC NGO to prepare such communities for the start of the phase. A survey of properties which will be affected by the preparatory project work has also been carried out by the LHDA surveyors in consultation with the owners of the fields as well as the members of the interim liaison committees. Already, twelve households whose 19 assets were affected by the construction of the 3,8 km access road were compensated in accordance with the 1997 LHDA Compensation Policy.

⁴⁴ The World Commission on Environment and Development, which "coined" the term "sustainable development" in the Brundtland Report, defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". See *Fuel Retailers* case, at para 47.

⁴⁵ See Gujja and Hunziker, *The Impact of Dams on Life in Rivers: A WWF International Research Report submitted to the World Commission on Dams* (2000). The study provides a report on the inevitable impacts of dams on species and ecosystems by providing examples of specific species and habitats which have been lost and degraded due to dam constructions.

⁴⁶ By the final stage of this massive project in 2020, the scheme will have seen five proposed dams built and a 200

nature of rivers which are “an indivisible hydrological unit which requires comprehensive consideration in order to effect maximum utilization and development of any portion of it,”⁴⁷ the impoundment of dams within such systems have three identifiable impacts at the following different fronts: Firstly, at the flooded part of the river basin upstream the dam wall; secondly, at the immediate surroundings of the catchment area of the dam; and thirdly downstream the dam wall, in the rest of the river continuum and watershed where the water flow would be relatively deprived and unnatural.⁴⁸

According to Rothert⁴⁹ one significant environmental problem of the Project is that the first two dams were built without a full understanding of the needs of the affected rivers’ ecosystems - called ‘in-stream flows’ or more accurately ‘in-stream flow requirements’. In addition thereto, more than 2,300 hectares of arable land was lost, affecting 2,600 households.⁵⁰ He also points out that approximately 30,000 people have been affected by Phase 1A and 1B of the Project, and that more than 100 households had to be permanently relocated (albeit with compensation), while hundreds of homes were damaged due to construction works and more than 600 households were affected by the loss of 3,400 hectares of grazing land.⁵¹ Matete also correctly points out that it can be expected that the water from Lesotho will change the flow, temperature, chemical and biological composition of the water of the affected rivers in the RSA, as well as the Vaal dam.⁵² Moreover, large-scale water schemes generally have considerable impacts on local ecosystems and on

kilometre network of interconnecting transfer tunnels blasted through the Maluti mountains and delivering 82 cubic metres of water per second to the RSA. See *Lesotho Review of Commerce, Industry & Tourism* (2002) at p. 42.

⁴⁷ See ILA, Helsinki Rules on the Uses of the Waters of International Rivers (‘Helsinki Rules’) Rept of 52nd Conf (1966), p. 485. See also Waugh, *Geography: An Integrated Approach* 2nd ed (1995) at Chapter 3, “Drainage basins and rivers”, on drainage basins and the water-cycle, p. 50-89. See also Chapter 3, sub-heading 3.4.1 on international river basins.

⁴⁸ Heath and Brown, (2007), p. 36 – 45.

⁴⁹ Rothert, *When big dams spell disaster: Assessing the Lesotho Highlands Water Project* (1 December, 1999) Institute for Global Dialogue website, <http://www.odiousdebts.org/odiousdebts/index> (Visited 5 September 2007).

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Matete, *The Ecological Economics of Inter-basin Water Transfers: The Case of the Lesotho Highlands Water Project* (May 2004) p. 5, online published PhD thesis in Economics submitted at the University of Pretoria in the Faculty of Natural and Agricultural Sciences, accessed at <http://upetd.up.ac.za/thesis/available/etd-06052006-145825> (Visited June 2007). Matete further points out that the ecological impacts of the water transferred from Lesotho in the RSA rivers were never quantified like in the IFR studies for Lesotho.

their surrounding environment and even on regional climates. Indeed these problems remain, despite water transfer schemes being the 'cleanest thermal plants on global warming'.⁵³

Given the aforementioned environmental impacts and problems posed by water transfer schemes in general, and the LHWP in particular, it may very well be argued that effective environmental protection and environmental management measures are absolutely necessary to achieve the objectives of sustainable development within the LHWP. However, a number of interrelated environmental law problems can be identified in relation to the LHWP:

1. The first main problem is the inadequacy of the general principles⁵⁴ of state responsibility under international law for the enforcement of international standards of environmental protection, as correctly pointed out by Dugard.⁵⁵ This is the position despite the increasingly known impacts on the environment caused by industrial activities of humans and the ramifications thereof as manifested in environmental degradation and loss of biodiversity among many other environmental problems.⁵⁶
2. In direct relation to the above-mentioned first problem, the second main

⁵³ "Water The cleanest option," Energy and Sustainable Development Special Report in *African Business*, Issue No. 327, January 2007, p. 38.

⁵⁴ The term "principles" has been defined by Lang as "norms of a general nature which give guidance to state behaviour, but are not directly applicable; the violation of such principles cannot be pursued in international courts unless they are made operational by means of more concrete norms." The learned author further goes on to state that "whatever definition is chosen, whatever distinction one applies, nobody can deny that principles are important tools, but that their normativity [sic] in many cases remains a grey-zone phenomenon that policy-makers and lawyers have to live with." See Lang, "UN-Principles and International Environmental Law" in *Max Planck Yearbook of United Nations Law*, Vol. 3 1999, p. 159, accessed on the Max Planck Institute for Comparative Public Law and International Law website at http://www.mpil.de/shared/data/pdf/pdfmpuny/lang_3.pdf (Visited 31 November 2011).

⁵⁵ Dugard, *International Law – A South African Perspective* 3rd ed (2005) at p. 396-7.

⁵⁶ The World Commission on Environment and Development observed in the Brundtland Report (1983) that "[h]uman laws must be reformulated to keep human activities in harmony with the unchanging and universal laws of nature," at p 330. UNCED recommended that governments provide an effective legal and regulatory framework to integrate environmental protection with socio-economic sectors. *Agenda 21* on the other hand states that "although the volume of legal texts in this field [sic] is steadily increasing, much of the law-making in many countries seems to be *ad hoc* and piecemeal, or has not been endowed with the necessary institutional machinery and authority for enforcement and timely adjustment. See also in this regard Robinson, "Comparative Environmental Law Perspectives on Legal Regimes for Sustainable Development" (1998) in *Pace University Law Faculty Publications*. Paper 377, accessed at <http://digitalcommons.pace.edu/lawfaculty/377> (Visited 31 November 2011), p. 248.

problem is the potential conflict that exists between on the one hand, the principle of state sovereignty (Hydrosovereignty), particularly in respect of the “controversial right” to development⁵⁷ which was proclaimed by the UN General Assembly in 1986⁵⁸ (the same year the LHWP was signed). And on the other hand, the principle of state responsibility (Hydrosolidarity) with regard to the protection of the environment⁵⁹, particularly in terms of Principle 21 of the Stockholm Declaration of 1972.⁶⁰ This ‘potential conflict’ of principles may perhaps be exacerbated by the reserved choice of wording used in Article 15 of the LHWP Treaty⁶¹, and the vagueness of the provisions of Principle 2 of the Rio Declaration (the latter of which has been widely criticised for its vagueness).⁶²

3. The third main problem is the perceived lack of effective national environmental legal measures in the Kingdom of Lesotho generally and specifically in relation to the LHWP as is manifested in a number of reported previous cases of complaints by the Project-affected people against the

⁵⁷ Dugard (2005), p. 326. Where the author discusses “third generation rights”, among which the right to a satisfactory environment is included.

⁵⁸ See *Declaration on the Right to Development*, Resolution 41/128 of 4 December 1986. Article 1 of which stipulates the following: “The right to development is an inalienable human right”, while the Preamble describes development as “a comprehensive economic, social, cultural and political process, which aims at the constant improvement of the well-being of the entire population”. See also Preamble, Article 3(3) and 3(1) of the *OAU Charter* (1963).

⁵⁹ Dugard (2005), p. 396. It has also correctly been pointed out by Dugard that ‘much of environmental law in both international law and national law is non-justiciable and unenforceable’, therefore the upholding of sensible environmental protection or sustainable development has therefore mostly been left to the discretion of states. See Dugard (2005) at p. 393. This potential conflict is best exemplified by the previous unabated economic developments of states which were undertaken in the name of sovereignty, but which did not give due regard to the impact on the environment of such developments. See also Principle 14 of *Stockholm Declaration* (1972).

⁶⁰ Principle 21 of the *Stockholm Declaration* (1972) stipulates that states have ‘the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction, concurrently with the sovereign right to exploit their own environmental policies’; see Shaw, (2003) at p. 762.

⁶¹ Article 15 of the LHWP Treaty (n 4) supra, is cautiously phrased by its framers in that it merely obliges the State-parties to “... take all reasonable measures to ensure ... the protection of the *existing quality* of the environment.” (my emphasis). This means that mere preservation as opposed to enhancement was envisaged by the drafters.

⁶² Many authors agree that Principle 2 of the Rio Declaration (1992) seems like a step back from its more decisive and concise predecessor, Principle 21 of the Stockholm Declaration (1972). The former provision has been described as having a “relatively modest formulation” as compared to the latter by Shaw. See Shaw (2003), p. 762. Principle 2 of the Rio Declaration (1992) stipulates that: “States have, in accordance with the Charter of the United Nations and the principles of international law, the *sovereign right to exploit their own resources pursuant to their own environmental and development policies*, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.” (my emphasis).

LHDA among other things.⁶³ The challenge of Lesotho's ineffective environmental legal measures on national level as manifested on two fundamental fronts is well documented.⁶⁴ The first is the problem of the inadequate *enforcement* of environmental law particularly in Lesotho, and this includes the non-justiciability of Lesotho's constitutional 'environmental protection' clause, because of an accompanying 'claw-back clause'⁶⁵ contained within the Constitution of Lesotho. The second challenge is the lack of effective administration of environmental quality control and public environmental management, profoundly reflected in the very low wildlife densities in Lesotho due to heavy and uncontrolled exploitation⁶⁶, the poor land management of Lesotho which is evident in the vast soil erosion problem and a lack of protection of the Alpine wetlands of Lesotho from uncontrolled grazing.⁶⁷ The worst problem yet is the prevailing fragmented state of the national legal framework for environmental protection and administration in

⁶³ See Office of the Ombudsman of Lesotho (a constitutionally created body in terms of Chapter XII of the Constitution of Lesotho, Order No. 5 of 1993) *Special Report in the matter of Complaints by the Resettled People against the LHDA* (3 April 2003), available at <http://www.lesotho.gov.ls/articles/2003/Report%20-%20Resettled%20People-%20LHDA.htm>, and *Report on Formal Inquiry on the LHDA Resettlement Programme* (30 August 2003), available at <http://www.lesotho.gov.ls/articles/2003/Report-LHDA%20Resettlement.htm>. See also Public Eye, "Justice after 15 years: LHDA Ordered to pay displaced man" (National News) Friday 10 April 2009, p.2. and p. 12, Editorial Comment "Justice delayed". See also in relation to the aforementioned, Article 7(18) of the LHWP Treaty, which obliges the LHDA to compensate affected communities for LHWP related disturbances to their livelihoods.

⁶⁴ These problems are adopted from Currie and de Waal, *Bill of Rights Handbook* (2005) at p. 521, wherein two fundamental causes of the ineffectiveness of South African environmental law are identified as: the inadequate enforcement of environmental law, and the lack of effective administration of environmental quality control.

⁶⁵ Section 36 of the Constitution of Lesotho, Order No. 5 of 1993, read with section 25 stipulates that: "These principles [in Chapter III of the Constitution] shall not be enforced by any court but, *subject to the limits of the economic capacity and development of Lesotho, shall guide the authorities and agencies of Lesotho ... with a view to achieve progressively, by legislation or otherwise...*" (my emphasis). However, it is submitted that such claw-back clause merely differentiates the so-called "first-generation rights" from "second and third-generation rights", where greater leverage is given to governmental policy choices for realizing the latter generations of rights. The latter generations of rights become justiciable under the principle of reasonableness and legality through judicial review where a government fails to progressively meet the minimum standard guaranteed in the Bill of Rights. It is also well-established that provisions in a Bill of Rights are to be purposively and generously interpreted. See in this regard *Molefi v Independent Electoral Commission and Others* (11/05 CC:135/05) [2005] LSCA 14 (30 June 2005) at para 15; *Attorney-General of Lesotho v Mopa* 2002 (6) BCLR 645 (LAC) at 650D-F; *Lesotho National General Insurance Company Limited v Nkuebe C of A* (CIV) 18 of 2003, 7 April 2004 at para 3.

⁶⁶ See Chakela (ed), *State of the Environment in Lesotho 1997* (1999) p. 14. This document is Lesotho's first State of the Environment Report produced by the National Environment Secretariat (NES) of Lesotho, as a direct result of Agenda 21 of the Rio Declaration. See <http://www.lesotho.gov.ls/documents/reports/report-environ-1997.htm> (Visited 7 March 2009). The main objective of the document is to examine the conditions of the country's ecosystems vis-à-vis human activities.

⁶⁷ *Ibid.*

both the KoL and the RSA.⁶⁸

4. The fourth and central main problem pointed out by Rothert above, is that the two Phase 1 dams were constructed without a full understanding of the environmental impact of the water catchments on the affected rivers' ecosystems, called Instream Flow Requirements.⁶⁹ In other words, quite significantly, the two Phase 1 dams were constructed without sufficient environmental impact assessments as far as the affected rivers' ecosystems were concerned.

5. The final main problem is the significant epoch and the political and socio-economic context within which the Treaty was signed, in three senses. Firstly, 1986, when the LHWP Treaty was signed, was long before many significant treaty and legislative developments took place in respect of environmental law, since such developments are now central features of the current environmental law dispensation on both the international level as well as at national level within the two state-parties to the LHWP Treaty. Secondly, the Project was incepted in the backdrop of rather conspicuous immediate political circumstances in both state-party countries, because it was very shortly after a bloodless military *coup d'état* in Lesotho which is believed to have been possible through Pretoria's decisive support; and it was during the height of apartheid in the RSA, when the policy preferences and choices of both the government administrations of the state-parties at that time, were quite significant.⁷⁰ Thirdly, the LHWP was planned and incepted at a time

⁶⁸ See Chapter 3 below on the state of the fragmented environmental legal framework in both Lesotho (sub-heading 3.6.1) and RSA (sub-heading 3.6.2) as state-parties to the LHWP. The LHWP legal environmental protection measures are themselves fragmented in two senses: of legislative fragmentation and structural fragmentation of the institutions which are charged with the control and administration of the environment both in Lesotho and RSA. See Chapter 5 for the legislative and structural fragmentation of the LHWP legal environmental protection measures, and see Kotzé, *A Legal Framework for Integrated Environmental Governance in South Africa and the North-West Province* (August 2005), pp. 74-88, online published LLD thesis in Environmental law submitted at the University of the North West in the Faculty of Law, accessed on the electronic library resources repository Boloka at http://dspace.nwu.ac.za/bitstream/10394/965/1/Kotzé_louisej.pdf (Visited 30 September 2011).

⁶⁹ Rothert, (1999), p. 1.

⁷⁰ See further in this regard Chapter 3, sub-heading 3.6.2. See also in this respect, Steyn, "The Lingering Environmental Impact of Repressive Governance: The Environmental Legacy of the apartheid-era for the new South Africa",

when the self-determination of African peoples,⁷¹ the sovereignty of African states⁷², and the right of sovereign states to development were central features in international law and on the international relations agenda⁷³, while environmental issues and environmental law concepts were only being grappled with at that stage, where they were yet to be firmly established frameworks as already mentioned.

This dissertation therefore addresses the abovementioned problems of the environmental law setting of both the state-parties to the LHWP Treaty, particularly in Lesotho, where the project sites of the LHWP are largely situated and where the natural environment is impacted on the most by the Project.

1.4. Hypotheses

The primary premise presented by this dissertation is that *effective* environmental protection measures are mandatory and indispensable in the further development of the LHWP. The second premise is, given that environmental protection forms an integral part of an efficient sustainable development⁷⁴ strategy - more especially for a world-class project such as the LHWP - it is argued that sustainable development should form the basis for the further implementation and operation of the LHWP.⁷⁵

(December 2005), a journal article on the University of Stirling Online Research Repository accessed at: <http://dspace.stir.ac.uk/bitstream/1893/2341/1/Lingering%20impact%20apartheid.pdf> (Visited 22 May 2011).

⁷¹ The 1950s up to the 1980s were characterized by the “overriding concerns” in Africa to speed-up its decolonization and to obtain the resultant independence and self-determination of African peoples who were still being ruled by their European colonial masters. See Du Plessis, Chapter 25, “The African Union” in Dugard (2005) at p. 546-68. See also Preamble and Articles 20, 21, 22 and 24 of the *African Charter on Human and People’s Rights*, (1982) 21 *ILM* 58, adopted by the OAU at its 18th Conference of Heads of State and Government on 27 June 1981 at Nairobi, Kenya (and entered into force on 21 October 1986, three (3) days before the signing of the LHWP Treaty).

⁷² See *Declaration on the Granting of Independence to Colonial Countries and Peoples*, UN General Assembly Resolution 1514 (XV) of 1960 in Dugard (2005), p. 103.

⁷³ Keeping in mind that the LHWP Treaty was signed on 24 October 1986. See *Declaration on the Right to Development* adopted by the UN General Assembly in Resolution 41/128 of 4 December 1986, <http://www.un.org/documents/ga/res/41/a41r128.htm> (Visited 17 August 2009).

⁷⁴ Principle 4 of the Rio Declaration (1992).

⁷⁵ In terms of Article 15 of the LHWP Treaty, the State Parties agreed to take all reasonable measures to ensure that the implementation, operation and maintenance of the Project are compatible with the protection of the existing quality of the environment; and in terms of Article 7(18) the LHWP Treaty, the LHDA is enjoined to effect all measures to ensure that the local communities affected by the Project in Lesotho are compensated and that their living standards are not

It is argued that sustainable development as a policy choice and guide has the ability to integrate economic development and environmental protection, the interdependence of which was crisply articulated by Justice Ngcobo of the South African Constitutional Court, in the following dictum:

[D]evelopment cannot subsist upon a deteriorating environmental base. Unlimited development is detrimental to the environment and the destruction of the environment is detrimental to development. Promotion of development requires the protection of the environment. Yet the environment cannot be protected if development does not pay attention to the costs of environmental destruction. The environment and development are thus inexorably linked.⁷⁶

A further argument of the dissertation is that effective environmental protection measures must comprise of ensuring a continued equilibrium of the three dimensions of sustainable development through an integrated and comprehensive system and approach to sustainable development, constituted of measures aimed at: regulation, management and conservation of the environment, mitigation and prevention of environmental harm and the promotion of environmental awareness and protection on the one hand, while also driving economic development on the other hand.⁷⁷

The dissertation, therefore, argues that sustainable development is the solution to the question whether economic development and principles of prudent environmental management can be honoured concurrently, especially by developing countries such as Lesotho as one of the LHWP State Parties. It is argued that, since the concept of *sustainable development* integrates environmental protection, economic development and social upliftment⁷⁸, that sustainable development should be the pivotal basis of implementing, operating and maintaining the Project.

affected by the project-related disturbances.

⁷⁶ *Fuel Retailers case*, at para 44.

⁷⁷ Church asserts that “sustainable development should not be seen as merely a combination or amalgamation of the three recognised ‘pillars’. Rather it should be seen in the form of a ‘*gestalt*’ that results from viewing issues or situations through the lens of integration.” See Church, “Sustainable Development and the Culture of *uBuntu* 2012 *De Jure* 511 at 514.

⁷⁸ Glazewski (2013), at p. 1-15. See also Blignaut, *et al.* (eds), *Sustainable Options: Economic Development Lessons from Applied Environmental Resources Economics in South Africa* (2004) at p. 5.

1.5. Background and motivation for the study

The motivation for undertaking this study emanated from the anticipation of the Phase 2 project developments of the LHWP, which were initially planned to begin sometime in 2009 and in relation thereto, the promises enunciated in Article 15 of the LHWP Treaty. The study was further spurred by the multidisciplinary consensus (economics, environmental sciences, international relations and environmental law among others) on the importance of the concept of *sustainable development*, which has as its central purpose in decision-making, the convergence of economic development and poverty alleviation on the one hand; and prudent environmental management through conservation and protection on the other hand.

The study was also considerably enthused by the increasing concerns over the phenomena of global warming and climate change, which are largely caused by the green-house effect of carbon gas emissions from fossil fuel combustion among other things, leading directly to the consequent disasters already being witnessed and experienced worldwide such as floods and droughts.⁷⁹ The study was also inspired by the exponentially growing demand for energy and water to sustain economic growth and development as pertinently exemplified by the electricity shortfall experienced in South Africa leading to the so-called “load-shedding” electricity blackouts of mainly December 2008.⁸⁰

1.6. Approach

The approach taken in this dissertation with regard to the scope or ambit of

⁷⁹ For a discussion on long-term and short-term climate changes. See Waugh, (1995) at p. 234.

⁸⁰ Naidoo asserts that “while it would be unhelpful to superimpose the energy reality onto the water milieu, it appears that the challenges in South Africa’s water sector are beginning to bear a resemblance to those that sounded the initial alarm bells of the current energy crisis”. See *Engineering News Online*, “South Africa’s Water Sector: Are we headed for a possible water shortage?” at the following link: <http://www.engineeringnews.co.za/articles/sas-water-sector-are—we-heading-for-a-possible-water-shortage-2009-03-20> (Visited 9 May 2009).

environmental law is generally the same as that adopted by Glazewski⁸¹, which encompasses: land-use planning and development, resource conservation and utilisation, pollution control and waste management. However, since the focus of the study is on the LHWP, the focus areas are mainly land-use planning and development and natural resource conservation and utilisation only.⁸²

Article 15 of the LHWP Treaty states that: “The Parties agree to take all reasonable *measures* to ensure that the implementation operation and maintenance of the Project are compatible with the protection of the existing quality of the environment ...”.⁸³ Therefore, in this study the term “measures” is used in its limited legal sense to encompass only forms of regulative and enforcement measures, and shall therefore include laws, regulations, policies, environmental principles and implementation and monitoring institutions and structures in so far as they are of particular legal significance.

The theoretical approach taken in this study on the ethical basis and purpose for environmental law is anthropocentric, also known as the utilitarian approach.⁸⁴ Both Kidd and Glazewski are of the view that most environmental law is premised on this approach⁸⁵ as opposed to the other jurisprudential approaches advanced as the rational for environmental law.⁸⁶ The anthropocentric or utilitarian approach underlies the inter-generational equity underpinned in the concept of sustainable development where reference is made to “present and future generations.” The

⁸¹ Glazewski (2013), at p. 1-1.

⁸² Cf. the cursory note made in the introduction to Chapter 4, sub-heading 4.1., in relation to the construction phase pollution by-products which are often not taken into account in construction and engineering project environmental impact assessments (EIAs) and project cost benefit analysis (CBA). EIAs and CBA have been extensively defined in Chapter 2.

⁸³ My emphasis added to the term “measures”.

⁸⁴ The utilitarian or anthropocentric approach is the human-centred philosophy to environmental law which asserts that moral duties towards the natural biosphere are based on duties humans owe to one another and to future generations. See Kidd (2011), p. 14. Kidd further suggest that HLA Hart’s theory of natural law support this approach, and so does Rabie’s assertion on the purpose of environmental law. Kidd, *loc op cit*.

⁸⁵ Kidd, (2011), at pp. 16-17; Glazewski, (2005), at p. 7.

⁸⁶ One of the other approaches is *biocentrism*, which maintains that all living things have an inherent worth by virtue of being members of the earth’s “community of life”, and one of its main proponents is Leopold. See Glazewski, (2005), p. 7. Another more recent approach is the ‘*deep ecology*’ approach, which involves the cultivation of the insight that everything is connected, and the approach is grounded in a vision of nonexploitative science and technology, and one of its main proponents include Devall. See Kidd, (2011), p. 15-16.

approach is also explicit in NEMA which provides that “environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural, and social interests equitably.”⁸⁷

Furthermore, with an appreciation of Kidd’s contention that “in order to fully appreciate the nature of environmental law, an environmental lawyer should also be attuned to the scientific, political, and economic processes involved in environmental matters,”⁸⁸ the approach taken in this dissertation is partially interdisciplinary, thus drawing from concepts from: environmental sciences, environmental management, international relations and public administration as well as environmental economics. The dissertation therefore also takes into consideration, the bi-national nature of the LHWP and the inherently trans-national and increasingly global character of contemporary environmental problems such as global warming and climate change, which both directly take the issues of environmental protection into the realms of international relations⁸⁹ and international law. Therefore, consideration is also given to the international relations concept of *human security*⁹⁰ which also features in environmental protection and with regard to which it has been asserted that “threats to security may now arise less from the relationship of nation to nation and more from the relationship of man to nature.”⁹¹

The dissertation primarily *explores* all the relevant operational regulative measures of the LHWP, which were formulated with the main objective of protecting the

⁸⁷ Section 2(2) of NEMA. Section 3(2) of Lesotho’s Environment Act 10 of 2008 also provides that the principles of environmental management are inter alia: to assure every person living in Lesotho the fundamental right to a clean and healthy environment, to use and conserve the environment and natural resources for the benefit of both present and future generations, to take measures to preserve the cultural heritage of the Basotho Nation for the benefit of both present and future generations, which provision are evidently inclined towards anthropocentrism.

⁸⁸ Kidd (1997) at p. 7. See also Sunkin, *et al*, *Sourcebook on Environmental Law* (1998) at p. 1, where it is asserted that “it has been emphasised that the rules of nature are basic to environmental law and that [e]nvironmental law depends on science to assess and predict the environmental impact of many human activities”.

⁸⁹ Hurrell, “International Political Theory and the Global Environment.” in Ken Booth and Steve Smith (eds), *International Relations Theory Today* (Cambridge; Polity Press, 1995) at p. 130.

⁹⁰ See a discussion of this concept in relation to this study in Chapter 2, sub-heading 2.1.11. “Human security” is basically expressed in the shift from state-centric or regime-centric security approaches to a more “human-centred” approach in the security discourse. See Aning, *African Commitments to Conflict Prevention and Peacemaking: A Review of Eight NEPAD Countries* (2004) at p. 4.

⁹¹ This was stated by Brown, then of the World Watch Institute. See Brown, *Human Needs and the Security of Nations* (1977) at p. 6.

affected natural environment, including measures taken in mitigation of the impact made by the Project on the affected ecosystems and biodiversity on the Project sites. Secondly, the dissertation seeks to *evaluate* the efficiency of the environmental protection measures of the LHWP by considering the qualitative effectiveness of the regulative legal measures of the LHWP in upholding and maintaining an internationally sensible standard of environmental protection. The study does so through an analysis of the policies and programmes of the LHWP and their implementation constraints as derived from studies, reports and other primary sources of empirical value. The study then considers the efficacy of the measures in producing the desired environmental protection objectives of the LHWP at community-level, between the state parties to the LHWP and at basin-level with the other Orange River basin riparian states.

The environmental regulative measures of the LHWP are evaluated with consideration and against the background of the general states' obligations under international environmental law, norms and standards;⁹² the LHWP Treaty obligations of the states; the state-parties' national Constitutional obligations;⁹³ and their domestic environmental laws and environmental policies.

1.7. Methodology

This study presents a critical and qualitative legal research method involving literature-based research and analysis of primary legal sources in the form of treaties, declarations, legislation, case-law, government institution policies and reports; and also of secondary legal sources such as text-books and journals. The research further considers various reports, documentaries, newspaper reports and credible internet data on the Project impacts.

⁹² See sub-heading 1.3 'Emerging environmental law norms and concepts', Glazewski (2005), at p. 12-20.

⁹³ Section 36 of the Constitution of Lesotho, Order No. 5 of 1993, (Protection of the Environment clause) which is non-justiciable in terms of s 25 thereof. Cf. Section 24 of the Constitution of the Republic of South Africa, Act 108 of 1996, (Environment clause) which is by contrast justiciable. See also *Fuel Retailers case*, supra.

The dissertation, therefore, through the use of qualitative legal research methods on above-mentioned sources, through data, legal and policy analyses, evaluates the relevant environmental law regulative measures of the LHWP in light of their *effectiveness* in upholding and maintaining an internationally sensible standard of environmental protection, using the principle of sustainable development at project level and the principle of reasonable and equitable utilization as benchmarks.

1.8. Objectives

The prime objective of this dissertation is to promote a comprehensive approach to legal environmental protection, and measures reflective of such an approach under the integrative umbrella of sustainable development. To that end, the dissertation explores and evaluates the current efficiency of the legal environmental protection measures of the LHWP, from the time of the Project commencement⁹⁴ up to date. This is especially since negotiations for Phase 2 of the Project were recently underway, while actual construction work thereof was anticipated to begin sometime in 2011 as already mentioned above.

In light of the abovementioned prime objective, the following specific objectives are pursued, which also form the structural basis of the dissertation:

1. Exploring key concepts that constitute the norms and standards such as sustainable development, which govern international watercourses on the international and regional level, and their reception into the Project state-parties constitutionally, through national legislation and through the measures of two agencies that are particularly charged with the implementation, operation, and maintenance of the Project, being the Lesotho Highlands Development Authority (LHDA) for the Kingdom of Lesotho, and the Trans-Caledon Tunnel Authority

⁹⁴ Especially since the concept of 'sustainable development' was largely pioneered three years before the signing of the LHWP Treaty by the World Commission on the Environment and Development (the Brundtland Commission) convened by the United Nations General Assembly in 1983. See Glazewski (2005), at p. 12.

(TCTA) for the Republic of South Africa respectively.

2. Describing the significant economic, political and policy settings and influences – in relation to environmental issues – of the inception of the Project, within both participating states through the signing of the Treaty governing the operation of the LHWP, and the global background setting in relation to environmental protection in 1986.
3. Highlighting the environmental, social and economic *impacts* of the LHWP within both the state-parties to the LHWP, as part of the evaluation process of the Project's measures in effecting the desired outcomes in relation to the three "pillars" of sustainable development; as well as to highlight the LHWP's policies and mitigation measures meant to address the adverse impacts of the Project and efforts or lack thereof to reconcile such measures to sustainable development in line with the commitments of the state-parties set out in the Article 7(18) and 15 undertakings.
4. Exploring and evaluating the efficiency of the legal regulative measures put in place in the LHWP for the purposes of ensuring an internationally sensible standard of environmental protection in the backdrop of sustainable development as an integrative and inclusive benchmark principle.
5. Evaluating the compatibility or incompatibility of sustainable development as a normative principle as applied in reality, particularly in the LHWP, and the constraints it is faced in the past and with opportunities it presents for the Project in the future.
6. Finally, to promote the implementation and improvement of environmental protection measures to encompass a wide range of aspects in all projects with large-scale environmental impact implications.

The study, therefore, critically analyses the environmental protection measures of

the LHWP within a global context, and evaluate such regulative measures in light of their *efficacy* in producing the desired effects or outcomes of environmental protection, against the established environmental law norms and concepts⁹⁵ as general benchmarks.

Moreover, one of the main areas of focus in the study will be the delicate balance that must be struck by policy-makers or role-players, between the pressing needs for economic growth, poverty alleviation and social upliftment on the one hand, and the vital need to protect the natural environment on the other hand, as expressed by the concept of sustainable development in the wider context of the LHWP as a project within the shared international drainage basin system of the Orange River, which must be equitably shared among its four SADC riparian states.⁹⁶

The overall aim of the dissertation is to ultimately understand the policy and practice limitations, challenges, opportunities, contradictions and successes that exist in the environmental management programmes of the LHWP in both state-parties.

The general objective of this dissertation is to serve as an integrative initial reference text for the Project Authorities for legal environmental protection measures of the Project, or the improvement thereof, as well as for other projects similar to the LHWP.

1.9. Significance of the study

The overall significance of this study is that, it accentuates the pressing need for effective environmental protection measures of an international standard in the LHWP. It takes into account growing economic demands on the one hand and the increasingly devastating effects of environmental degradation and natural resources depletion caused by indiscriminate economic developments on the other hand. The

⁹⁵ See Glazewski (2005), at p. 12-20.

⁹⁶ Which is further considered as part of the ORASECOM Agreement between such SADC riparian states.

study also emphasises the need for a balanced and integrative approach to environmental protection within the framework of sustainable development. The study is further important in unpacking the importance of environmental protection and sustainable development as policy guides within the LHWP.

The successes of the Project role-players in keeping the promises enunciated in Article 15 and 7(13) of the LHWP Treaty are evaluated, especially at this significant juncture of the Project when preparations for Phase 2 of the Project are currently underway.

The study will also attempt to highlight general and abstract principles that must be taken into consideration in the implementation, operation and maintenance of large scale water-transfer schemes or projects such as the LHWP, which have immense environmental impact implications in view particularly of environmental protection as an integral part of sustainable development.

1.10. Structure and organisation of study

This dissertation is divided into six chapters. Chapter one provides a comprehensive introduction to the study, it deliberates on the focus and scope of the dissertation, raises and defines the issues addressed by the study, and it sets out the propositions or hypotheses made by the dissertation. The first chapter also gives a brief background of the study, and it presents the approach and research methodologies used in the study as well as the study objectives and its significance.

Chapter two sets out a framework for understanding the principal concepts of the study, as obtained primarily from various legal authorities in the form of treaty definitions, declarations, legislation and authoritative scientific definitions for more technical terms. The chapter further gives the different interpretations of such concepts given authoritatively by the judiciary, as well as those submitted persuasively by scholars and international commissions or organizations. The Chapter is then concluded with a brief literature review.

Chapter three provides the background and setting of the LHWP. The chapter begins by presenting the historical background of the LHWP with respect to the planning and inception of the Project as well as the socio-economic and geopolitical setting at the time of the ratification of the LHWP Treaty in 1986. The chapter then presents the physical setting of the Project or the area and basin description of the LHWP, after which it considers the international environmental law setting of the Project on the regional SADC level and thereafter within the two state-parties to the LHWP Treaty from the time the Project was incepted to-date. The chapter then, finally, makes a critical analysis of the successes and failures of the LHWP legal environmental protection measures in adapting to new environmental law developments.

Chapter four considers the social, economic and environmental impacts of the LHWP as well as the sustainable development posture of the Project. In this chapter, all the recorded environmental impacts of the LHWP are considered and the ecological cost of the Project is discussed. The chapter concludes with a summation of the pros and cons of the Project within the context of sustainable development.

Chapter five constitutes the core of the dissertation. It explores and evaluates the LHWP legal environmental protection measures. The chapter evaluates the efficiency of the LHWP-specific legal environmental protection measures within the constitutional context particularly of Lesotho as to enforcement, as well as the efficacy of such measures in producing the desired environmental protection as enunciated in the important treaties, legislation and policy documents. The chapter concludes with a summation of the findings of the evaluation, and it highlights the gaps and shortfalls of the LHWP legal environmental protection measures.

Chapter six, closely tied to chapter five, sets out the lessons learned and recommendations that follow the evaluations made in the previous chapter. Then finally, the chapter closes with a summation of the findings of the study.