SUSTAINABLE DEVELOPMENT OF INTERNATIONAL WATERCOURSES IN INTERNATIONAL LAW: A CASE STUDY OF THE MEKONG RIVER BASIN

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THESIS SUBMITTED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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To my parents,
Bundit and Ratana Pichyakorn

ABSTRACT

The conflicts between environmental protection and the need to promote developmental growth are becoming increasingly imperative. The concept of sustainable development was created to reconcile the above conflict between these two extremes in order to ensure that an adequate quantity of natural resources and a good quality of environment are preserved for longer term purposes and for the uses of future generations. This study examines the development of this concept at international level and its impacts upon international law governing the use of international watercourses in particular. The Mekong River Basin is analysed as a case study in order to illustrate that this concept has given rise to development of the legal framework of this region.

To examine these issues, this study is divided into five chapters. It begins by dealing with development of the concept of sustainable development at international level and issues arising from the law in the field of sustainable development after Rio. Chapter 2 focuses on the impact of this concept upon international watercourses law. Chapter 3 emphasises the significance of the effects of sustainable development upon the legal framework of the Mekong River Basin as indicated in the 1995 Mekong Agreement. Mechanisms adopted in this instrument to implement the above concept are also analysed. Chapter 4 illustrates problems and prospects regarding implementation of the concept of sustainable development and operation of the 1995 Mekong Agreement. Chapter 5 presents a conclusion of the study.

This thesis shows that sustainable development is a difficult concept to define and implement. The Mekong Agreement makes an attempt, a laudable one, to implement certain aspects of it in relation to an international watercourse. Some aspects are successfully implemented but some are not. The Mekong Agreement is an important treaty from environmental, sustainable development and water resources points of view.

ACKNOWLEDGEMENTS

I wish to express my deep gratitude to my Director of Research, Professor Surya Subedi. I thank him for his professionalism and dedication as a teacher, proving to me that there are some teachers who are there for and recognise their responsibility to their students. I also thank Mr. Steve Homewood, my co-supervisor, Professor Malgosia Fitzmaurice and Professor Jeremy Cooper, my examiners, for their time and valuable comments on this thesis.

I am in great debt to Professor Pat Birnie who gave me her advice and inspiration about this research topic from the outset. Since then, she has become more than a teacher. She is my role model who always inspires me to work hard as a researcher, and also shows me how one can be so kind and positive in life. She always gives me her encouragement and believes in me. Her endless help and assistance throughout the years has been incomparable. I would also like to thank Dr. Kobkun Rayanakorn who introduced me to her and gave me guidance when I first started this project.

This project would not have been possible without a scholarship from the Thai Government and the Thai Ministry of Foreign Affairs. Scholarships granted by Middlesex University and that by the CARL DUISBERG GESELLSCHAFT (now known as INVENT) and the World Conservation Union (IUCN) Environmental Law Centre gave me opportunities to expand my area of study benefiting my research skills and confidence. My sincere gratitude is also due to staff at the Thai Civil Service Commission, the Thai Government Office of Educational Affairs (London), particularly Mr. Charnvit Krairiksh, Minister Counsellor. who is very supportive and understanding. I must thank staff at the research office, Middlesex University; staff at library of Middlesex University, the IALS and the LSE; staff at the MRC Secretariat, particularly Ms Krittima Kumpangthong and Ms Piyanard Supapol, and staff at ESCAP library, especially Mr. Dulyadham Dhammawong. Without their helps, I would never have obtained vital documents or finished this thesis in time. I also thank staff at UN ESCAP, UNEP, and UNDP in Bangkok and Professor George Radosevich for his insight into the Mekong Agreement.

I must mention my friends from Strividhaya School, including Ms. Chachadapa Vichitrananda, Ms. Pinthip Eiemnirat, Ms. Kanokrat Chintanapat and others too many to be named here. They have been very supportive and willing to distract me from work with

laughs. I am grateful to my friends from the Law School, Chulalongkorn University. Immeasurable support from Ms. Sopawan Boonnimitra, Ms. Chirathaka Chittiratanakorn, Dr. Niu, Huei-Chih, Dr. Montira Rato, Mr. Thitaphol Huyanan, Mr. Troy and Mrs Nid Santayanon, Mr. Boonlerd Pimsri, Ms. Suchawadee Jarak and friends from SOHOTHAI. is appreciated. My sincere gratitude is also due to Mrs. Sureephan Jarak, who has been more than my friend's mum. Her support has been invaluable and has helped me go through difficult times with strength.

Many, including myself, have at times doubted whether I would be able to finish this project. Some people must be mentioned here as they never did. Mr. Piyapong Panyachiva has always been my important back-up. It is his love and encouragement that has given me strength and pushed me this far. It is to him, his love, affection and friendship that this thesis is dedicated. Mr. Pongsak and Mrs. Praneat Panyachiva are like my second parents. Their love and support throughout the years are priceless and I would like to express my gratitude to them. Mr. Nicholas and Mrs Marianne Marsh are so kind to me. They have taken good care of me, particularly during the last few difficult months of completing this thesis. Their love, support and kindness, and companionship of Mr. Bertie Marsh, I cherish. My deepest and sincerest gratitude is due to Mr. Jethro Marsh, who always believes in me. He has given me every opportunity one can imagine to work on this project. He took an active part in reading my manuscript, commenting and proof-reading countless times. He always listens and encourages me with endless patience and support. His sacrifice, dedication, and love cannot be described in words. This thesis would not have been completed without him. He is part of my success.

Lastly and most importantly, I would like to express my love and deepest gratitude to my beloved family: my parents; Mr. Bundit and Mrs. Ratana; my brothers, Mr. Banarat, Mr. Bannaruj, Mr. Bannarong, and; my sister in law, Mrs Aurada Pichyakorn, who are always there, and have morally and financially supported me all the way through. It is to them also that this thesis is dedicated with great love and affection.

The opinions expressed in this thesis are my own and do not represent the position of the Thai Government nor the Thai Ministry of Foreign Affairs.

Bantita (Sunny) Pichyakorn

London

September 2003

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AJIL	American Journal of International Law
Ann. Digest of Pub. Int'l L. Cases	Annual Digest of Public International Law Cases
APCEL	Asia and the Pacific Commission on Environmental Law
ASEAN	Association of Southeast Asian Nations
Aus Aid	Australian Aid
Aus JPIL	Austrian Journal of Public and International Law
BDP	Basin Development Plan
BYIL	British Yearbook of International Law
Canadian YIL	Canadian Yearbook of International Law
CBD	Convention on Biological Diversity
CEO	Chief Executive Officer
CEL	Commission on Environmental Law
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
Colo JIEL & Pol	Colorado Journal of International Environmental Law and Policy
CRANCH	US Supreme Court Report
CSD	Commission on Sustainable Development
DANIDA	Danish International Development Agency
Denver JIL & Pol	Denver Journal of International Law and Policy
DLR	Bangladesh Court Reports
Draft Covenant	Draft International Covenant on Environment and Development
DSE	German Foundation for International Development
EC	European Community
ECAFE	UN Economic Commission for Asia and the Far East
EEC	European Economic Community
EIA	Environmental Impact Assessment

ELI/PAC	Environmental Law and Institutions Programme Activity Centre of UNEP
ELQ	Environmental Law Quarterly
EMS	Environmental Management System
EPL	Environmental Policy and Law
ESCAP	Economic and Social Commission for Asia and the Pacific
EU	European Union
Eur Envt'l LR	European Environmental Law Review
Eur JIL	European Journal of International Law
Eur LR	European Law Review
FAO	Food and Agriculture Organisation
FCCC	Framework Convention on Climate Change
Gačikovo	Gačikovo-Nagymaros
GATT	General Agreement on Tariff and Trade
GEF	Global Environmental Facility
GEF-WP	Global Environmental Facility – Water Programme
GWP	Global Water Programme (the abbreviation for the GEF-WP of the MRC)
Hague YBIL	Hague Yearbook of International Law
Harv ILJ	Harvard International Law Journal
IBL	International Business Lawyers
ICEL	International Council of Environmental Law
ICJ	International Court of Justice
ICLQ	International and Comparative Law Quarterly
IDI	Institute de Driot International
IEM	International Environmental Management Co., Ltd.
IJIL	International Journal of International Law
IMC	Interim Mekong Committee
Indian JIL	Indian Journal of International Law
ILA	International Law Association
ILC	International Law Commission
ILM	International Legal Materials

ILR	International Law Report
ISO	International Organisation for Standardisation
ITLOS	International Tribunal for the Law of the Sea
IUCN	International Union for Conservation of Nature, also known as the World Conservation Union
JC	Joint Committee
JEL	Journal of Environmental Law
Lao PDR	Lao Peoples Democratic Republic
Leiden JIL	Leiden Journal of International Law
LGERA	Local Government Reports of Australia
LOS	Law of the Sea
LOSC	Law of the Sea Convention
MC	Mekong Committee
MLIM/EG	Monitoring, Laboratory, and Information Management Expert Group
MOSTE	Ministry of Science Technology and Environment
MOX	Mixed Oxide
MRC	Mekong River Commission
MRLC	Mekong Region Law Centre
Nat Resources J	National Resources Journal
Netherlands YBIL	Netherlands Yearbook of International Law
NIEO	New International Economic Order
NMCs	National Mekong Committees
ODIL	Ocean Development and International Law
OECD	Organisation for Economic Co-operation and Development
OJ	Official Journal
OMUS	Organisation pour la Mise en Valeur du fleuve Senegal
Ops Atty-Gen	Opinions of the Attorney-General
PCIJ	Permanent Court of Justice
Phil. & Pub. Aff.	Philosophy and Public Affairs
PLD	Pakistan Legal Decisions

Proc. ASIL	Proceedings of the American Society of International Law
SADC	Southern African Development Community
SC	Supreme Court
SCC	India Supreme Court Reports
SEI	Stockholm Environment Institute
SFKTLR	Suffolk Transnational Law Review
SIDA	Swedish International Development Authority
SMEC	An Australian consultant company to the MRC
SNC	National Council of Cambodia
SPS	Sanitary and Phytosanitary
STEA	Science, Technology and Environmental Agency
TDRI	Thailand Development Research Institute
Texas ILJ	Texas International Law Journal
The 1997 UN Convention	The 1997 UN Convention on Non-navigational Uses of International Watercourses
The Draft	The Thai Draft Water Code
The Preliminary Procedures	The Preliminary Procedures for Notification, Prior Consultation and Agreement
The Procedures	The Procedures for Data and Information Exchange and Sharing
The Rules	The Rules for Water Utilisation and Inter-Basin Diversion
TNMN	Trans-National Monitoring Network of the Danube River Basin
UK	United Kingdom
UN	The United Nations
UNCHE	United Nations Conference on Human Environment
UNCED	United Nations Conference on Environment and Development
UNCLOS	United Nations Convention on Law of the Sea
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe

UNEP	United Nations Environment Programme
UNGA	United Nations General Assembly
UNRIAA	United Nations Report of International Arbitral Awards
UNTS	United Nations Treaty Series
US	United States Supreme Court Reports
USA	United States of America
USBS	Treaties and Other International Agreements of the USA
VA ELJ	Virginia Environmental Law Journal
WCED	World Commission on Environment and Development
WCN	World Charter for Nature
WCU	World Conservation Union
WEHAB	Water and sanitation; Energy; Health, Agriculture and Biodiversity
WQMN	Water Quality Monitoring Network
WSSD	World Summit on Sustainable Development
WTO	World Trade Organisation
WUP	Water Utilisation Programme
YBIEL	Yearbook of International Environmental Law
YBILC	Yearbook of International Law Commission
YB of World Affairs	Yearbook of World Affairs

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INTRODUCTION

1. General Background

Over the last few decades, it has become clear that the conflicts between environmental protection and the need to promote developmental growth are becoming increasingly imperative. The concept of sustainable development was created to reconcile the above conflict between these two extremes in order to ensure that an adequate quantity of natural resources and a good quality of environment are preserved for longer term purposes and for the uses of future generations.

Sustainable development is a concept of reconciliation that has been in process of development for quite some time, but it was first put before the international community when the UN convened the Conference on the Human Environment in 1972. The international community adopted the Stockholm Declaration,[1] in which Principle 21 spelled out the concept of reconciliation, expressed in the following sense:

> '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 policies, and the responsibility to ensure that their 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'.[2]

This concern for sustainable development was later referred to in 1987 during the meeting of the World Commission on Environment and Development (WCED) chaired by Mrs Brundtland (a Norwegian Prime Minister). Its report, which is better known as the Brundtland Report, clearly asserted that there is a need to ensure 'sustainable development' and provide mechanisms to promote 'greater co-operation among developing countries and between countries at different stages of economic and social development'.[3] The meaning of sustainable development was elaborated in

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[1] For the Stockholm Declaration, see L.B. Sohn, 'The Stockholm Declaration on the Human Environment', 14 *HarvILJ* (1973), 485-486; P.W. Birnie and A.E. Bolye, *International Law and the Environment*, 2nd ed., (2002), 38-40 (hereinafter *International Law...*); and S.C. McCaffrey, G. Handl, and H. Taubenfeld, 'Ten Years After Stockholm: International Environmental Law: A Panel', 77 *Proc. ASIL* (1983), 411.

[2] Full text, see P.W. Birnie and A.E. Boyle, *Basic Documents on International Law and the Environment'* (1995), 7.

[3] Chairman's Forward, *Our Common Future*, (1987), ix.

this Report as the ability of humans 'to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of the future generations to meet their own needs'.[4]

After the UN General Assembly convened a second Conference in Rio de Janeiro in 1992, the status of this new concept of sustainable development became more secure when 176 of the participating countries adopted the Rio Declaration on environment and development and an action programme, Agenda 21,[5] in both of which this concept was incorporated. The influences of the Rio Declaration and Agenda 21 are significant because they set out a new trend in the relevant principles of international law, requiring that they should be interpreted, applied and implemented in a manner which promotes the sustainable development of the globe's environment and natural resources. It is these influences that have given rise to the further evolution of the legal principles of international watercourses law, and which have inspired this writer to investigate and examine in more detail precisely how and to what extent the concept of sustainable development has given rise to the development of this area of law, particularly in the Mekong River Basin.

2. Purpose of This Study

This study thus aims to analyse the development of the concept of 'sustainable development' in international law and its application to international watercourses law. It examines the relevant developments and the challenges faced following emergence of the above concept. The Mekong River Basin was chosen as a case study to demonstrate the effects experienced by regional watercourses law, particularly in developing countries. The practices of the Mekong riparian states will be analysed to determine the extent to which this emergent Mekong legal regime has been influenced by these and has also evolved as a result of adoption of the concept of sustainable development in the Mekong Agreement. Such evolution will be examined to see also

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[4] *Ibid.*, 8.

[5] Agenda 21 is the Action Plan for the 1990s and beyond adopted by the international community at the Rio Conference. It presents a set of integrated strategies and detailed programmes to halt and reverse the effect of environmental degradation and promote environmentally sound and sustainable development in all countries. This is one of most important objectives of the Rio Declaration. Text of the Rio Declaration, see Birnie and Boyle, *Basic Documents...*, 9. Text of Agenda 21, see N. Robinson, ed., *Agenda 21: Earth's Action Plan* (1993).

how it reflects the extent to which the law in this region contributes to the development of the international law relating to internationally shared watercourses.

3. Why the Choice of the Mekong River Basin?

The reasons for choosing the Mekong as the focus of discussion are first because, it has a long history (since 1957) of integrating the concept of sustainable development into its legal framework.[6] However, the specific term 'sustainable development' was not adopted until 1995 when the Agreement on the Co-operation for the Sustainable Development of the Mekong River Basin (the Mekong Agreement) was concluded. It was the adoption of this concept that attracted the attention both of the present writer and the international community as it is the first watercourse regime intending to give effect to the concept of sustainable development.

In addition, this regime is more interesting than other watercourse regimes because it is one based solely on co-operation between developing countries. The way in which they interpret and implement the above concept will represent the needs and interests of developing countries, which may be different from perceived needs in the western world.[7] Their practices are therefore of great interest as they could be of interest to other developing state regimes. Lastly, the way in which the Mekong Agreement integrates environmental concerns into the application of equitable utilisation coupled with the obligation to protect the environment of the Mekong River Basin illustrates a potentially ideal mechanism for achieving sustainable development of international watercourses. The above factors thus make the Mekong regime worthy of detailed discussion.

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[6] The concept of integrating environmental concerns into the development process has been firstly found in the 1975 Joint Declaration in which the water balance and water quality of the Basin were required to be considered in each particular utilisation of water resources (Article III paragraph 2). The concept of 'sustainable development' was reaffirmed in the 1987 Annual Report when it was accepted that 'development can only provide sustainable benefits [to all the Parties] if ecological characteristic of the area to be developed is taken into account during the process planning'. *The 1987 IMC' Annual Report*, 11.

[7] Such as the Danube and the Rhine.

4. Methodology

As this thesis involves theoretical as well as practical analysis, the methodology used is based on documentary research as well as by conducting fieldtrips and interviews. As far as the first is concerned, academic works, international agreements and international soft law instruments that relate to the concept of sustainable development have been analysed in order to address the latest issues arising within the international domain. The reports of the International Law Commission on the drafting of the 1997 UN Convention on the Non-Navigational Uses of International Watercourses are also examined in depth when this study focuses on the influence of the notion of sustainable development on emerging international watercourses law.

As for the latter, visiting the MRC Secretariat has allowed the present writer to consult publications that are produced by the Mekong River Commission and to gain insight into the work and performance of this organisation. The present writer visited the Secretariat when it was located in Bangkok (where it was situated from 1957 to 1998) and also when it was relocated to Phnom Penh (from 1998 until the beginning of 2004).[8] The annual reports of the MRC Secretariat and other materials, such as reports of research teams and the latest subsidiary agreements,[9] were also obtained from the fieldtrips made to the Secretariat.

However, it is important to note that not all of the needed relevant materials were available for consultation. These include, for example, the travaux préparatoires of the 1995 Mekong Agreement. This is because the Mekong Parties wanted to keep the details of the negotiation process confidential. Therefore, the interpretation of the 1995 Mekong Agreement in this study is based on the interviews conducted with the senior legal advisor of UNDP, G. Radosevich, who assisted the four Parties in drafting this instrument,[10] with some of the representatives of some Parties (those from Thailand, Lao PRD and Vietnam only), and the staff of the MRC Secretariat. This study seeks to maintain a neutral view concerning the problems and prospects of the Mekong Agreement in so far as this is possible. This is to fulfil the objective of

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[8] For the issues raised by relocation, see Chapter 4 of this thesis.
[9] These include those procedural rules that are established as components of the Rule for Water-Utilisation and Inter-basin Diversion. See Chapter 3 for more details.
[10] UNDP sponsored the draft of this agreement.

this study, viz. addressing the way in which the mutual interest of the Mekong Parties, viz. sustainable development of the Mekong River Basin, can more effectively be achieved.

5. Definition Employed in This Study

Although the 1997 UN Convention on international watercourses has already introduced the use of the term 'international watercourse' and provided a definition for it, divergent uses of terminology in other international and regional watercourse agreements are apparent. Some instruments employ the term 'international rivers',[11] some use 'international drainage basin',[12] a term introduced by the ILA in the

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[11] Due to the limited space of this study, it is unlikely that the full extent of the discussion on the issue of the definition can be mentioned herein. However, it is important at least to refer to the development of the definition in earlier days. The term 'international rivers' was first used to represent the scope of international watercourses. It considered navigability to be the ground for determining the international status of rivers. The first instrument to mention this term was the 1815 Final Act of the Congress of Vienna. Only navigable rivers traversing or separating several states were deemed international rivers. The 1919 Versailles Peace Treaty later followed the same approach, its Article 331 provided that a river possesses international status if:

> 'all navigable parts of these river systems [which] naturally provide more than one state with access to the sea, with or without transhipment from one vessel to another; together with lateral canals and channels constructed either to duplicate or to improve naturally navigable sections of the specified river systems, or to connect two naturally navigable sections of the same river'.

The element of 'accessibility to the sea' and a 'community of interest of riparian states' were mentioned in the decision of the Permanent International Court of Justice in the Territorial Jurisdiction of the International Commission of the River Oder Case. (*PCIJ* Series A., No. 23, Series C, No. 17, Document instituting proceedings: Special Agreement of 30 October 1928, for more details, see Chapter 2 at 1.3 Equitable Utilisation).

However, the progressive development of science and technology now allows humans to exploit international watercourses in a more complicated manner. The greatest challenge to the definition of international rivers concerns whether it includes the other uses of international rivers, and particularly other sources of water such as tributaries, lakes, underground waters or the like which are also part of and related to the system of the same river. Olmstead considered the definition of international rivers insufficient because it did not seem to provide 'a foundation for adequate legal analysis regarding rights of states in the uses of the waters'. This approach did not indicate the precise scope of its physical coverage, which therefore made it vague and problematic were it to be applied to non-navigational uses of international watercourses that basically involve more complicated activities in the broader context of sources of water. The attempt to define 'international rivers' was therefore abandoned since it could not provide a comprehensive meaning that included uses other than navigation of international rivers. For the issue of navigation of international watercourses, see R.R. Baxter, *The Law of International Waterways* (1964); C.J. Olmstead, 'Introduction' in A.H. Garretson, R.D. Hayton and C.J. Olmstead. eds., *The Law of International Drainage Basins* (1967), 4; and P.M. Ogilvie, *International Waterways* (1920), particularly Chapters II, and VIII.

[12] Regardless of the fact that the Sixth Committee of the UN declined to adopt the whole Helsinki Rules, the drainage basin concept remains very influential. It was recognised by the Inter-American Bar Association and the Institute of International Law. The PCIJ referred to the drainage basin concept in

Helsinki Rules, but some use the term 'international watercourse'. For convenience the term 'international watercourse' is used in this study to represent rivers, lakes or groundwater sources shared by two or more states. This is to prevent any misunderstanding and confusion that could be caused from the use of different terms.

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the River Oder case, stating that: '...when consideration is given to the manner in which States have regarded the concrete situations arising out of the fact that a single waterway traverses or separates the territory of more than one State... it is at once seen that a solution of the problem has been sought not in the idea of a right of passage in favour of upstream States but in that of a community of interest of riparian States. This community of interest in a navigable river becomes the basis of a common legal right the essential features of which are the perfect equality of all riparian States in the use of the whole course of the river...'. *PCIJ* Series A., No. 23, Series C, No. 17, 27.

This sustained support makes the concept of the drainage basin part of the well established theory of international watercourses law that has been adopted in many international and regional watercourse agreements. Birnie and Boyle examine this notion from an environmental point of view and state that it is 'the most efficient means of achieving control of pollution and water utilisation' since it recognises an international watercourse as 'an individual hydrological unit, which requires comprehensive consideration in order to effect maximum utilisation and development of any portion of its waters'. Therefore, as Teclaff states, 'if there is a change in any of the system, e.g. climate, geology, topography, soils, flora and fauna, it would certainly alter the equilibrium of the basin'. The term international drainage basin thus seems to offer a wider scope for riparian states to deal with other related problems that may arise from the use of international watercourses.

The above concept also supports the fact that any international watercourse is part of the environment. Development, management and protection of international rivers or watercourses cannot be restricted only to water resources. Effective development and management must focus on the whole basin. This means that it is not only water resources that should be focused upon, but also energy, forestry, transport, biodiversity and other related aspects of resources. The wide scope of the drainage basin concept allows the states concerned to achieve the development or protection of the whole basin. This perhaps explains why it still plays an important role in many international agreements include, for example, the Mekong; the Rhine; the Danube; the Elbe; the Plate; the Komati; the Meuse and Scheldt; the Senegal; the Zambezi; and the Niger. For the development of the definition of term, see Birnie and Bolye, *International Law...*, 299; A.H. Garretson, R.D. Hayton and C.J. Olmstead. eds., *The Law of International Drainage Basins* (1967); F. Berber, *Rivers in International Law* (1959); J. Bruhacs, *The Law of Non-navigational Uses of International Watercourses* (1993); and A. Teclaff, 'Evolution of the River Basin Concept in National and International Water Law', 36 *Nat Resource J* (1996), 360. For further discussion of the hydrologic cycle and international law, see the report of the Symposium in 31 *Nat Resources J* (1991), 1ff. See also, the latest attempt of the ILA's Water Resources Committee to revise the Helsinki Rules. The concept of the international drainage basin is included in the latest draft. It is expected that this project will be completed by 2004. See Reports of the ILA's Water Resources Committee between 2000-2002 and its forthcoming report of 2003.

CHAPTER 1: SUSTAINABLE DEVELOPMENT IN INTERNATIONAL LAW

INTRODUCTION

As mentioned in the introduction of this thesis, the concept of sustainable development has played an important role in international law for quite some time. However, it was not until the UNCED was concluded and its Declaration on Environment and Development adopted at Rio that the above notion was comprehensively recognised. This Chapter therefore aims to explore the important aspects of this concept and its components.

The reason why the present Chapter focuses its discussion on the arguments concerning the development of the concept of sustainable development since UNCED is because 176 countries attended this conference and reached a consensus on the adoption of the Rio Declaration. The content of the Rio Declaration thus reflects the view of the majority of states on the issue of environment and development. As this study aims to investigate the legal status and significance of the concept of sustainable development, it should therefore first focus on issues and further discussions arising from this Declaration in order to ensure that it examines the most recent views of the international community upon the application and implementation of the concept, and analyses the way in which countries approach formulation of their environmental and developmental policies.

This Chapter will explore the legal significance of the concept of sustainable development focusing on its emergence and acceptance at Rio. Further relevant actions concerning its legal status and implications will also be investigated; for example, references to the concept of sustainable development in the Gabčíkovo-Nagymaros case[1] (the Gabčíkovo case) will be examined to demonstrate the extent to which this decision has contributed to the legal status of this concept.

The second section will consider the relevant inherent components of sustainable development. Only four important components - the integration of environment and

[1] 37 *ILM* (1997), 162; *ICJ Report* (1997), 92; and also at www.icj-cij.org

development, sustainable use, the precautionary principle, and intergenerational equity - are selected for discussion here in order to ensure that discussion here is conducted in line with that follows in the following Chapters.

The Draft International Covenant on Environment and Development has been chosen for analysis also as it represents the latest attempt of the international community to codify a first international instrument, the law relevant to the field of sustainable development. This instrument is important, as it is a new framework drafted to represent and ensure the achievement of the world's sustainable living. The outcome of the World Summit on Sustainable Development (WSSD) and the Johannesburg Declaration will also be examined later in this dissertation in order to illustrate current development of this issue. Conclusions are drawn and presented in the final section.

1. The Concept of Sustainable Development[2]

1.1 Sustainable Development at Rio[3]

Following the success of the UNCHE, attempts were made by leading organisations both under and outside UN auspices to elaborate and develop the principles and ideas adopted in its Declaration. Many international instruments were subsequently adopted. The most important among them included, for example, the UNEP Draft Principles,[4] the World Charter for Nature,[5] and the Brundtland Report.[6] It is the

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[2] For other aspects of this concept and the Rio Declaration, see K. Ginther, R.D. Hayton and C.J Olmstead., eds., *Sustainable Development and Good Governance* (1995); A. E. Boyle and D. Freestone, *International Law and Sustainable Development* (1999); W. Lang, *Sustainable Development and International Law* (1995); D. Pearce, et.al., *Sustainable Development : Economics and Environment in the Third World* (1990); J. Werksman, ed., *Greening international institutions* (1996); L. Campiglio, et.al., *The Environment after Rio* (1994); R. L. Revesz, et.al., *Environmental Law, The Economy and Sustainable Development : the United States, the European Union and the International Community* (2000); R.D. Munro and J.G. Lammers, *Environmental Protection and Sustainable Development : Legal Principles and Recommendations* (1987); K. Hossain, 'Legal Aspects of Sustainable Development', *ILA's Report* (1992), 404-423 and (1994), 111-141; R.A. Malviya, 'Sustainable Development and Environment: Emerging Trends and Issues', 36:4 *Indian JIL* (1996), 57-74; W.E. Burhenne and N.A. Robinson, eds., *International Protection of the Environment : Conservation in Sustainable Development* (1994); D. Freestone, 'The Road from Rio: International Environmental Law After the Earth Summit' 6:2 *Journal of Environmental Law* (1994), 193-218; and Malanczuk, P. 'Sustainable Development: Some Thoughts in the Light of the Rio Conference' in K. Ginther, et.al., *Sustainable Development and Good Governance* (1995), 23-44.

[3] See the development of this concept during pre-Rio in the Introduction Chapter.

[4] Text in Birnie and Boyle, *Basic Documents...*, 21-26. The UNEP Draft Principles on Conservation and Harmonious Utilisation of Natural Resources Shared by Two or More States are products of

Brundtland Report that is the most directly relevant here. This report was prepared by WCED in 1987 and became the key source of reference for discussions at UNCED, particularly on the implications of sustainable development. Sands also considers it to be 'a catalyst for UNCED'[7] as it is in this instrument that sustainable development was first given a concrete meaning, detailing some important elements of sustainable development, suggesting, for example, that:

> 'Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.[8]

At UNCED,[9] representatives from 176 countries met to discuss and negotiate codification of various principles concerning environment and development,[10] and later adopted three non-legally binding instruments, viz. the Rio Declaration,[11] the Forest Principles,[12] and Agenda 21.[13] The Convention on Biological Diversity (CBD)[14] and the Framework Convention on Climate Change (FCCC)[15] were concluded and a Commission on Sustainable Development (CSD) was also established as a competent body for reviewing progress and assisting states in implementing the principles of the Rio Declaration and Agenda 21.

UNEP, formulating non-legally binding principles and guidelines concerning the use of resources that are not 'global commons'. Principle 21 of the Stockholm Declaration was repeated in Principle 3. This instrument was, however, never submitted to the UN for consideration. UNEP Governing Council Decision 6/14 (1978).

[5] Text in Birnie and Boyle, *Basic Documents...*, 15-20. This Charter was drafted by IUCN and its main focus is on the conservation of nature for the benefits of mankind. Not all of its provisions specifically declare rules of international law, as some of them only constitute policies. For further discussion of the Charter, see W. Burhenne and W. Irwin, *The World Charter for Nature: A Background Paper* (1986); and P. Sands, *Principles of International Environmental Law* (1995), 42-44.

[6] The Brundtland Report pinpointed six important areas requiring legal and institutional update: population and human resources, food security, the loss of species and ecosystem, energy, industry and human settlement. See WCED, *Our Common Future* (1987).

[7] Sands, *Principles of International Environmental Law*, 45.

[8] WCED, *Our Common Future*, 8.

[9] For Reports of the Preparatory Commission, see UN Doc. A/CONF. 151/PC/L.31, Annex (1991); A/CONF. 151/PC/78 (1991); A/CONF. 151/PC/WG. III.2 (1991); A/CONF. 151/PC/WG III/L5, L6, L8/Rev. 1(1991), and L20-L28 (1992).

[10] *Report of the UN Conference on Environment and Development*, UN Doc. A/CONF.151/26/REV.1, Vols. I-III (1992).

[11] Text in Birnie and Boyle, *Basic Documents...*, 9 and *ibid.*

[12] A/CONF.151/6/Rev.1, (1992).

[13] UNCED, *Agenda 21: Programme of Action for Sustainable Development; Rio Declaration on Environment and Development; Statement of Forest Principles : The First Text of Agreements Negotiated by Governments at the United Nations Conference on Environment and Development (UNCED), 3-14 June 1992, Rio de Janeiro, Brazil,* (1993).

[14] 31 *ILM* (1992), 818.

As far as the definition of the concept of sustainable development is concerned, the Rio Declaration did not provide one. Its core concept, as indicated in the Brundtland Report, was however elaborated in a few principles, such as Principles 2, 3, and 4. Principle 2 of the Rio Declaration asserts 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 developmental 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' (emphasis added).

Principle 2 of the Rio Declaration declares that although states retain their sovereignty to use the natural resources[16] in their territories, they also have a responsibility to ensure that they do not cause any environmental damage to the environment of other states or to areas beyond their jurisdiction. Principle 2 essentially reproduces Principle 21 of the Stockholm Declaration, in which the above concept was originally declared.[17] It was in Principle 21 that the concept of sovereignty was balanced by a new assertion of states' responsibility not to cause environmental damage. Sohn views this situation as an attempt 'to balance the right of a state to control matters within its

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[15] 31 *ILM* (1992), 851.

[16] Schrijver regards the principle of sovereignty as the backbone of public international law because it implies 'the absoluteness of a State's political power'. Jennings and Watts view it as 'the power of the ruler of the state over everything within the state'. They also observe that during the 20th century there have been attempts to 'transpose this essentially internal concept of sovereignty on to the international plane'. The enthusiasm of developing and newly independent countries to put forward the concept of the permanent sovereignty over natural resources may perhaps illustrate this observation. See UN Res. 1803 (XVII) on Permanent Sovereignty over Natural Resources, which emphasised the 'inalienable right' of peoples to use and exploit the natural resources situated in their territory for the interests of national development and of the well-being of the people of the State concerned. Text in I. Brownlie, *Basic Documents in International Law* (1995), 236-239. The UN Resolutions proclaiming a New International Economic Order (NIEO) and a Charter of Economic Rights and Duties of States are also notable examples of the same enthusiasms of developing and newly established countries. A New International Economic Order was adopted at UNGA in 1974 without vote. Text in 13 *I.L.M.* (1974) 715; UNGA Res. 3201, (S-VI), 6th Special Session; UN Doc. A/9556 (1974). See N. Schrijver, 'The Dynamics of Sovereignty in a Changing World' in K. Ginther, et.al., *Sustainable Development and Good Governance*, 80-89; N. Schrijver, *Sovereignty over Natural Resources* (1997); B. Kingsbury, 'Sovereignty and Inequality' 9 *EurJIL* (1998), 500-625; R. Jennings, and A. Watts, eds., *Oppenheim's International Law*, 9th ed., (1996), 125*ff*; S.R. Chowdhury, 'Permanent Sovereignty over Natural Resources' in K. Hossain and S. Chowdhury, eds., *Permanent Sovereignty over Natural Resources* (1984), 1-41; and A.D. Tarlock, 'Exclusive Sovereignty versus Sustainable Development of a Shared Resource: the Dilemma of Latin American Rainforest Management' 32 *Texas ILJ* (1997), 37-66.

[17] Principle 21 states that: 'States have, in accordance with the Charter of the United Nations and the principle of international law, the sovereign right to exploit their own resources pursuant to their own *environmental 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' (emphasis added).

territory with its responsibility to ensure that what is done within that territory does not cause damage outside'.[18] Caldwell also takes a similar view and states that Principle 21 is an 'enlarged and facilitated means toward international action previously limited by inadequate perception of environmental issues and by restrictive concepts of national sovereignty....'[19] Schrijver observes this development and considers that this provision also reflects a dynamic interpretation of the role of state sovereignty as it no longer sanctions states' absolute rights to use natural resources and, at the same time, now imposes obligations and responsibilities upon states not to cause damage to the environment.[20]

With this in mind, such a compromise reflects the core concept of sustainable development, as Principle 2 does not place greater emphasis on developmental or environmental considerations. Both should thus be considered together to ensure that the use of resources does not cause irreversible damage to the environment of other countries and areas beyond their jurisdiction. This balance becomes a key element of sustainable development.

As far as Principle 3 of the Rio Declaration is concerned, the concept of sustainable development is elaborated further as follows:

> 'The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations'.

Principle 4 goes on to state that:

> 'In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process, which cannot be considered in isolation from it'.

It can be said that the implied nature of sustainable development adopted in the above provisions is far more progressive than that indicated in the Brundtland Report. Principle 3 emphasises the issue of development, mentioning the protection of benefits and of the requirements of future generations. As observed by Subedi, this provision attempts to 'add a sustainable development dimension to various

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[18] Sohn, L.B., 'The Stockholm Declaration on the Human Environment', 14 *HarvILJ* (1973), 485-486.
[19] Caldwell, L.K. *International Environmental Policy* (1990), 55 and 60.

international economic law principles', viz. recognising the right to development and the sovereign rights of states in the implication of the concept of sustainable development.[21] At the same time, environmental consideration is integrated into the economic dimension, as developmental and environmental concerns must be equitably fulfilled.

Principle 4 highlights the fact that if such sustainable development is to be fully realised, environmental protection must be taken into consideration in any process of development. This is because these requirements are interrelated. Principle 4 represents a step beyond the definition given in the Brundtland Report, as it presents a much more clearly defined elaboration of sustainable development and attempts to set out this new norm in more concrete terms to 'ensure that development decisions do not disregard environmental considerations'.[22]

The influence of these provisions is quite significant. The concept of sustainable development was incorporated into the instruments and agreements adopted at Rio, including Agenda 21,[23] the Forest Principles,[24] the CBD,[25] and the FCCC.[26] The substantial impact of the above provisions and of the concept of sustainable development can be found in other areas of law, such as that concerning the protection of the marine environment;[27] fisheries;[28] desertification;[29] the management

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[20] Schrijver, N., 'The Dynamics…', 87.

[21] Subedi, S.P, 'Sustainable Development Perspectives in International Economic Law' in A.H. Qureshi, ed., *Perspectives in International Economic Law* (2002), 269.

[22] Boyle and Freestone, *International Law…*, 10.

[23] UN Doc. A /CONF.151/26/Vol. III.

[24] UN Doc. A /CONF.151/26/Vol. III; and 3 *YBIEL* (1992), 830.

[25] The concept of sustainable development was referred to in the Preamble and Article 8 of the CBD. For further discussion on this instrument, see A. Boyle, 'The Convention on Biological Diversity' in L. Campiglio, *et.al. The Environment After Rio International Law and Economics* (1994); F. Burhenne and S. Casey-Lefkowitz, 'The Convention on Biological Diversity: A Hard won Global Achievement', 3 *YBIEL* (1992), 42-59; and Birnie and Boyle, *International Law…*, Chapter 11.

[26] See the Preamble and Article 3 of the FCCC, see also R. Churchill and D. Freestone, *International Law and Global Climate Change* (1991); Birnie and Boyle, *International Law…*, 523-533.

[27] As evidenced in the 1995 Washington Declaration on Protection of the Marine Environment from Land-based Activities; text in MRLC, UNEP and DANIDA, *Southeast Asia Handbook of Treaties and Other Legal Instruments in the Field of Environmental Law* (1997), 240.

[28] For instance, the 1995 Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks adopts the precautionary approach to conservation in order to protect straddling and highly migratory fish stocks, thus reflecting the influence of sustainable development on the formulation of a new aspect of the international law of the sea. For text, see 34 *ILM* (1995), 1542. See also the revision of the Baltic, Mediterranean, and North-East Atlantic regional seas treaties (which have been redrafted to correspond with Agenda 21), the 1995 Barcelona Convention for the Protection of the Mediterranean, and the 1992 Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area.

of international watercourses[30] and protection from transboundary pollution.[31] New agreements tend to follow this trend and Sands considers that these instruments 'seek to address economic and environmental matters, and to a limited extent aspects of human rights, in an integrated manner'.[32] It is in this more integrated fashion that Boer also regards it as evidence of 'a global paradigm shift from a culture of development without sufficient thought for the environment, to a culture of sustainability'.[33] Silveira views it as 'a marriage between the environment and development', emphasising the increasing awareness that these two subjects are indeed indivisible.[34]

The new culture now prevalent concerning achievement of sustainable development is not limited in its influence to existing legal concepts alone. It also requires newly developed concepts to be interpreted in the light of sustainable development. The impact of this new culture is found in the ICJ's judicial reasoning, specifically in its judgement on the Gabčíkovo case. In this case, the ICJ referred to the concept of sustainable development in order to change the culture surrounding development, and required Hungary and Slovakia to 'look afresh at the effects on the environment of the operation of the Gabčíkovo power plant'.[35] Lowe regards this judgement as very significant because it 'open [s] up the possibility of the development of the concept [of sustainable development] as a framework for the reconciliation of conflicts between developmental and environmental protection'.[36]

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[29] See the 1994 Convention to Combat Desertification in Those Countries Experiencing Drought and/or Desertification, Particularly in Africa (the Desertification Convention), text in Birnie and Boyle, *Basic Documents...*, 513.

[30] Such as the 1997 UN Convention on Non-Navigational Uses of International Watercourses (the 1997 UN Convention) and the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and Lakes (the Transboundary Watercourses Convention).

[31] See, for instance, the 1991 Convention on Environmental Impact Assessment in a Transboundary Context (Espoo); and the FCCC. Text in 30 *ILM* (1991), 800, and 31 *ILM* (1992), 851 respectively.

[32] Sands, P., 'International Law in the Field of Sustainable Development: Emerging Legal Principles' in W. Lang, ed., *Sustainable Development...*, 53.

[33] Boer, B. *et.al.*, *International Environmental Law in the Asia Pacific* (1998), 8. See also, B. Boer, 'Implementation of International Sustainability Imperatives at a National Level' in K. Ginther, *et.al.*, *Sustainable Development...*, 111-136.

[34] Silveira, M.P.W. 'The Rio Process: Marriage of Environment and Development' in M. Keating, *ed.*, *The Earth Summit's Agenda For Change : A Plain Language Version of Agenda 21 and the Other Rio Agreements* (1993), 10.

[35] Paragraph 140 of the judgement.

[36] Lowe, V., 'Sustainable Development and Unsustainable Arguments' in Boyle and Freestone, eds., *International Law...*, (1999), 35.

1.2 The Legal Status and Implications of Sustainable Development

Even though the concept of sustainable development has been referred to in many instruments, its exact definition, legal status and legal implications remain debatable.[37] This is because although the international community now recognises the implications of sustainable development, it has not yet proved ready to accept that states are obliged universally to develop sustainably. Some agreements refer to sustainable development as an objective to be achieved,[38] while others regard it as the governing principle.[39] Its divergent roles seem to be continuously developing, which means that the legal status and legal implications of sustainable development remain debatable. The present section is therefore devoted to discussing the current debates on the legal status and implications of this notion in order to clarify or at the very least shed some light on these ill-defined issues.

There are many reasons why the legal status of sustainable development must be considered. First, the concept of sustainable development is a very attractive notion. Handl regards it as a 'commitment to promote development', but notes that at the same time, it prohibits development exceeding the survival capacity of nature.[40] Both those who wish to promote social and economic growth and those who want to protect the environment and natural resources therefore support this concept. Thus, if sustainable development were a principle of international law, it would affect the pursuit of developmental and environmental policies because it would impose restraints on developmental activities and broaden the scope of international environmental law in preventing adverse effects on the environment and *vice versa*.[41] Clarifying the legal status of sustainable development may thus resolve or prevent

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[37] Sands admits that there is no existing generally accepted international legal definition of sustainable development. See Sands, 'International Law...', in Lang, ed., *Sustainable Development...*, 58.

[38] For instance, the Desertification Convention (Article 2); the CBD (Article 8(e)); and the 1997 UN Convention (Article 24(2)). Regional instruments, these include the 1985 ASEAN Agreement on the Conservation of Nature and Natural Resources (Article 1), text in MRLC, UNEP and DANIDA, *Southeast Asia Handbook...*, 243; and the 1994 Action Plan for the Protection and Sustainable Development of the Marine Environment and Coastal Areas of the East Asian Region (Paragraph 5), text in *ibid*, 260.

[39] For example, the Convention on the Protection of the Rhine (Article 4); the FCCC (Article 3(4));

[40] Handl, G., 'Environmental Security and Global Change: The Challenge to International Law' in W. Lang, *et.al., Environmental Protection and International Law* (1991), 80; and WCED, *Our Common Future*, 49-54.

[41] In this sense, see M. Pallemaerts, 'International Environmental Law from Stockholm to Rio: Back to the Future?' in P. Sands, ed., *Greening International Law* (1993), 1-19.

conflicting claims raised by those supporting environmental and developmental considerations.

In an attempt to clarify this matter, Handl suggests that it is necessary to have an authoritative third- party decision-making body pursuing this task on behalf of the international community.[42] The ICJ seems best suited to this role and its judgement on the Gabčíkovo case gives rise to the discussion on the legal status of sustainable development. It was in relation to issues raised in this case that the ICJ referred to this concept for the first time in judicial solution of a dispute between states.[43]

1.2.1 The Gabčíkovo-Nagymaros Case[44]

This case concerned a dispute between Hungary and Slovakia which had concluded a treaty on the construction and operation of the Gabčíkovo-Nagymaros System of Locks in 1977. This Treaty set forth obligations between the two countries to construct a large number of dams and other works jointly in order to divert the water of the Danube into their territories; this could be done via bypass canals. However,

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[42] Handl, 'Environmental Security...', 80.

[43] This case is also significant in other aspects of international law. This is so because a number of environmental issues and principles of international environmental law were raised in this dispute, e.g. the precautionary principle. It was also the first dispute concerning principles of international watercourses law and the first case in which the ICJ attempted to arrive at a decision in the context of the Rio Declaration. Sustainable development was thus specifically referred to in its judgement. See Paragraphs 85 and 140 of the judgement.

[44] See also, P. Sands, 'Watercourse, Environment and the International Court of Justice' in S.M.A. Salman, et al., *International Watercourses: Enhancing Co-operation and Managing Conflict* (1998), 103-107; R. Higgins, 'Natural Resources in the Case Law of the International Court' in Boyle and Freestone, eds., *International Law...*, 87-111; Lowe, V., 'Sustainable Development...', in *ibid,* 19-37; 8 *YBIEL* (1997); S. McCaffrey, *The Law of International Watercourses* (2001); M. Fitzmaurice, 'International Protection of the Environment', 9 *Hague Yearbook of International Law* (2001), 9-488; J. Fitzmaurice, 'The Ruling of the International Court of Justice in the Gabčíkovo-Nagymaros Case: A Critical Analysis', 9 *Eur Envt'l LR.* (2000), 80-87; B. Nagy, 'Divert or Preserve the Danube? Answers 'in concrete' - A Hungarian Perspective on the Gabcikovo-Nagymaros Dam Dispute' 5:2 *Review of European Community and International Environmental Law* (1996), 138-144; C.B. Bourne, 'The Case Concerning the Gabčíkovo-Nagymaros Project: An Important Milestone in International Water Law', 8 *YBIEL* (1997), 6-12; A.E. Boyle, 'The Gabčíkovo-Nagymaros Case: New Law in Old Bottles', *ibid.*, 13-20; P. Canelas de Castro, 'The Judgement in the Case Concerning the Gabčíkovo-Nagymaros Project: Positive Signs for the Evolution of International Water Law' , *ibid.*, 21-31; J. Klabbers, 'The Substance of Form: The Case Concerning the Gabčíkovo-Nagymaros Project, Environmental Law and the Law of Treaties', *ibid.*, 32-40; S. Stec and G.E. Eckstein, 'Of Solemn Oaths and Obligations: The Environmental Impact of the ICJ's Decision in the Case Concerning Gabčíkovo-Nagymaros Project', *ibid.*, 41-50; G. Eckstein, 'Application of International Water Law to Transboundary Groundwater Resources and the Slovak-Hungarian Dispute Over Gabčikovo-Nagymaros' 19 *Suffolk Transnational Law Review* (1995), 68-89; and M. Miyoshi, *Considerations of Equity in the Settlement of Territorial and Boundary Disputes* (1993).

due to domestic pressure, Hungary suspended and later abandoned the construction and operation of the project in 1989 on the grounds of possible environmental damage. In 1992 Slovakia (which was part of Czechoslovakia at that time) unilaterally proceeded with the project. In the same year, Hungary announced the termination of the 1977 Treaty. The case was referred to the ICJ to consider the legality of these events and the legal consequences arising from them.

1.2.2 Normative Force of the Concept of Sustainable Development in the Gabčíkovo-Nagymarose Case[45]

As far as the concept of sustainable development is concerned, the most interesting parts of this judgement are paragraphs 112 and 140 in which the ICJ for the first time referred respectively to 'new environmental norms' and the concept of 'sustainable development'. Paragraph 112 reads:

> '..., *the Court wishes to point out that newly developed norms of environmental law are relevant for the implementation of the [1977] Treaty* and that the parties could, by agreement, *incorporate them through the application of Articles 15, 19 and 20 of the Treaty.* These articles do not contain specific obligations of performance but *require the parties*, in carrying out their obligations to ensure that the quality of water in the Danube is not impaired and that nature is protected, *to take new environmental norms into consideration* when agreeing upon the means to be specified in the Joint Contractual Plan...' (emphasis added).

Paragraph 140 reads:

> '...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 effects upon the environment. Owing to new scientific insights and to a growing awareness of the risks 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 also 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.
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> For the purpose of the present case, this means that the Parties together should look afresh at the effects on the environment of the operation of the Gabčíkovo power plant. In particular

[45] For other aspects of this case, see D. Reichert-Facilides, 'Down the Danube: The Vienna Convention on the Law of Treaties and the Case Concerning the Gabčíkovo-Nagymaros Project', 47 *ICLQ* (1998), 837-854 and M. Fitzmaurice, 'The Gabčíkovo-Nagymaros Case: The Law of Treaties', 11 *LeidenJIL* (1998), 321-344.

they must find a satisfactory solution for the volume of water to be released into the old bed of the Danube and into the side-arms on both sides of the river.'

Reading paragraph 112, it is clear that the Court accepted that new environmental norms are emerging. The Court also suggested that, even though the 1977 Treaty does not contain specific obligations relating to performance, the parties 'could incorporate these newly developed norms through the application of ... the Treaty' because they are relevant.[46] This means that such new norms should be read in conjunction with other provisions of the Treaty. This pargraph is important, as it confirms the application and defining role of these new norms in international watercourses law.

The Court implied further in paragraph 140 that these new norms mean taking due consideration of 'the effects upon the environment' that occur when mankind interferes with a natural balance for economic or other reasons. The Court then referred to the need to reconcile economic development with protection of the environment through the concept of sustainable development. It is this part of the judgement that gives rise to a great deal of discussion concerning whether or not the Court attempted to declare the legal status of the concept of sustainable development as a principle of international law. Only the views taken by Judge Weeramantry and Lowe are selected for discussion below as their views are progressive and give an insight into the formation of a principle of international law deriving from different legal aspects.

On the one hand, Judge Weeramantry asserted in his separate opinion to the ICJ's judgement on the Gabčíkovo case that sustainable development is 'more than a mere concept, it is a principle with normative value'.[47] He confirms this statement by referring to the traditional formation of principles of international law, as there exist *opinio juris* and state practices confirming the legal status of sustainable development as a principle of customary international law. To support this, he gives an insight into

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[46] Sands, P., 'Watercourse, Environment...', 106. This judgement also raises another interesting issue concerning the competition and application between an earlier treaty norm and a subsequent customary norm. For an insight into practice of international adjudication and the recommendation to meet this challenge, see P. Sands, 'Sustainable Development: Treaty, Custom, and the Cross-fertilisation of International Law' in Boyle and Freestone, *Sustainable Development...*, 39-60.

[47] Weeramantry, separate opinion to the ICJ's judgement on the Gabčíkovo-Nagymaros case, *ICJ Report* (1997), 88.

the emergence of this concept, which has been evolving beyond the Stockholm Conference of 1972. Such evolution occurs not only in the western world but also in Asia and Australia, in the Muslim and the Buddhist world.[48] He concludes that the normative value of the concept of sustainable development is found 'by reason not only of its inescapable logical necessity, but also by reason of its wide and general acceptance by the global community'.[49] It is a principle of reconciliation[50] that attempts to reconcile the conflict between developmental and environmental concerns; and it is this concept that enables the Court to hold the 'balance even between the environmental and the developmental considerations'.[51]

On the other hand, Lowe observes this development, but presents a different aspect of the concept of sustainable development obtaining normative status. His view is that it is the way in which the ICJ approached this concept that gives it a real normative force.[52] In his article, he gives an interesting view that:

> 'Where a tribunal espouses the concept, it becomes part of the conceptual apparatus of that tribunal... Where the concept is an essentially "passive" one, the concept is employed as standards. But the concept might be employed... as a right. The tribunal would [then] give the concept the force of a primary norm of international law. Similarly, a concept such as sustainable development can be used by a tribunal to modify the application of other norms. It requires a kind of normativity within the process of judicial decision-making. Here,...the concept can plainly affect the outcome of cases. *And where the decisions of the tribunal are regarded as having persuasive authority as statements of the law, the application of the concept will inevitably influence the further development of the law.... It is in this sense that the concept of sustainable development has real normative force*' (emphasis added).[53]

From Lowe's statement, it is clear that he focuses on how the ICJ exercises its authority in decision-making. It is here that he particularly stresses that 'the decisions of the tribunal are regarded as having persuasive authority as statements of the law' and concludes that, therefore, when the ICJ refers to a concept, it certainly affects the legal status of that particular concept. The reference to the concept of sustainable development in the judgement in the Gabčíkovo case is no exception. He considers that by such means the normative status of the concept of sustainable development

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[48] Weeramantry, separate opinion, 91-111.
[49] Weeramantry, separate opinion, 95.
[50] Weeramantry, separate opinion, 90.
[51] Weeramantry, separate opinion, 88.
[52] Lowe, 'Sustainable Development ...', 31-35.
[53] *Ibid*, 34.

clearly does not derive from the traditional formation of norms of customary international law through *opinio juris* and state practice.[54] 'Those who look for such proof, and those who say that they have searched and found none', he concludes, 'were looking in the wrong place'.[55] This is because sustainable development obtains its normative status through the process of judicial reasoning in the decision-making process.

It is clear that the views taken by Judge Weeramantry and Lowe are derived from different perspectives of international law. They are not conflicting though as both conclude that the concept of sustainable development has normative force and has become part of international law. However, they see the way in which this concept achieves its normative status from different points of view.

1.2.3 Sustainable Development as referred to by the World Trade Organisation[56]

The World Trade Organisation (WTO) is one of the international organisations involved in the issue of sustainable development.[57] The way in which the WTO perceives this concept is therefore important as it reflects the implications of sustainable development from the developmental orientated perspective. Its viewpoint should also be used to predict the possible outcome if a dispute between trade and environment occurs.

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[54] He argued this point very sensibly, see Lowe, 'Sustainable Development...', 22-25. See also X. Fuentes, 'Sustainable Development and the Equitable Utilisation of International Watercourses' 69 *BYIL* (1998), 119-200 on the relationship between equitable utilisation as a primary rule and sustainable development as a modifying rule.

[55] Lowe, 'Sustainable Development...', 36.

[56] See also, D. Luff, 'An Overview of the International Law of Sustainable Development and a Confrontation between WTO Rules and Sustainable Development', 29 *Revue Belge de Droit International* (1996), 90-144; and E.B. Weiss, 'Environment and Trade as Partners in Sustainable Development: a Commentary', 86 *AJIL* (1992), 728-735.

[57] See also, S.P. Subedi, 'Sustainable Development..., 261-276; F. Macmillan, *WTO and the Environment* (2001); P. Sands, 'Environmental Protection in the Twenty-First Century: Sustainable Development and International Law' in R.L. Revesz, et.al, *Environmental Law, The Economy and Sustainable Development* (2000), 369-409; and R.E. Hudec, 'The GATT/WTO Dispute Settlement Process: Can It Reconcile Trade Rules and Environmental Needs?' in R. Wolfrum, ed., *Enforcing Environmental Standards: Economic Mechanisms as Viable Means?* (1996), 123-164.

In the Agreement establishing the WTO itself, the concept of sustainable development was mentioned.[58] It was in 1998 that the WTO had brought before it a dispute between the USA and a group of developing countries, including India, Thailand, Malaysia and Pakistan, concerning the importing of shrimp and shrimp products. In this Shrimps and Turtle case,[59] the WTO Appellate Body referred to 'the objective of sustainable development' as indicated in the Preamble to the WTO Agreement and the 1992 Rio Declaration and ruled that:

> 'We note once more that this language demonstrates a recognition by WTO negotiators that optimal use of the world's resources *should be made in accordance with the objective of sustainable development.* As this preambular language reflects the intentions of negotiators of the *WTO Agreement*, we believe it must add colour, texture and shading to our interpretation of the agreements annexed to the *WTO Agreement*, in this case, the GATT 1994. We have already observed that Article XX(g) of the GATT 1994 is appropriately read in the perspective embodied in the above preamble'. (emphasis added)

Therefore, the WTO Agreement and agreements annexed to the WTO Agreement should be interpreted in the light of the concept of sustainable development. This was the first time that the WTO Appellate Body applied the concept of sustainable development in one of its judgements and it did so by referring to the object, purpose and intention of the negotiators who drafted the WTO Agreement.

The WTO Appellate Body later considered another aspect of sustainable development in the Beef Hormones case.[60] It was faced with a question concerning 'risk assessment', and sought to apply one of the basic principles of sustainable development, viz. the precautionary principle. Although the Appellate Body did not refer to the concept of sustainable development as such, it recognised the possibility of applying the precautionary principle, which is an element of sustainable development, if the risk involved is 'life-threatening in character and is perceived to constitute a clear and imminent threat to public health and safety'.[61]

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[58] Paragraph 1 of the Preamble, text in *WTO Legal Texts*, 3.

[59] *United States - Import Prohibition of Certain Shrimp and Shrimp Products*, Penal Report, WT/DS58/R, Appellate Body Report, WT/DS58/AB/R, October 12, 1998. See also, F. Macmillan, *WTO and the Environment*, 88-96.

[60] In this case, the US challenged the European Community's unilateral ban on American beef products which had been instituted on the ground that its products created a threat to the health of European citizens and the environment. Although the Appellate Body of WTO did not clearly state about the legal status of the precautionary principle, its decision implied that the principle had been incorporated into the Sanitary and Phytosanitary (SPS) Agreement. See Appellate Body Report, WT/DS26/AB/R, WT/DS48/AB/R, 16 January 1998.

[61] Paragraph 194 of the Report.

The above decisions of the Appellate Body of the WTO clearly indicate that in the areas of trade and environment, the relevance of concept of sustainable development is recognised. In particular, the opinion of the Appellate Body in the Shrimp and Turtle case clearly confirms the active role of the above concept in interpretation of the WTO Agreements, viz. that this must be undertaken in the light of sustainable development. The decision in the Beef Hormones case reaffirms this since the WTO has accepted that its practices and policies should become more oriented towards the concept of sustainability and directed towards the achievement of sustainable development.

2. Relevant Inherent Elements of the Concept of Sustainable Development

In the Rio Declaration, a number of the inherent elements of sustainable development were also endorsed.[62] They were adopted in the form of substantive and procedural obligations and aim to be applied to facilitate the achievement of sustainable development. However, this study selects only certain elements for discussion here. The following elements are those that play important roles in international watercourses, and are relevant to the discussions conducted in subsequent Chapters.

2.1 Integration of Environment and Development

One of the most fundamental elements of sustainable development is the integration of environmental and developmental considerations. This concept is introduced in order to ensure that in developing natural resources, environmental concerns are taken into account and that sustainable development can therefore plausibly be achieved. The concept became recognised internationally when it was incorporated in Principle 11 of the Stockholm Declaration[63] and has become more influential since being adopted as Principle 4 of the Rio Declaration. Principle 4 introduces this concept at an

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[62] For comprehensive observations on other elements, see also Birnie and Boyle, *International Law...*, 86ff; and Sands, *Principles of International Environmental Law*, Chapter 6.

[63] It reads: 'The environment policies of all States should enhance and not adversely affect the present or future development potential of developing countries, nor should they hamper the attainment of better living conditions for all and appropriate steps should be taken by States and international organisations with a view to reaching agreement on meeting the possible national and international economic consequences resulting from the application of environmental measures'.

international level and establishes it in a more concrete fashion by stating that any relevant environmental consideration is an integral and indivisible part of the development process.

This fundamental element of sustainable development has been well accepted in many international and regional instruments. These include, for example, the CBD,[64] the FCCC,[65] the Desertification Convention,[66] the 1985 ASEAN Agreement on the Conservation of Nature and Natural Resources (the ASEAN Agreement),[67] the 1987 Convention for the Protection of the Natural Resources and Environment of the South Pacific Region,[68] and the 1997 UN Convention on Non-navigational Uses of International Watercourses (the 1997 UN Convention).[69] The ICJ also recognised the need to integrate environmental concerns and development considerations to establish new environmental norms.[70] This was emphasised for the first time in the Gabčíkovo case through the court's recognition of the need to consider 'new norms...not only when states contemplate new activities but also when continuing with activities begun in the past'.[71]

In order to promote the effective integration of environmental and developmental concerns, pressures have been brought to bear on the international community indicating that environmental considerations should be more fully taken into account in the decision-making process of development projects. Sands suggests that useful requirements, such as conducting 'environmental impact assessment or imposing

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[64] Article 1 of the CBD spells out the objectives of the Convention as: 'the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding'.

[65] Article 2 of the FCCC states that the ultimate objective of this instrument is to achieve the stabilisation of greenhouse gas concentrations by protecting ecosystems and enabling economic development to proceed.

[66] Article 2 affirms the concept of sustainable development by requiring that the combating of desertification must be based on reference to the integrated approach. In other words, improving productivity of land and the rehabilitation, conservation and sustainable management of land and water resources must be undertaken concurrently to ensure that sustainable development will be achieved.

[67] Although this instrument is not yet in force, it is the only example that clearly integrates environmental concern into development decisions in the South East Asia region.

[68] Article 4 (6) introduces similar wording to that of Principle 2 of the Rio Declaration. Text in 26 *ILM* (1987), 38.

[69] See Article 5 in which reasonable and equitable use of an international watercourse is required to be undertaken... consistent with adequate protection of the watercourse. Full text, see Chapter 2.

[70] See paragraph 112.

[71] Paragraph 140 of the judgement.

green conditions on development lending', should be introduced to ensure that the potential environmental consequences are considered during the important period of considering the projects.[72]

However, putting the above suggestion into practice is quite challenging, particularly in the context of international watercourses, for example. This is because at present environmental concerns do not seem to play an important role in the decision-making process of water development projects. The practice of major financial lenders such as the World Bank[73] and of other Development Banks, such as the Asian Development Bank,[74] seems to support this conclusion. The case of the construction of the Sardar Sarovar Dam on the Narmada River in India, which was funded by the World Bank, provides an example. Since the project's inception, there had been demonstrations against it because the local people feared a possible environmental disaster would result from this development. Such incidents reflect the conflict between the need to protect the environment and the need to promote economic development.[75] The way in which the World Bank reacted towards this situation was peculiar since it did not stop financing the project even though the Indian government failed to carry out a

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[72] Sands, P., 'International Law in the Field of Sustainable Development', 65 *YBIL* (1994), 338.

[73] For further analysis of the policy of the World Bank, see, for example, D. Goldberg, 'World Bank Policy on Project on International Waterways in the Context of Emerging International Law and the Work of the International Law Commission' in G.H. Blake, *The Peaceful Management of Transboundary Resources* (1995), 153-166; R. Krishna, 'Evolution and the Context of the Bank Policy for Projects on International Waterways' in S. M.A. Salman, *et.al. International Watercourses: Enhancing Co-operation and Managing Conflict* (1998), 31-43; and J. Werkman, 'Greening Bretton Woods' in P. Sands, *Greening International Law* (1993), 65-84, at 69-74

[74] See the criticism of the Nam Theun II project in Laos which gives rise to concern about the sustainability of the forests of this country. See also D. Iverach, 'Nam Theun 2 – A Test Case for Sustainable Development in Laos' in B. Stensholt, ed., *Developing the Mekong Subregion* (1997), 67-77; A. D. Usher, 'The Race for Power In Laos' in M.J.G. Parnwell and R.L. Bryant, eds., *Environmental Change in Sout-East Asia* (1996), 123-144; and J. Rigg and R. Jerndal, 'Plenty in the Context of Scarcity: Forest Management in Laos' in *ibid.*, 145-162.

[75] In this case, the Indian government was unable to meet its own environmental requirements, for instance, those concerning consultation, resettlement and payment of compensation. Protests that were voiced against the government basically concerned possible environmental and social impacts caused by the project. The project was finally, cancelled because the World Bank, the financial provider, withdrew its assistance. Its lending policy was greatly criticised, as it did not appear to take into account environmental impacts and adverse effects that may be resulted from the project it is supporting. For more details, see, for instance, W.E. Fisher, 'Development and Resistance in the Narmada Valley' in W.E. Fisher, ed., *Toward Sustainable Development: Struggling over India's Narmada River* (1995), 1-46; C. Chinkin, 'International Environmental Law in Evolution' in T. Jewell, *et.al.*, *Law in Environmental Decision-Making* (1998), 239-240; and R. Khan, 'Sustainable Development, Human Rights and Good Governance – a case study of India's Narmada Dam' in K. Ginther, *et.al, Sustainable Development...*, 420-428.

proper environmental impact assessment.[76] This suggests that the World Bank does not seriously incorporate environmental considerations into its decision-making process.

Due to continued pressure, and the casualties caused by the demonstration, the World Bank later withdrew its sponsorship. This incident led it to introduce an inspection procedure, which aims to provide an opportunity for the people in an area affected by the development project to request an inspection to ascertain whether or not the project complies with the World Bank's environmental practices.[77] However, it should be noted that such inspection does not guarantee that the Bank will give more weight to, or attempt to integrate environmental concerns, into its decision-making process. As observed by Chinkin, up to 1997 the Bank had undertaken only one inspection for the Arun III project in Nepal. Chinkin therefore raises doubts over 'the Bank's commitment to the evaluation of its projects'.[78] The financing policies of the Bank towards any environmental problems, as well as the desire of the Bank to promote the principles of the Rio Declaration and the achievement of global sustainable development, are also doubtful.

2.2 Sustainable Use

Sustainable use is an independent concept that has been playing an important role in international law, particularly in those areas concerning the conservation of nature.[79] It is a concept that aims to limit the rate of use and exploitation of resources, so that a certain quantity of resources will be secured for the longer term and for future uses. The long-term objective associates sustainable use with the achievement of sustainable development as using resources sustainably can lead to the achievement of sustainable development.

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[76] Ministry of Environment and Forests, *Environmental Aspects of Narmada Sagar and Sardar Sarovar Multi-Purpose Project* (1987), quoted in Chinkin, 'International Environmental Law in Evolution', 239.
[77] Chinkin, 'International Environmental Law in Evolution', 240. See also C.E. Di-Leva, 'Environmentally Sustainable Development and the World Bank', 25 *IBL* (1997), 115-118.
[78] Chinkin, 'International Environmental Law in Evolution', 240.
[79] Birnie and Boyle, *International Law...*, 88.

Sustainable use was not clearly recognised until it was implied in the 1982 World Charter for Nature. The Stockholm Declaration made no reference to sustainable use as such, but its most relevant provision was, perhaps, Principle 3 in which maintenance of the capacity of the earth to reproduce natural resources was highlighted. Principle 3 called for the recognition that:

> 'The capacity of the earth to produce vital renewable resources must be maintained and, wherever practical, restored or improved'.

The implication of sustainable use may be more clearly seen in the World Charter for Nature's reference to it in Article 4. This provision asserted the need to achieve and maintain optimum sustainable productivity. It reads:

> 'Ecosystems and organisms, as well as the land, marine and atmospheric resources that are utilised by man, shall be managed to achieve and maintain optimum sustainable productivity, but not in such a way as to endanger the integrity of those other ecosystems or species with which they coexist'.

The above position was not greatly changed when it was incorporated in the Rio Declaration. Principle 8 of this Declaration reflects the idea of sustainable use but requests instead the reduction and elimination of unsustainable patterns of production and consumption, asserting that:

> 'To achieve sustainable development and a higher quality of life for all people, States should *reduce and eliminate unsustainable patterns of production and consumption* and promote appropriate demographic policies' (emphasis added).

Unfortunately, this provision does not elaborate on how to reduce or eliminate unsustainable patterns of production, or indeed on what 'patterns' should be determined to be 'unsustainable patterns of production and consumption'. That said a clearer indication of what constitutes sustainable use can be found in other Rio and post-Rio instruments. The Preamble of the CBD provides perhaps the clearest definition of sustainable use in stating that:

> 'Sustainable use means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.'

The same concept can also be found in the FCCC,[80] the Desertification Convention,[81] the Straddling Fish Stocks Agreement,[82] UNCLOS,[83] CITES,[84] and the Tropical Timber Agreement.[85] These instruments reflect growing international concern about the need to use natural resources sustainably for the purpose of conservation of nature. Apart from these instruments, the Icelandic Fisheries[86] case is to date the only international dispute in which the ICJ found itself to be in favour of greater co-operation in the conservation and sustainable use of resources of the high seas.

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[80] Article 4(d) confirms the application the this concept by stating that:
'1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:
...
(d) Promote sustainable management, and promote and co-operate in the conservation and enhancement...of sinks and reservoirs of all greenhouse gases...'.

[81] Article 3 states that:
'In order to achieve the objective of this Convention and to implement its provisions, the Parties shall be guided, *inter alia*, by the following:
...
(c) the Parties should develop, in a spirit of partnership, co-operation among all levels of government, communities, non-governmental organisations and landholders to establish a better understanding of areas and to work towards their *sustainable use;* and...' (emphasis added). Text in Birnie and Boyle, *Basic Document*... 513 at 518.

[82] Article 2 asserts the objective of this Agreement as:
'...to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks through effective implementation of the relevant provisions of the Convention'.
Article 5(h) reaffirms sustainable use as one of the general principles governing this Agreement by stating that:
'In order to conserve and manage straddling fish stocks and highly migratory fish stocks..., coastal States and States fishing on the high seas shall:
...
(h) take measures to prevent or eliminate over-fishing and excess fishing capacity and to ensure that levels of fishing effort do not exceed those commensurate with the sustainable use of fishery resources...'.

[83] Preamble of UNCLOS and Article 119(1). See also Article 2 of the 1958 Convention

[84] Preamble states that 'international co-operation is essential for the protection of certain species of wild fauna and flora against overexploitation through international trade'.

[85] Article 1 (l) of the 1994 Tropical Timber Agreement reads:
'to encourage members to develop national policies aimed at sustainable utilisation and conservation of timber-producing forests and their genetic resources and at maintaining the ecological balance in the regions concerned, in the context of tropical timber trade;...'

[86] *ICJ Report* (1974), 3 and 175. This case is a conflict between Iceland and the UK and Germany. The UK and Germany filed a case in the ICJ against Iceland concerning the latter's 12-mile exclusive zone. The ICJ held that such a claim was not unlawful but stated further that both 'states have an obligation to take full account of each other's rights and of any fishery conservation measures a necessity of which is shown to exist in those waters. This represents an advance in international maritime law, that has resulted from the intensification of fishing effort, viz. that the former laissez-faire treatment of the living resources of the high seas has now been replaced by recognition of a duty to have due regard to the rights of other states and the needs of conservation for the benefit of all. Consequently, both Parties had the obligation to keep under review the fishery resources in the disputed waters and to examine together, in the light of scientific and other available information, the measures required for conservation and development of equitable exploitation of these resources'.

With the increasing adoption of this concept in international instruments. Birnie and Boyle raise an interesting question regarding 'how far it can be assumed that international law now imposes on states a general obligation of conservation and sustainable use of natural resources'.[87] In their view, this is 'an open question'[88] which should be examined in each specific area of law. However, within the framework of international watercourses law, sustainable use is becoming an increasingly well accepted concept. Not only was it adopted in the 1997 UN Convention, a number of post-Rio international watercourse agreements also include the concept independently on its own to ensure that a sufficient and continuous supply of water and natural life supporting systems and aquatic fauna and flora will be maintained.[89] In some cases it is adopted alongside the principle of equitable utilisation. Tanzi and Arcari observe that the result of such adoption is that 'any restrictive approach to the scope of the equitable utilisation principle, traditionally conceived to be confined to the apportionment of waters among co-riparians, has been [therefore] definitively removed'.[90]

2.3 Precautionary Principle[91]

The precautionary principle is a concept that is invoked when there is scientific uncertainty concerning whether or not a particular activity is likely to cause harm. It allows states to act at an earlier stage to protect their own interests without waiting for scientific proof. It is deemed to be an element of sustainable development because it

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[87] Birnie and Boyle, *International Law...*, 88.
[88] *Ibid.*
[89] See example, Article 8 of the ASEAN Agreement; Article 5 of the Mekong Agreement; Article 2 of the 2000 SADC Revised Protocol on Shared Watercourses; Article 2 of the Danube Convention; and Article II of the Convention for the Establishment of the Lake Victoria Fisheries Organisation. See Chapter 2 for further details.
[90] Tanzi., A., and M. Arcari., *The UN Convention on the Law of International Watercourses* (2001), 115.
[91] For convenience purpose, this thesis refers to precaution as a principle. For further discussion of the distinction between a rule, a concept, a principle, and an approach, see Lowe, 'Sustainable Development...', at 33-35; and Birnie and Boyle, *International Law...*, at 116-117. For general analysis on this principle, see also D. Freestone, 'Implementing Precaution Cautiously: The Precautionary Approach in the 1995 Agreement in E. Hey, ed., *Developments in International Fisheries Law* (1999); D. Freestone and E. Hey, eds., *The Precautionary Principle and International Law The Challenge of Implementation* (1996); O. McIntyre and T. Mosedale, 'The Precautionary Principle as a Norm of Customary International Law', 9:2 *JEL* (1997), 221; and P. Sands, 'The Precautionary Principle: New Battleground for Environment and Development?' in S. Schlemmer-Schulte, et.al., *International Finance and Development Law* (2001); and A. Nollkaemper, 'The Precautionary Principle in International Environmental Law' 22 *Marine Pollution Bulletin* (1991), 107.

ensures that any irreversible harm will be prevented from the outset and that states will have to take more responsibility for the prevention and minimisation of serious harm that may result from their actions and projects. Sustainable development would in these circumstances then be an attainable goal.

The precautionary principle has its origin in the West German legal system[92] and was first referred to in the context of the law of the sea, in the 1984 Ministerial Declaration of the International Conference on the Protection of the North Sea, so called the Bremen Declaration. At this conference the participating states confirmed the existence of this concept by declaring that if it is likely that damage to the marine environment from any given project would prove to be irreversible, they must not wait for conclusive proof of [such] harmful effects to be presented before taking action.[93] This concept has been playing a very important role in the law of the sea ever since.[94]

Principle 15 of the Rio Declaration brings the precautionary principle to international attention, stating that:

> 'In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.'

This provision reveals the two important characteristics of the precautionary principle. First, as Hohmann points out, this principle 'does not wait until there is scientific

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[92] Von Moltke, K., 'The Vorsorgeprinzip in West German Environmental Policy', in *Twelfth Report, Royal Commission Environmental Pollution* (1988), 57 quoted in P. Sands, *Principles of International Environmental Law,* 208.

[93] The 1984 Ministerial Declaration of the International Conference on the Protection of the North Sea or the Bremen Declaration reflected a consciousness on the adoption of this principle, 14 *EPL* (1985), 32. The Second Ministerial Declaration of the North Sea Conference (1987) or the London Declaration accepted that the precautionary principle is the key concept to protect the North Sea from the most dangerous substances, text in 27 *ILM* (1988) 835. The same approach was also adopted in the Third North Sea Conference (1990) in which the Hague Declaration reaffirmed the precautionary principle, text reprinted in D. Freestone and T. Ijstra, eds., *The North Sea: Basic Legal Documents on Regional Environmental Co-operation* (1991), 3-39.

[94] Fabra, A., 'The LOSC and the Implementation of the Precautionary Principle' *YBIEL* (1999), 15-24; J. M. Macdonald, 'Appreciating the Precautionary Principle as an Ethical Evolution in Ocean Management' 26 *ODIL* (1995), 255-286; and D. Freestone, 'International Fisheries Law Since Rio: The Continued Rise of the Precautionary Principle' in Boyle and Freestone, *International Law...*, 135-204.

proof of harm as it places a duty to take action in cases of suspicion of concrete danger or even of concern or risk potential'.[95] Lack of full scientific evidence cannot therefore be used as an excuse for postponing measures to prevent environmental degradation. Secondly, precaution highlights a shift in the burden of proof from those who allegedly claim that an activity in question is likely to harm them on to those who are carrying out such an activity who are required to prove that their action will not cause any substantial damage.[96] These two elements are very important, particularly the latter, as it has had a significant impact on how international law is applied. As a result, states may request that provisional measures be prescribed as a means of suspending the activity in question pending further research as already seen in the Southern Bluefin Tuna case[97] and the MOX Plant case.[98]

As a result, the notion of 'precaution' raises a question concerning the obligation of 'diligent prevention and control' placed upon states desiring to carry out activities. It is in this sense that Birnie and Boyle accept that 'international law already adopts a precautionary approach' because states must not cause significant harm to other

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[95] Hohmann, H., *Precautionary Legal Duties and Principles of Modern International Environmental Law* (1994), 192.

[96] Sands, 'International Law in the Field of Sustainable Development', 65 *YBIL* (1994), 346.

[97] Order of the ITLOS of 27th August 1999, Case Nos. 3 and 4 of the ITLOS. Australia and New Zealand alleged that Japan had failed to comply with its obligation to co-operate in the conservation of and maintenance of the sustainable yield of the southern bluefin tuna stock as required by the LOS. They requested that as provisional measures that Japan be required to immediately cease unilateral experimental fishing of bluefin tuna; to restrict its yearly catch allowance; and act consistently with the precautionary principle in fishing for southern bluefin tuna pending a final settlement of the dispute. The tribunal prescribed provisional measures, amongst the most important of which were (a) Australia, New Zealand and Japan must ensure that no action is taken which might aggravate or extend the disputes; (b) refrain from conducting an experimental fishing programme; and (c) they shall resume negotiations without delay with a view to reaching agreement on measures for the conservation and management of the southern bluefin tuna.

[98] Order of the ITLOS of 3rd December 2001, Case No. 10 of the ITLOS. Ireland requested the ITLOS to prescribe a provisional measure against the United Kingdom as the latter had authorised the operation of a processing plant to make Mixed Oxide (MOX) fuel from plutonium and uranium oxides, and international movements of radioactive materials associated with the operation of the MOX plant, which was located at the Sellafield site in Cumbria in the North East of England on the coast of the Irish Sea. Ireland alleged that it had a special concern that its marine environment could be affected by the potential impact of radioactive emissions from this site. The tribunal agreed to prescribe provisional measure under Article 290 (5) of the LOS. This provisional measure did not, interestingly, suspend authorisation of the MOX plant by the UK, but rather requested that the two countries 'co-operate and shall, for this purpose, enter into consultation forthwith in order to:

(a) exchange further information with regard to possible consequences for the Irish Sea arising out of the commissioning of the MOX plant;
(b) monitor the risks or the effects of the operation of the MOX plant for the Irish Sea;
(c) devise, as appropriate, measures to prevent pollution of the marine environment which might result from the operation of the MOX plant...'.

states. They raise 'at what point does this obligation of diligent control arise?'[99] They suggest reference to 'the foreseeability or likelihood of harm and of its potential gravity'[100] and refer to the position adopted in the ILC's Draft Convention on the Prevention of Transboundary Harm, which requires 'states to prevent or minimise risk posed by harmful activities'.[101] This position makes the issue of 'risk assessment' a very important one for the application of the precautionary principle.

As far as the issue of 'risk assessment' is concerned, Sands has already conducted an examination of the practices of international tribunals in this regard. He concludes that there is yet to emerge 'a common approach to the issue of risk assessment'.[102] He compared the rationales behind the decision of the International Court of Justice (ICJ) in the Gabčíkovo case with that of the Appellate Body of the World Trade Organisation (WTO) in the Beef Hormones case.[103] In both cases, the precautionary principle was raised to justify the actions of Hungary and of the European Community respectively. In the former case, Hungary invoked this principle to justify its unilateral abandonment of the Gabčíkovo-Nagymaros project contending that this project was likely to cause significant or irreversible harm to supplies of drinking water and the natural biodiversity of Hungary.[104] Hungary thus invoked environmental necessity in application of the precautionary principle. Even though the ICJ accepted that environmental necessity does exist and indeed reflects customary international law,[105] it rejected Hungary's application of the precautionary principle on the ground that

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[99] Birnie and Boyle, *International Law...*, 115.

[100] Birnie and Boyle, *International Law...*, 115. They refer to the Trail Smelter case and the Corfu Channel case for the determination of foreseeability or likelihood of harm. Following the former case, the obligation arises if *there actual and serious harm is likely to recur*, whereas under the latter such an obligation arises when *there is a known risk to other states*. Further judgement, see 33 *AJIL* (1939), 182, 35 *AJIL* (1941), 684; and *ICJ Report* (1949), 1 respectively. See also, the suggestion in the report of the Expert Group on Environmental Law of the World Commission on Environment and Development in which a position similar to that stated above was referred to. The Expert Group asserted the need to establish the foreseeability of any 'substantial' harm that may be caused or that there is a 'significant' risk that such harm will be caused'. See *Report of Expert Group on Environmental of the World Commission on Environment and Development* in R.D. Munroe and J.G. Lammers, eds., *Environmental Protection and Sustainable Development: Legal Principles and Recommendations* (1987), 80ff.

[101] They also refer to the same position that is adopted by the ILC, whose draft Convention on Prevention of Transboundary Harm. Birnie and Boyle, *International Law...*, 115. ILC Draft Convention and Commentary UN Doc. A/CN. 4/L.554 Add. 1 (1998).

[102] Sands, P., 'Environmental Protection in the Twenty-First Century', 387.

[103] See above.

[104] Paragraph 97 of the ICJ Judgement.

Hungary was unable to prove that such environmental necessity was an *essential interest* and that this had *been threatened by grave and imminent peril.*[106] Hungary's action was thus found wrongful.[107] Unfortunately, however in so stating the Court neither mentioned nor attempted to clarify the precautionary principle.[108]

By contrast, in the Beef Hormones case the Appellate Body of the WTO held that risk assessment (that is one of the contributory factors of the precautionary principle) must not be a monolithic conclusion that justifies Sanitary and Phytosanitary (SPS) measures. In this case, the European Community had imposed a unilateral ban on the import of American beef products causing a threat to the health of European citizens and the environment. The US challenged this trade measure arguing that the EU had not presented adequate scientific evidence to reach such a conclusion, and that it had failed to carry out the risk assessment required by Article 5.1 and 5.2 of the Agreement on the Application of SPS Agreement. However, the WTO Appellate Body was of the view that this agreement 'does not insist that a Member that adopts a sanitary measure shall have carried out its own risk assessment'.[109] Thus, a WTO Member may unilaterally prohibit the importation of a product on sanitary grounds even where there is uncertainty as to whether the said product would indeed be harmful to public health.[110]

The divergent practices of these two international bodies reflect the fact that the characteristics of the precautionary principle may require further identification before

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[105] Paragraph 101 of the ICJ Judgement. For latest development of the Draft Articles on State Responsibility, see J. Crawford, *The International Law Commission's Articles on State Responsibility* (2002).

[106] Paragraph 52-53 of the ICJ Judgement. In this case, Hungary failed to show sufficient evidence that perils would occur or were imminent. The ICJ thus held that Hungary would not have been permitted to rely upon state of necessity to justify its failure to comply with its obligations. See Paragraph 57. The Court went to state that: 'even if a state of necessity is found to exist, it is not a ground for the termination of a treaty. It may only be invoked to exonerate from its responsibility a State, which has failed to implement a treaty. Even if found justified, it does not terminate a Treaty: the Treaty may be ineffective as long as the condition of necessity continues to exist: it may in fact be dormant – unless the parties by mutual agreement terminate the Treaty – it continues to exist. As soon as the state of necessity ceases to exist, the duty to comply with treaty obligations revives', paragraph 101. See also, the view of ILC on this issue, 2 *YBILC,* (1980), Part 2, 39, paragraph 14.

[107] Paragraph 85 of the ICJ Judgement.

[108] Sands, 'Watercourses, Environment ...', 105.

[109] Paragraph 190 of the Report

[110] Paragraph. 193-194 of the Report. See also, N. Salmon, 'A European Perspective on the Precautionary Principle, Food Safety and the Free Trade Imperative of the WTO', 27 *Eur LR* (2002), 138-155; and E. Hey, 'Considerations Regarding the Hormones Case, the Precautionary Principle and International Dispute Settlement Procedures' 13 *Leiden JIL* (2000), 239-248.

such bodies can agree on exact application. This point is important. particularly in cases where the precautionary principle is the only justification for particular actions of states. Although Sands suggests that one rule for risk assessment is required,[111] providing this would represent a daunting task as risk is a complicated concept and cannot be accurately compared in different contexts. Birnie and Boyle suggest that not only 'the probability and scale of harm, but [it is about] the causes of harm, and the effects of activities, substances, or processes in question' that need to be taken into account.[112] For instance, risk to human health derived from genetically modified food is different from that presented to animal life and welfare or that might cause damage to transboundary natural resources such as air or water.

It will take some time for international tribunals and scholars to formulate fully a single rule for risk assessment. However, the precautionary principle is increasingly referred to at the national level. The decision of the Indian Court in the India Council for Enviro-Legal Action and Others v. Union of India and Others case[113] confirmed that the precautionary principle is part of environmental law in India.[114] The Australian Court of Appeal also applied the precautionary principle in the Leatch v. National Parks and Wildlife Service and Shoalhaven City Council case.[115] The Pakistani Court also referred to this principle in their judgement of the Shehla Zia v. Wapda case.[116]

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[111] Sands, 'Environmental Protection in the Twenty-First Century', 387.
[112] Birnie and Boyle, *International Law...*, 115.
[113] 3 *SCC* 212 (India) quoted in C. Okidi, ed., *Compendium of Judicial Decisions on Matters Related to Environment* (1998) Vol. I, 394-420.
[114] For further analysis, see M. Mehta, 'Making the Law Work for the Environment' 2(4) *Asia Pacific Journal of Environmental Law* (1997), 349-359; B. Boer, 'The Rise of Environmental Law in the Asian Region', 32 *University of Richmond Law Review* (1999), 1503, and in D.G. Craig, et.al., *Capacity Building for Environmental Law in the Asian and Pacific Region*, (2002), Vol. I, 60.
[115] *LGERA* (1993), 270 in C. Okidi, *Compendium of Judicial Decisions...*, 373-386. In this case, the Shoalhaven City Council applied to the Director-General of the National Parks and Wildlife Service for a licence to capture or kill endangered fauna. The Director-General granted the licence but the case was further appealed by Ms. Leatch. The Court applied the precautionary principle by assessing the potential risk that this licence could pose in terms of potential harm to endangered species. The Court held that this licence should not be granted as there was potential danger for those species. This licence could, however, be granted in the future if the applicant could prove and meet the standard required to show that the granting of the licence would be appropriate.
[116] *PLD* (1994), SC 693 quoted in C. Okidi, ed., *Compendium of Judicial Decisions...*, 323-334. This case concerned the construction of an electricity grid station in a residential area. The Court clearly applied Principle 15 of the Rio Declaration and held that the Pakistani legal system should respond to situations of scientific uncertainty by applying the precautionary principle in consideration that possible high voltage transmission may cause serious health risk. See also, B. Boer, 'The Rise of Environmental Law in the Asian Region' in D.G. Craig, et.al., *Capacity Building for Environmental Law in the Asian and Pacific Region,* Vol. I, 60.

However, it is interesting to consider the extent to which the precautionary principle might reach further at the international level. A greater number of disputes over the application of the precautionary principle would surely clarify its uncertainties and constitute common practice for application of this principle. However, until such common practice can be formulated, the immediate challenge is to promote the underlying duty of states, in the ICJ's words, to 'look afresh of the impacts on the environment'[117] and for states thus diligently to undertake their own measures for the prevention of harm in order to promote the conservation of natural resources. This should also decrease the instances of irreversible harm occurring at the outset, which is the central concept and purpose of the precautionary principle and the sustainable development concept.

2.4 Intergenerational Equity

The concept of intergenerational equity has been created to preserve the equal rights and opportunities of future generations to use natural resources.[118] The present generation is therefore obliged to use and develop its natural and cultural heritage in such a manner that this can be passed on to future generations in no worse a condition than that in which it was received.[119] It was first referred to in Article 4 of the World Heritage Convention.[120] It later gained universal recognition when it was incorporated in Principle 3 of the Rio Declaration, which Principle 3 reads as follows:

> 'The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations'.

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[117] Paragraph 140 of the ICJ judgement.

[118] Weiss, E.B., *In Fairness to Future Generations* (1989); and E.B. Weiss, 'Our Rights and Obligations to Future Generations for the Environment', 84 *AJIL* (1990), 198.

[119] Weiss, E.B., *In Fairness*..., 17ff; A. D'Amato, 'Agora: What Obligation Does Our Generation Owe to The Next? An Approach to Global Environmental Responsibility', 84 *AJIL* (1990), 195. See also, E.B. Weiss, 'International Fairness for Fresh Water Resources' 25:4:5 *EPL* (1995), 231-235; E.B. Weiss, 'Our Rights and Obligations...', 198; and E. Agius, et.al., *Future Generations and International Law* (1998).

[120] It states that: 'Each State Party to this Convention recognises that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources and, where appropriate, with any international assistance and co-operation, in particular, financial, artistic, scientific and technical, which it may be able to obtain'. Text available at www.whc.unesco.org.

The above provision attempts to emphasise the balance between developmental and environmental concerns on the one hand, and present generations' duty and responsibility towards future generations on the other. It is this implication that establishes intergenerational equity as an element of sustainable development as it requires the present generation to be more aware of the possible adverse effects that they may be causing, effects that would affect the condition of nature and the benefits of future generations. To prevent such effects, Weiss proposes that each generation should act as the custodian or trustee of the planet and must therefore ensure that the rights and interests of all are protected.[121] Such protection should be directed at three important manners, viz. conservation of options; conservation of quality; and conservation of access.[122] As a result, rights of future generations to share equitably in the use of natural resources would be protected even though it may be argued that individual concerns cannot be identified. In her view, this is a human rights concept.[123]

Weiss's proposition attracts a great deal of discussion. Only three important issues are raised here. First of all, the implication of intergenerational equity is one of the most problematic issues facing consideration of the concept of sustainable development. As Weiss suggests that this should be applied to protect the rights of unborn generations, there is some doubt as to the extent to which the human rights concept really aims to extend its application across time and space? Indeed it does, but what numbers of generations should be taken into account, and how can one present any present proof that they will be born or in what numbers?[124]

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[121] Weiss, E.B., The Planetary Trust: Conservation and Intergenerational Equity, 11:4 *ELQ* (1988), 495-581. This includes the duty of the present generation to conserve the common environment for the benefit of future generations. Guidelines on Intergenerational Equity, 18:5 *EPL* (1988), 190-1.

[122] Weiss, E.B., 'Intergenerational Equity: A Legal Framework for Global Environmental Change' in E.B. Weiss, ed., *Environmental Change and International Law: New Challenges and Dimensions* (1992), 401-405. Weiss elaborates the first principle as the requirement that each generation 'conserve[s] the diversity of the natural and cultural resources base, so that it does not unduly restrict the options available to future generations in solving their problems and satisfying their own values, and they should also be entitled to diversity comparable to that enjoyed by previous generations'. The second notion requires that 'each generation should maintain the quality of the planet so that it is passed on in no worse condition than that in which it was received, and should also be entitled to planetary quality comparable to that enjoyed by the previous generations'. The third demands 'each generation to provide its members with equitable rights of access to the legacy of past generations and should conserve this access for future generations'.

[123] Weiss, E.B., *In Fairness* ..., 17ff; D'Amato, 'Agora: What Obligation...', 195.

[124] See D'Amato, 'AGORA: What Obligation...', 190.

Secondly, the legal status of intergenerational equity is also debatable. The adoption of this concept in many international instruments[125] does indeed reflect 'a real concern for the interest of future generations'.[126] However, according to Birnie and Boyle, 'what they do not demonstrate is endorsement of the generational rights perspective promoted by Weiss or the conclusion that future generations have been endowed with justiciable rights in international law'.[127] This is because future generations will only benefit when the regimes are effectively and successfully implemented.[128] Therefore intergenerational equity is unlikely yet to be part of general international law.[129]

Thirdly, according to Parfit's paradox,[130] human beings do intervene in the environment and such intervention will modify the ecosphere in the years subsequent to their intervention. Parfit therefore believes that future generations may not look like or necessarily be as envisaged following the intervention of humans. This paradox led Malhotra to stress that even though there is a possibility that the 'collectivity of future generations as a legal entity and therefore possessing rights' does exist, 'future generations cannot presently be regarded *stricto sensu* as a subject of international law'[131] This approach is however disputed by some international lawyers who refer to the judgement of the ICJ in the Reparation for Injuries case[132] in order to support their

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[125] See, for example, the Preamble of the CBD and the 1997 UN Convention; Principle 2 of the FCCC; the Preamble and Principles 1 and 2 of the Stockholm Declaration; the World Charter for Nature (WCN); and the Brundtland Report. For more examples in E.B. Weiss, 'Our Rights and Obligations...', 201.

[126] Birnie and Boyle, *International Law...*, 90.

[127] *Ibid.*

[128] *Ibid.*

[129] *Ibid.*

[130] For Parfit's paradox, see Parfit's paradox in D. Parfit 'Doing the Best for Our Children' in M. Bayles, *Ethics and Population'* (1976); and D. Parfit, 'Future Generations, Further Problems', 11 *Phil. & Pub. Aff.* (1982), 113.

[131] International instruments may include the intergenerational equity principle, but are unlikely to further the extent to which future generations are a subject in international law. A. Malhotra, A., Commentary on the Status of Future Generations as a Subject of International Law, in E. Agius, et.al., *Future Generations...*, 39-50, 42; Birnie and Boyle, *International Law...*, 90-91.

[132] Reparation for Injuries Suffered in the Services of the UN case, *ICJ Report* (1949), 178-179. In this case, the ICJ held that the UN is a subject of international law and pointed out that 'throughout its history the development of international law has been influenced by the requirements of international life' and that 'the progressive increase in the collective activities of states has already given rise to instances of action upon the international plane by certain entities which are not states'. New subjects of international law need not therefore be states. 'The subjects of law in any legal system are not necessarily identical in their nature or in the extent of their rights, and their nature depends upon the needs of the community'.

assertion that future generations should be accepted as one of the increasing number of subjects of international law.[133]

Birnie and Boyle agree that the issue concerning whether future generations are subjects of international law is 'less well-developed' because a 'theory of representation before international tribunals capable of according standing to future generations independently of the states and international institutions which are at present the only competent parties in international litigation' is lacking.[134] To date only the ruling of the Philippine Supreme Court in the Minors Oposa v. Secretary of the Department of Environment and Natural Resources case[135] accepts that future generations can be represented by present generations. The judgement in this case was the first to affirm the rights of unborn future generations to standing, establishing that these had adequately established rights to a balanced and healthy ecology. The Supreme Court of Bangladesh, however, did not follow this precedent when invited to do so.[136]

While the argument concerning the legal status of intergenerational equity continues, Gündling suggests that the most challenging task at present is to establish 'what we have to do to meet our responsibility to future generations' and to promote a way in which 'we can fulfil these obligations under the present circumstances of the international community'.[137] He suggests that the key to the effective implementation of this concept is 'to achieve equity within our own generation'.[138] 'Countries need to help poor communities to use the environment on a sustainable basis, to assist them in gaining equitable access to the economic benefits from our planet'.[139] He points out that 'poverty is the primary cause of ecological degradation'.[140] To help such

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[133] See also, B. Nagy, 'Speaking Without a Voice' in E. Agius, et.al., *Future Generations...*, 51-63; and C.D. Stone, 'Safeguarding Future Generations' in *ibid.*, 65-79

[134] Birnie and Boyle, *International Law...*, 90-91. For similar approach, see also, P. Sands, 'Protecting Future Generations: Precedents and Practicalities' in E. Agius, et.al., *Future Generations...*, 83-91 in which he asserts that international organisations can best represent and perform in protecting the rights of future generations.

[135] 33 *ILM* (1994), 173. In this case, the plaintiffs sought an order that the government discontinue existing and further timber licence agreements because deforestation is causing environmental damage.

[136] Farooque v. Government of Bangladesh, 49 *DLR* (AD) (1997), 1.

[137] Gündling, L., 'Our Responsibility to Future Generations' 84 *AJIL* (1990), 210-211.

[138] *Ibid.*, 211.

[139] Weiss, E.B., 'Our Rights and Obligations ...', 201.

[140] *Ibid.*

communities, a new order for the use of nature and the environment by the present generation must be formulated.[141]

The above discussion demonstrates that there have been various attempts to establish that intergenerational equity is part of international law. However, the evidence provided thus far is less than convincing. Thus both the implications of and the means of implementation of this principle remain questionable. Nonetheless, this does not prevent the principle from being influential because it emphasises the responsibility of the present generation concerning adverse impacts caused by it that could be passed on to future generations.[142] A more focused plan of action to protect the interests of future generations will be needed[143] as the framework set out in Principle 3 of the Rio Declaration does not sufficiently resolve all the doubts concerning application and implementation of this concept.

3. The Law in the Field of Sustainable Development After Rio

3.1 The IUCN Draft Covenant on Environment and Development (2000)[144]

Chapter 39.1 of Agenda 21 calls for the establishment of a framework agreement establishing the rights and duties of States towards sustainable development. This initiative has been taken up by the Commission on Environmental Law (CEL) and the International Council of Environmental Law (ICEL) of the International Union for Conservation of Nature and Natural Resources (IUCN), (also known as the World Conservation Union (WCU)), with the assistance of UNEP's Environmental Law and Institutions Programme Activity Centre (ELI/PAC).[145] The text of the Draft Covenant on Environment and Development (hereinafter the Draft Covenant) was reviewed by a number of legal experts from different institutions.[146] The Draft was completed in

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[141] Gündling, 'Our Responsibility to Future Generations', 212.
[142] Taylor, P.W., *Respect for Nature: A Theory of Environmental Ethics* (1986), 12.
[143] Chowdhury, S.R., 'Intergenerational Equity: Substratum of the Right to Sustainable Development' in S.R. Chowdhury, et.al., *The Right to Development in International Law* (1992), 256.
[144] 31 *EPL*, 2nd ed. (2000), Revision.
[145] For a brief history of the drafting, see Foreword to the Second Edition of the Draft Covenant, Draft Covenant on Environment and Development, *ibid.*
[146] Burhenne W. and P. Hassan were among the key drafters. They very much involved in this matter from the outset. The draft was reviewed by a number of lawyers from the different continents, including those met at the meetings of IUCN (General Assembly) in Buenos Aires in 1994, the

1995.[147] This thesis, however, focuses on the text as updated in 2000 with the latest modifications, and the discussion below is thus subject to the adoption of this Draft Covenant by the UN General Assembly as a legally binding instrument.[148]

Burhenne and Robinson make it clear in their foreword to the second edition of the Draft Covenant that this instrument aims to serve 'as an umbrella agreement...to knit together the principles reflected in the sectoral treaties impacting upon environment and development'.[149] Thus, 'the objective of this Draft Covenant is to achieve environment conservation and sustainable development by establishing integrated rights and obligations'[150] in order to 'state a general international obligation on all States to protect the whole of the environment'.[151] Three categories of legal concepts are adopted in this Draft Covenant: existing, developing and less developed concepts of law.[152] All of these are found in important international instruments that relate to environment and development, including the Stockholm Declaration, the Rio Declaration, the World Charter for Nature, the CBD, and the FCCC.

The concept of the 'sovereign right to utilise resources' is referred to in Article 11 of the Draft Covenant. It places a greater emphasis on Principle 21 of the Rio Declaration in the following terms:

American Society of International Law in Washington D.C. in 1993, the Southeast Asian Programme in Ocean Law and Management in Bangkok in 1994, and the International Jurist Organisation (Asia) in Hyderabad in the same year. See Foreword to First Edition in Draft Covenant on Environment and Development, *ibid.,* xvi-xvii.

[147] See Foreword to the First Edition by W. Burhenne and P. Hassan.

[148] It is indicated in the Foreword to the Second Edition that in the light of new developments of international law, particularly those in such areas as straddling and migratory fish stocks, desertification, and public participation in decision-making, the drafters consider it necessary to undertake a review of the text of the first edition. Thus, the Draft Covenant on Environment and Development as referred to thereafter means the 2000 updated text as published by IUCN in *supra,* n. 144.

[149] Foreword to the Second Edition, xi.

[150] Article 1.

[151] Foreword to the First Edition by W. Burhenne and P. Hassan.

[152] As is clearly indicated in Foreword of the First Edition, as much as the drafters wished this Draft Covenant to be progressive, it also had to be realistic. Burhenne and Hassan, therefore, accepted that the Draft Covenant contains 'essentially three types of provisions:

(a) those which consolidate existing principles of international law, including those 'soft law' principles which were considered ripe for 'hardening';
(b) those which contain very modest progressive developments; and
(c) those which are further progressive than in (b) which we felt were absolutely necessary'. (*sic*)

> '1. States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to utilise their resources *to meet their environmental and sustainable development needs*, and the obligations:
> (a) to protect and preserve the environment within the limits of their national jurisdiction; and
> (b) to ensure that activities within their jurisdiction or control do not cause potential or actual harm to the environment of other States or of areas beyond the limits of national jurisdiction.
> ...
> 3. Parties shall take all appropriate measures to avoid wasteful use of natural resources and, in particular, to ensure the *sustainable use* of renewable resources' (emphasis added).

Article 11(1) is very much inspired by Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration. However, it has a more progressive element. First of all, it adds a further consideration to those applicable in balancing of 'environment and sustainable development needs' in the context of exercising the state's sovereign right to use its natural resources. This additional phrase not only imposes a greater restriction on the utilisation of resources, but also 'gives effect to the objective of sustainable development by making it the goal of resources utilisation'.[153] Subparagraph (b) clearly codifies the requirements of Principle 21/Principle 2. The terms 'potential or actual harm' emphasised in the obligation not to cause environmental damage plainly indicate that 'damage' in this context means 'actual injury' not 'legal injury'.[154]

The precautionary principle[155] and intergenerational equity[156] are adopted in this Draft Covenant as fundamental principles.[157] The text of the relevant provisions is straightforward and in line with Principles 15 and 3 of the Rio Declaration respectively.

Sustainable use is not referred to in this instrument as a principle but as a clear obligation, necessary to achieve sustainable development. First of all Article 10

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[153] Commentary on the Draft Covenant on Environment and Development, *supra,* n. 144, 47.
[154] See the different approach adopted in the 1997 UN Convention where 'injury' means 'the damage caused to legal rights' rather than actual harm. See also Article 7 of the 1997 UN Convention in Chapter 2.
[155] Article 7 states that: 'Lack of scientific certainty is no reason to postpone action to avoid potentially serious or irreversible harm to the environment'.
[156] Article 5 reads: 'The freedom of action of each generation in regard to the environment is qualified by the needs of future generations'.
[157] Apart from these, other principles are also adopted. These include: respect for all life forms, common concern of mankind, interdependent values, prevention, right to development, eradication of poverty, and the elimination of unsustainable patterns of consumption and production. See Articles 2-10 of the Draft Covenant.

addresses sustainable use by emphasising the core elements of Principle 8 of the Rio Declaration since there is a need to eliminate 'unsustainable patterns of consumption and production' in order to improve the quality of life.[158] Sustainable use is later highlighted as a key legal obligation of States, aimed at the achievement of sustainable development. Subparagraph 3 of Article 11 clearly imposes an obligation upon state parties to ensure that they 'take all appropriate measures to avoid wasteful use of natural resources and, in particular, to ensure the sustainable use of renewable resources'.

If the Draft Covenant is adopted by the international community, sustainable use would then be given a definite legal status since Article 11 codifies it as an obligation under international law. In IUCN's view this should resolve any lingering uncertainty concerning whether or not international law requires states to use resources sustainably. If any parties fail to do so, this would conflict with their legal responsibility under international law as set out in Article 47 of the Draft Covenant.[159] Interestingly, Article 30(1)(a) also refers to the duty of states to participate in trade in such a way that it does not interfere with the conservation and sustainable use of natural resources.[160]

The Draft Covenant also accords particular importance to the integration of environmental and developmental concerns in expressing the general obligation that states 'shall pursue sustainable development' and that they should 'ensure that environmental conservation is treated as an integral part of planning and implementation of development projects'. Article 13(2) effectively upholds Principle 4 of the Rio Declaration and requires that:

> '2. Parties shall ensure that environmental conservation is treated as an integral part of the planning and implementation of activities at all stages and at all levels, giving full and equal consideration to environmental, economic, social and cultural factors. To this end, Parties shall

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[158] The full text reads: 'The elimination of unsustainable patterns of consumption and production and the promotion of appropriate demographic policies are necessary to enhance the quality of life for all humanity and reduce disparities in standards of living'.

[159] It reads: 'Each State Party is responsible under international law for the breach of its obligation under this Covenant or of other rules of international law concerning the environment'.

[160] Article 30, which relates to the issue of trade and environment also, affirms the application of sustainable use to this area of conflict. Article 30(1)(a) requires the Parties to endeavour to ensure that 'trade does not lead to the wasteful use of natural resources nor interfere with their conservation and sustainable use'.

(a) conduct regular national reviews of environmental and developmental policies and plans;
(b) enact effective laws and regulations which use, where appropriate, economic instruments; and
(c) establish or strengthen institutional structures and procedures to fully integrate environmental and developmental issues in all spheres of decision-making.'

This provision elaborates the core concept of Principle 4 and provides a rather more definitive idea of how it should be put into practice. It not only promotes the integration of environmental conservation with the planning and implementation of activities, but also in the decision-making procedures of the relevant institutions. A review of developmental policies and plans is also required in order to ensure that the whole process of pursuing developmental policies fully addresses environmental as well as developmental concerns.

The Draft Covenant is an important initiative that demonstrates the possibility of codifying all principles and concepts of international law in the field of sustainable development. It also contains significant provisions that aim to resolve conflicts arising from two divergent subject areas - trade and environment - by setting out rules for trade measures, which would ensure that they are not unfairly weighted against the environment.[161] This is only one of various contributory innovations of this instrument. The Draft Covenant also highlights the obligation to co-operate in many different areas, such as on the transfer of technology, environmental education, training, capacity-building and public awareness.[162] Most importantly, it introduces the issue of provision of international financial resources to enable effective implementation of the Covenant in developing countries.[163] The fact that it contains a section devoted to the responsibility and liability of States makes it quite clear that this instrument is intended not only to establish the rights and obligations of States under the law relating to the environment and development but also to enable states that breach the rights and obligations to be pursued.

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[161] Article 30 provides some interesting rules, such as that trade measures addressing transboundary or global environmental problems must be based, as far as possible, on international consensus.
[162] Articles 41 and 44.
[163] Article 46.

The objective of the Draft Covenant is challenging. It at least sets out in full the pre-existing legal framework, but it still remains for the international community to decide whether or not these rights and obligations are too progressive or rigid to be universally acceptable. The Draft Covenant may, however, become the first legally binding agreement that codifies the concept of sustainable development and its elements as adopted in the Rio Declaration, which would make it the most comprehensive legal instrument in this field if this occurs.

3.2 The WSSD and the Johannesburg Declaration

Ten years after the UNCED the 'World Summit on Sustainable Development' (WSSD) was convened by the UN in 2002 in order to 'review progress in implementation of Agenda 21, and to develop a plan for the further implementation of sustainable development policies and programmes worldwide'.[164] 21,000 governmental and non-governmental delegates participated in this event. It was the biggest international conference ever convened by the UN. It is, however, disappointing that no legally binding instruments were adopted there. Promoting implementation and creating partnerships was the main focus of the conference[165] but the instruments adopted at the WSSD, including the Johannesburg Declaration; the Plan of Implementation; and the Partnership Initiative are not legally binding. They do not put forward or establish new concepts or mechanisms but reaffirm the general commitment of states to sustainable development.[166]

3.2.1 The Johannesburg Declaration[167] and Partnership Initiative

It is important to note that before the WSSD, a Millennium Declaration[168] had been adopted in 2000 by the UN General Assembly (UNGA). This Declaration set out

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[164] Forward by N. Desai, Secretary-General for WSSD, *Johannesburg Summit: Global Challenge Global Opportunity* (2002).
[165] Desai, N speaking to the Economist. *The Economist*, September 7-14 2002, 89.
[166] Apart from these three instruments mentioned above, a framework for action was also adopted known as (WEHAB) setting out a plan of action for five sectoral areas: water and sanitation; energy; health; agriculture and biodiversity (WEHAB). For further details, see UN A/CONF.199/16/Add.2.

some important targets, including halving the number of people who currently earn less than one dollar a day by 2015;[169] and by 2020 improving the standard of living of at least 100 million slum dwellers.[170] These key features were also reaffirmed in the WSSD, particularly in the Johannesburg Declaration.

The Johannesburg Declaration consists of six parts: (i) From Our Origin to the Future; (ii) From Stockholm to Rio to Johannesburg; (iii) the Challenges We Face; (iv) Our Commitment to Sustainable Development; (v) Multilateralism is the Future; and (vi) Making it Happen. The three pillars of sustainable development – economic development, social development and environmental protection - are emphasised in paragraph 5.[171] Paragraph 8 stresses the significance of Agenda 21 and the Rio Principles.[172] The concept of global partnership is highlighted.[173] The Johannesburg Declaration refers to the current challenges that the international community is facing. These include, for example, poverty eradication and changing consumption and protection patterns;[174] loss of biodiversity;[175] uneven distribution of benefits and costs of capital and investment flows for the pursuit of sustainable development.[176] It also asserts the commitment to sustainable development that must be undertaken in various forms of activity, including the promotion of dialogue and co-operation among people irrespective of race and culture; the facilitation of financial and technological assistance from one to another; and the improvement of governance at

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[167] UN Doc. A/CONF.199/L.6/Rev. 2 (2002), also available online at www.johannesburgsummit.org.
[168] UN Doc. A/Res/55/2 of 18 September 2000. Space does not permit full discussion of the Millennium Declaration, the content of which is similar to the Johannesburg Declaration, which can more usefully be examined. The former will be mentioned as relevant.
[169] Paragraph 19, sub-paragraph 1.
[170] Paragraph 19, sub-paragraph 5.
[171] It reads: 'Accordingly, we assume a collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development –economic development, social development and environmental protection – at local, national, regional and global levels'.
[172] It states that: 'Thirty years ago, in Stockholm, we agreed on the urgent need to respond to the problem of environmental deterioration. Ten years ago, at the United Nations Conference on Environment and Development, ..., we agreed that the protection of the environment, and social and economic development are fundamental to sustainable development... To achieve such development, we adopted ... Agenda 21, and the Rio Declaration, to which we reaffirm our commitment. The Rio Summit was a significant milestone that set a new agenda for sustainable development'.
[173] Paragraph 10 asserts that: 'At the Johannesburg Summit, we achieved much in bringing together a rich tapestry of people and views in a constructive search for a common path, towards a world that respects and implements the vision of sustainable development. Johannesburg also confirmed that significant progress has been made towards achieving a global consensus and partnership amongst all the people of our planet'.
[174] Paragraph 11.
[175] Paragraph 13.
[176] Paragraph 15.

all levels.[177] However, the language used in this instrument is very general and rather soft and does not constitute the more concrete form of rights or obligations in this regard.[178]

As global partnership is clearly required, the participants in the WSSD agreed to adopt a 'Partnership Initiative'.[179] This instrument contains 'a list of established partners, agreed upon goals and a clear funding strategy for participants in the partnership initiative, [and those who] are as yet in a conceptual stage, with various aspects still to be settled'.[180] A large number of initiatives were launched for purposes of poverty eradication and promotion of capacity building. However, not all of these fulfil the objectives mentioned above. Some programmes are likely to benefit the companies of developed countries more than the populations of developing countries.[181] Doubts therefore remain concerning whether the original purposes of the Partnership Initiative and that of the Johannesburg Summit were achieved or whether this Summit was in fact used by multinational companies as a public relations exercise giving the impression that they are concerned about sustainable development of the world's resources without corresponding transfer of means of economic development.

3.2.2 The WSSD - Plan of Implementation[182]

A 'Plan of Implementation' was adopted at the WSSD, containing 150 paragraphs arranged in 11 sections.[183] Its objects and purposes are indicated in Paragraph 2,

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[177] Paragraphs 16-30.

[178] For example, use of terms such as 'we welcome...; we recognise...; and we agree...' are used in the relevant paragraphs.

[179] Type 2 Partnership Initiative, a proposal submitted at the World Submit on Sustainable Development UNGA A/CONF.199/CRP.5 of 28 August 2002.

[180] *Ibid.*, 1.

[181] For example, the 'Bicycle Refurbishing Initiative' is controversial. Although this project aims at poverty eradication, it will obviously profit the North countries more than the South. It promotes trade in used bicycles to African countries as an alternative form of environmentally friendly transport provided for Africans. Interestingly, the refurbishing plants will not be located in African countries, they will mainly be based in Europe and the US. The technology will not be transferred to developing countries and thus the 'Partnership Initiative' is simply another concept of benefit to developed countries. *Ibid*, 3.

[182] Advanced edited text as of 4 September 2002, available from www.johannesburgsummit.org

[183] These include: I. Introduction; II. Poverty Eradication: III. Changing Unsustainable Patterns of Consumption and Production; IV Protecting and Managing the Natural Resources base of Economic

which aims to (1) build on the achievement made since UNCED: (2) expedite the realisation of the remaining goals; and (3) promote the integration of the three components of sustainable development – the economic, social and environmental aspects.[184] The spirit and goals of the Rio Declaration and Agenda 21 remain significant as sections 1 to 11 of the Plan of Implementation reflect the attempt to achieve goals set out by those two instruments as well as additional targets adopted at the WSSD. The involvement of 'Partnership' and 'Good Governance' are emphasised as an essential means for the achievement of global sustainable development.

The 'Plan of Implementation' represents the next step from Agenda 21 in the 21st century. It is a broad framework that states not only what needs to be undertaken in the future but also what remains to be dealt with if the goals of the Rio Declaration and Agenda 21 are to be fully accomplished.[185] Its content is categorised into types of problems rather than types of resources as in Agenda 21. The details of the Plan represent the combination of mechanisms of economic and social development, and environmental protection, and are expected to deal with those problems more effectively. Section I of the Plan begins by addressing the most urgent problems needing to be tackled, viz. the eradication of poverty, changing unsustainable patterns of consumption and production and protecting and managing natural resources. It is these three sections that are considered the most important as they are the objectives and indeed essential requirements for sustainable development as asserted both in the Johannesburg[186] and the Millennium Declarations.[187]

Section II: Poverty Eradication entails improvement of the utilisation of important resources, such as water and energy through various economic activities. Ambitious targets stated in the Millennium Declaration are reaffirmed. The most important include halving by the year 2015 the proportion of people: (a) whose income is less

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and Social Development; V. Sustainable Development in Globalising World; VI Health and Sustainable Development; VII Sustainable Development of Small Island Developing Countries; VIII Sustainable Development for Africa; VIII bis. Other Regions Initiatives; IX. Means of Implementation; and X. Institutional Framework for Sustainable Development.

[184] Paragraph 2 of the Plan of Implementation.

[185] *Ibid.*

[186] The Johannesburg Declaration also refers to them in paragraph 11.

[187] UN Doc A/RES/55/2. The Millennium Declaration is adopted by the UNGA in 2000 in order to reaffirm the commitment of the States concerned in sustainable development. It is a document that the UNGA intend to pinpoint urgent issues that needed special identification. New targets are set out, which are also reaffirmed in the Johannesburg Declaration and this Plan of Implementation.

than $1 a day;[188] (b) who suffer from hunger;[189] (c) who are unable to reach or afford safe drinking water;[190] and (d) who have no access to energy.[191] It applies the concepts of 'sustainable use'[192] and 'sustainable resource management'[193] to eliminate poverty without damaging the environment.

Section III:, Changing Unsustainable Patterns of Consumption and Production, requires establishment of a 10 year framework of programmes to accelerate the 'shift towards sustainable consumption and production to promote social and economic development within the carrying capacity of ecosystems...to improve efficiency and sustainability in the use of resources and production processes and reduce resource degradation, pollution and waste'.[194] Developed countries are called upon to take the lead by ensuring that they are committed to provide financial and technical assistance and capacity-building for developing countries to achieve these goals.

Section IV: Protecting and Managing the Natural Resources Base of Economic and Social Development endorses strong application of the concepts of sustainable use and sustainable management. It is in this section that the millennium development goal for achievement of safe drinking water is emphasised since, by the year 2015, the proportion of people who are unable to reach or to afford safe drinking water must be halved.[195]

To ascertain the extent to which the Plan of Implementation will be effectively put into practice, continuous monitoring and further study will be required. At least, this Plan establishes more concrete actions and goals following the UNCED. It will be interesting to observe in the future whether or not such goals are achievable and if not, what further actions need to be taken, particularly in the legal field.

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[188] Paragraph 6 (a).
[189] *Ibid.*
[190] Paragraph 7.
[191] Paragraph 8.
[192] Paragraph 8 (c): to promote a sustainable use of biomass and ... other renewable energies ....
[193] Paragraph 9: to strengthen the contribution of industrial development to poverty eradication and sustainable natural resource management.
[194] Paragraph 14.
[195] Paragraphs. 24 and 26.

4. Conclusion

In today's world it seems that economic development is regarded by many states as the only indicator for measuring the wealth and well being of states. It is therefore not surprising to learn that all countries aim to use and exploit their own natural resources to the maximum extent to attain optimum economic growth. This attitude leads many of them to disregard the price that they will also have to pay if and when the environment is degraded as a result of inadequate control of this process. For the last few decades, the environment *has* generally been suffering from overexploitation of living and non-living resources. The emergence of the concept of sustainable development has therefore been developed, not to resolve all these problems but at the very least to attempt to slow down environmental degradation. This concept confirms the fact that economic growth should not be promoted at nature's expense. If nature and the environment cannot survive, then human beings cannot survive either as nature and the environment are an essential part of human life.

After the many years spent promoting it, the concept sustainable development has now been incorporated in a great number of international instruments. Some of these include it only as an objective of the agreement, which has then to be pursued; some however incorporate it as a fundamental principle of the instrument concerned. Others adopt various elements of sustainable development, which are to be promoted to facilitate the effective achievement of overall sustainable development. This sectoral evolution of the principle indicates that development of the relevant international law is at least heading in this direction and that environmental and developmental considerations are required equally to be taken into account.

International tribunals are also responding to this evolution to some extent, albeit their response is limited at present. They recognise and apply the goal of sustainable development in relevant judgements. The ICJ's judgement in the Gabčíkovo case and the WTO Appellate Body's decisions in the Shrimp and Turtle case and the Beef Hormone case show that sustainable development, whatever it may mean, has now become part of international law. However, it is interesting to note further that in such

decisions, neither the ICJ nor the Appellate Body has attempted to define or decide what activities are and what are not 'sustainable'. Lammers considers this situation that international tribunals accept that their tasks involve making decisions concerning or interpreting the relevant agreements to promote sustainable development but that they do not and will not decide what sustainable development specifically involve or set standards for its achievement.[196] Such tasks are left to the states concerned to decide what actions are deemed sustainable taking account of all the circumstances.[197] The legal implications of 'sustainable development' thus still remain vague.

As Boyle and Freestone observe, 'although international law may not require development to be sustainable, it does require development decisions to be the outcome of a process which promotes sustainable development'.[198] Lowe also states that 'the principle of sustainable development dictates that the tribunal[s] should not refuse to allow the parties to address the developmental issue in the broad environmental context, and should not decide the case without setting its reasoning in that broader context'.[199] This approach ensures that developmental and environmental concerns are considered and that a holistic approach is applied in resolving disputes. The ICJ and the WTO Appellate Body have already responded to such influence in the cases cited.

However, this does not mean that international law *requires* development to be sustainable. Boyle and Freestone consider the fact that there is still 'normative uncertainty, coupled with the absence of justiciable standards for review, strongly suggest that there is as yet no international legal obligation that development must be sustainable'.[200] Development projects conducted by states may be regulated and guided by other elements of sustainable development, including integration of environment into development; sustainable use, the precautionary principle; and

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[196] Lammers, J.G., 'The Gabčíkovo-Nagymaros Case Seen in Particular from the Perspective of the Law of International Watercourses and the Protection of the Environment', 11 *Leiden JIL* (1998), 287 at 318.

[197] According to the ICJ's judgement, Hungarian and Slovak delegations met on a number of occasions in order to negotiate on possible compromise. As Lammers notes, by the end of December 1998, a draft agreement was prepared providing that Hungary was to build a dam at Nagymaros. However, this would depend on the outcome of studies on the economic viability and technical feasibility of the project. *Ibid* at 319.

[198] Boyle and Freestone, *International Law*..., 17.

[199] Lowe, 'Sustainable Development...', 36.

[200] Boyle and Freestone, *International Law* ..., 16.

intergenerational equity. However, as discussed above, though some of these are already customary international law; others are not. It is, therefore, not surprising that there have been attempts (e.g. by IUCN) to codify in a Draft Covenant the rights and obligations of states in the field of sustainable development.

Were the Draft Covenant to be adopted, it would ensure that the concept of sustainable development and its inherent elements would be fully integrated into, and accepted as basic legal principles of, international law. This would clarify all the doubts and make an important contribution to the international legal system as not only would states be obliged to act in a sustainable manner but also their development projects would have to be sustainable. International tribunals would then be legally required to perform their functions with a view to achieving sustainable development. Whether or not the Draft Covenant is ever adopted, it does provide a framework which those who believe that there is an urgent need to establish rules and principles on environment and development can promote.

The outcome of the 2002 Johannesburg WSSD is far from impressive, particularly from the legal point of view. Its Declaration does not provide any more concrete steps than those adopted in the Rio Declaration. Although a Partnership Initiative was created at this conference as an additional means of promoting the common goal of sustainable development, doubts remain concerning the extent to which developing countries will actually benefit from it. The future of the concept of sustainable development thus remains obscure but it is not necessarily limited. Time will tell but in the meantime, it is interesting academically to examine the influence that this concept has already had within a specific area of international law. International watercourses law is a particularly relevant topic and has been chosen here in this study to demonstrate the extent to which the concept of sustainable development has impacted upon evolving principles and concepts of international law governing the use of international watercourses as discussed in the following Chapter.

CHAPTER 2: SUSTAINABLE DEVELOPMENT IN INTERNATIONAL WATERCOURSES LAW

INTRODUCTION

The previous Chapter has already illustrated that the concept of sustainable development has played a vital role at international level. This chapter therefore aims to explore the way in which the concept of sustainable development has been developed to date in the context of international watercourses law. The reason for choosing to discuss this area of international law is that the UNGA adopted the first international framework convention on non-navigational uses of international watercourses just 5 years after the adoption of the Rio Declaration. It is therefore particularly interesting to examine the extent to which this Convention gives effect to and responds to the new goal of achieving sustainable development of natural resources.

This Chapter, which is divided into four sections, aims to discuss the impact of the concept of sustainable development upon international watercourses law. It is thus important that the first section provides an overview of the most influential instruments in this area of law, viz. the Helsinki Rules and the 1997 UN Convention on Non-Navigational Uses of International Watercourses (the 1997 UN Convention).[1] This section thus provides a summary of their general characteristics and some of their important provisions, which will be discussed further in the following sections.

It is also necessary to explore the basic principles of international watercourses law before embarking on discussion of the impact of the concept of sustainable development upon them. The principles relating to water allocation and the protection of international watercourses, including the 'Harmon' doctrine, the absolute territorial integrity principle, the principle of equitable utilisation, the no harm rule, and the concept of common management will be referred to in this second section. Their current role and the challenges they now face are also explored.

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[1] UN Doc./A/51/869, reprinted in 36 *ILM* (1997), 700

The third section analyses the effects of the concept of sustainable development in international watercourses law generally. Some important provisions of the 1997 UN Convention, such as Articles 5, 20, 21 and 23, are investigated in detail in order to reflect the latest development of this area of law within the context of sustainable development. A conclusion is drawn in the fourth section.

1. Overview of the Helsinki Rules and the 1997 UN Convention

1.1 The Helsinki Rules[2]

The 1966 Helsinki Rules were the product of a long study conducted by the ILA from 1954-1966. They represented the first non binding international instrument collecting together relevant principles concerning non-navigational uses of international watercourses. They identified the principle of equitable and reasonable use that later became a basic principle of international watercourses law. Article IV of the Helsinki Rules asserts this as follows:

> 'Each basin state is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin'.

According to the ILA Report, Eagleton prepared this principle with the advice of American colleagues.[3] Undoubtedly, it was a concept that had been developed from finding the US Supreme Court in a series of decisions in interstate apportionment cases, such as Kansas v. Colorado; the New Jersey v. New York; and the Connecticut v. Massachusetts cases.[4] The same concept was also referred to in the decisions of the German Court in the Donauversinkung, and the Wüttemberg and Prussia v. Baden cases.[5] According to these judgements, the equitable use of water means the 'equal

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[2] Text in the ILA's Report (1966); reprinted in FAO, *Sources of International Water Law*, FAO Legislative Study No. 65, 290. See also, C.B. Bourne, 'The International Law Association's Contribution to International Water Resources Law', 36 *Nat Resources J* (1996), 155-216, and the role of the ILA in identifying principles of international watercourses law in S. Bogdanović, ed., *International Law of Water Resources: Contribution of the ILA (1954-2000)*, (2001).

[3] The *ILA's Report* (1956), 216 and 244.

[4] The judgements of the US courts in interstate river disputes include the Kansas v. Colorado case 185 *US* (1902), 125, 46 L. ed. 838; 206 *US* (1907) 46, 51 L. ed. 956; the New Jersey v. New York case, 238*US*(1931) 336, 75 L. ed. 110; and the Connecticut v. Massachusetts case, 282 *US* (1931) 660, 75 L. ed. 602. The US Supreme Court ruled in these cases that the equality of the right to use did not necessarily mean equality in the amount of water, but it meant an 'equitable amount of water' to be shared between the states concerned.

[5] For translation see, 4 *Ann. Digest of Pub. Int'l L. Cases 1927-1928* (1931), 128.

right' of co-riparian states in sharing the water of international watercourses but it does not require the 'equal sharing of the amount of water'. The riparian states are thus required to take account of all the relevant factors and circumstances in considering the reasonableness of their uses. Article V of the Helsinki Rules provides a non-comprehensive list of factors that should be applied for this purpose.[6] These relevant factors enable identification of the different levels of need for water of the riparian states. Thus different quantities of water should be allocated accordingly.

An obligation not to cause substantial harm to other states was also identified in Article X of the Helsinki Rules but was clearly subordinated to the concept of equitable utilisation. It reads as follows:

> '1. Consistent with the principle of equitable utilisation, a state
> (a) must prevent new form of water pollution or any increase in the degree of existing water pollution in an international drainage basin which would cause substantial injury in the territory of a co-basin state, and
> (b) should take all reasonable measures to abate existing water pollution in an international drainage basin to such a extent that no substantial damage is caused in the territory of a co-basin state.
> ....'

Clearly, the 'no harm' requirement of the Helsinki Rules does not allow new uses to cause pollution to the water available for existing equitable use of other riparian states as the rights of these states must be protected. This approach has given rise to much discussion both at international and regional level, in particular when the Helsinki Rules were submitted to the Sixth Committee of the United Nations for approval as the basis of an international convention on international watercourses.[7] The whole Helsinki Rules were not accepted as an international convention on the grounds that they did not represent state practice.[8] Even so, the Helsinki Rules remain very influential because they identified the fundamental concepts applicable in this field - the principle of equitable utilisation and the no harm rule. These still play very important roles in the law of many regions and also in the 1997 UN Convention as well shall now observe.

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[6] These include, for example, the hydrology of the basin, the climate, and the economic and social needs of each country.
[7] 2 *YBILC* (1976) Part 1, 147; UN Doc.A/CN.4/SER.A/1976/Add 1.

1.2 The 1997 UN Convention

The UN later requested the ILC to conduct a study of and draft a convention on international watercourses law.[9] The ILC spent twenty-four years completing its Draft Articles on Non-Navigational Uses of International Watercourse.[10] The Sixth Committee acting as the Working Group of the Whole, examined and commented on the Draft.[11] The final draft was put before the UN for consideration in 1997. It was adopted[12] and opened for signature.[13] At the time of writing, it has 16 signatories but only 5 of these have ratified it.[14]

Although it is not yet in force, the 1997 UN Convention is very important as it codifies the basic principles of international watercourses law. It contains 37 articles, which are arranged in 7 parts. According to Article 1, this Convention deals with issues concerning not only the use of water resources but also the protection, preservation and management of international watercourses and their waters. As far as the Helsinki Rules are concerned, its principle of equitable utilisation and the 'no harm' rule were codified in Articles 5 and 7 of the 1997 UN Convention respectively.[15] So far as the concept of sustainable development is concerned, this Convention mentions it only once in Article 24 – as the 'relevant process of

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[8] See J. Wescoat, 'Beyond the River Basin: The Changing Geography of International Water Problems and International Watercourse Law' 3 *Colo JIEL & Pol.* (1992), 320.
[9] UNGA Resolution 2669 (XXV) (1970).
[10] Text in P.W. Birnie and A.E. Boyle, *Basic Documents on International Law and the Environment* (1995), 363. For analysis on this Draft Articles, see M. Fitzmaurice, 'The Law of Non-navigational Uses of International Watercourses: The International Law Commission completes its Draft', 8 *Leiden JIL* (1995), 361-375; G. Hafner, 'The Optimum Utilisation Principle and the Non-Navigational Uses of Drainage Basins', 45 *Austrian JPIL* (1993) 113-146; S. McCaffrey, 'The Evolution of the Law of International Watercourses', 45 *Aus JPIL* (1993), 87-111; S. McCaffrey, 'The Law of International Watercourses: Some Recent Developments and Unanswered Questions', 17 *Denver JIL & Pol* (1989) 505-526; S. McCaffrey, 'The International Law Commission Adopts Draft Articles on International Watercourses', 89 *AJIL* (1995), 395; S. McCaffrey and S. Rosenstock, 'The International Law Commission's Draft Articles on International Watercourses: an Overview and Commentary', 5:2 *Review of European Community and International Environmental Law* (1996), 89-96; and A. Nollkaemper., 'The Contribution of the International Law Commission to International Water Law: Does it Reverse the Flight from Substance?', 27 *Netherlands YIL* (1996), 39.
[11] Report of the Sixth Committee convening as the Working Group of the Whole, UN A/51.869 (1997).
[12] This Convention was adopted by 36 votes to 3 (Ethiopia, France and Turkey), with 21 abstentions. UN Doc. A/C.6/51/SR.62 (1997) at 6 paragraph 40.
[13] UNGA A/RES/51/29 (1997).
[14] These include Jordan, Namibia, Norway, South Africa and Syria.
[15] See below for more discussion.

management' of international watercourses.[16] More attempts have, however, been made to give full effect to the concept of sustainable development and the Rio Declaration by adopting the concepts such as sustainable utilisation and an obligation to protect the ecosystem.[17] Procedural obligations including duties to co-operate[18] and to exchange information and data between the watercourse states[19] are also affirmed.

In addition, the issues concerning the protection and conservation of biodiversity of international watercourses (Article 22) and the protection of the marine environment (Article 23) are recognised for the first time in the context of international watercourses law. In particular, the latter reflects the current trend of international law in aiming to achieve sustainability of the globe's natural resources. Article 23 allows the application of rules and standards of other areas of international law to international watercourses. This provision also merges the two separate subjects of freshwater and the marine environment and their inter-relationship is now more widely recognised. Article 25 of this instrument also requires watercourse states to co-operate in the regulation of the water flow. It is unfortunate that this provision does not provide specific rules concerning how to regulate the flow. It simply provides for the obligation of co-operation and participation in the construction, maintenance or defrayal of the costs of such regulatory work.

2. Principles underlying International Watercourses Law

The international law governing the use of international watercourses began to emerge when the navigation of waterways became a means for transportation of people and merchandise across the borders of riparian countries. The legal principles established during that time dealt mainly with the right to navigate[20] and the liability

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[16] The ILC's Report to the General Assembly on the Work of its 46th Session, UN Doc. A/49/10 Supp. (1994), 301 hereinafter the ILC Commentary.
[17] Article 20.
[18] This concept is referred to throughout the Convention. However, the most obvious indications are Articles 5 (2) and 8.
[19] Article 9.
[20] See F.J. Berber, *Rivers in International Law* (1959); R. Jenning and A. Watts, eds., *Oppenheim's International Law*, 9th ed. (1992) Vol. 1, Part 2, Chapter 5; H.A. Smith, *The Economic Uses of International Rivers* (1931); G.E. Glos, *International River: A Policy-Oriented Perspective* (1961); B. Vitányi, *The International Regime of River Navigation* (1979); P.M. Oglivie, *International Waterways* (1920); and J. Bruhaćs, *The Law of Non-navigational Uses of International Watercourses* (1993).

of the riparian states in this matter.[21] Non-navigational use of international watercourses became increasingly significant at a later date, when technology rendered water a resource that can also be used for purposes other than navigation, such as irrigation, hydropower generation, or tourism.[22] As Smith observes, the conflict between Holland and Belgium in 1856 concerning the diversion of water from the River Meuse for the service of the Campine Canal 'appears to be the first diplomatic assertion of any rule of international law upon other use of international watercourses'.[23] Sharing water resources in international watercourses is therefore no longer limited to navigation. The four principles of international watercourses law are discussed below in order to illustrate the development of and the current trend in the principles of this area of law.[24]

2.1 The Harmon Doctrine or Absolute Territorial Sovereignty[25]

The Harmon Doctrine is a concept that allows a watercourse state to use the water and other related resources of international watercourses without obligation to take into account any adverse effect that may be caused to other watercourse states. It is based on the theory of absolute territorial sovereignty, which permits upstream states to do whatever they wish within their territory regardless of the effects suffered by the downstream states.

The first reference to this concept can be traced back to a dispute concerning the Rio Grande in 1894.[26] In this case, Mexico protested the diversion of water by the US from the Rio Grande, which caused water shortages and environmental damage in

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[21] For example, the Final Act of the Congress of Vienna that mainly dealt with navigation of European rivers, such as Main, Necker, Moselle, Meuse and Scheldt. In this instrument, an international watercourse was only recognised as such if it was navigable. The 1856 Treaty of Paris recognised the navigability of the Danube. The 1884-1885 Act of Berlin acknowledged the freedom to navigate the Congo and Niger rivers. The 1868 Rhine Convention for Navigation clearly declared that the Rhine was a navigable river.

[22] See Chapter VI of Smith, *The Economic Uses*....

[23] Smith, *The Economic Uses*..., 24-38. See also Appendix II in which the Dutch Claim of 1856 was quoted in full.

[24] For a comprehensive survey of these principles, see Chapter 5 of S. McCaffrey, *The Law of International Watercourses* (2001); and P.W. Birnie and A.E. Boyle *International Law and the Environment* (2002), 6.

[25] See also, B.A. Godana, *Africa's Shared Water Resources* (1985), Chapter 1; Smith, *The Economic Uses*..., 7-8; Berber, *Rivers in International Law*, 14-19; and S. McCaffrey, 'The Harmon Doctrine One Hundred Years Later: Buried, Not Praised', 36 *Nat Resources J* (1996), 549-590.

[26] For more details of this case, see Chapter 4 of McCaffrey, *The Law of International Watercourses*.

Mexico. The US Attorney General, Judson Harmon, was requested to respond to the Mexican protest. He denied that the US held any responsibility for adverse effects suffered in Mexican territory on the grounds that the US actions took place entirely within its own borders, contending that because of its absolute territorial sovereignty, the US was entitled to use the water in any way that it wished, regardless of the consequences in Mexico. The dispute between these two countries was finally settled by the conclusion of an Agreement Concerning the Equitable Distribution of the Waters of the Rio Grande for Irrigation Purpose in 1906.[27] India also referred to the absolute territorial sovereignty notion in its dispute with Pakistan over use of the Ganges.[28] Chile took the same approach in its dispute over the Rio Mauri.[29] France also invoked its absolute territorial sovereignty in the use of the Lake Lanoux against Spain arguing that its sovereignty should remain 'untouched'.[30]

The notion of absolute territorial sovereignty did not gain so much support, however, in later years. Even American scholars rejected this notion. For example, the Chief Justice, J. Marshall denied the existence of this concept in the Schooner Exchange v. McFaddon case.[31] The United States, which once referred to this concept and indeed had brought it into existence, later rejected the doctrine in its dispute with Canada concerning the Columbia River[32] and also in the Trail Smelter case.[33] The Arbitral

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[27] 21 Ops. Atty-Gen (1898), 281-3. This opinion was very controversial as it did not resolve the dispute. Eventually, the US and Mexico agreed to settle this dispute by concluding an Agreement Concerning the Equitable Distribution of the Waters of the Rio Grande for Irrigation Purpose in 1906. The core provisions confirm that the share of water from the Rio Grande between the two countries must be conducted equitably. Text in *UN Legislative Texts and Treaty Provisions Concerning the Utilisation of International Rivers for Other Purposes than Navigation,* UN ST/LEG/SER.B/12, 232 (hereinafter UN Legislative Texts).

[28] See Berber, *Rivers in International Law,* 453. India said that it reserved full freedom to extend or alter the system of irrigation within its territory. These countries eventually concluded the Indus Water Treaty in 1960 to establish 'an equitable apportionment' of the waters shared between them. Text in 419 *UNTS*, 125. See also, F.J. Fowler, 'The Indo-Pakistan Water Dispute' *YB of World Affairs* (1955), 101-125; S.C. Agrawal, 'Legal Aspects of the Indo-Pakistan Water Dispute', 21 *The Supreme Court of India Journal* (1958), 157-170; and S.M.A. Salman and K. Uprety, *Conflict and Co-operation on South Asia's International Rivers* (2002).

[29] This river rises in Peruvian territory and crosses the triangular wedge of Chile, which separates Peru from Bolivia. For further details, see Smith, *The Economic Uses...*, 69-70.

[30] See below.

[31] 7 *Cranch* [US Supreme Court Reports] (1812), 116, 135-6, quoted in McCaffrey, *The Law of International Watercourses*, 92.

[32] They finally concluded the 1961 Treaty Relating to the Co-operative Development of the Water Resources of the Columbia River Basin, 542 *UNTS*, 244. For details, see McCaffrey, *The Law of International Watercourses*, 107-109.

[33] The Award of the Trail Smelter Arbitration, 3 *UNRIAA* (1941), at 1911, reproduced in 35 *AJIL* (1941), 684.

Tribunal for the Trail Smerlter case clearly denied the application of the concept of absolute territorial sovereignty proposed by France.

McCaffrey makes an interesting observation concerning the US practice under the Harmon Doctrine, remarking that:

> '...it is not clear that the US, in the context of the Rio Grande dispute, actually believed that the Harmon Doctrine ...represented an existing rule of international law... If it had considered this to be the applicable rule, one would have expected its behaviour, and its expectations of Mexico, to have conformed to a reasonable degree with the Doctrine's precepts. But rather than acting on the basis of Harmon's advice, the US acceded to Mexico's demands and entered into an agreement that apportioned the waters in what the agreement described as an equitable manner... The practice of the US in disputes subsequent to the Rio Grande controversy – even those in which the US was in an upstream position – demonstrates that the US has gone to great lengths to repudiate the Doctrine and has even maintained that it never represented the law. The formation of customary international law has more to do with how nations actually behave than with what they say. The Harmon Doctrine therefore has very little value as evidence of state practice'.

Smith was also of the view that the Harmon Doctrine is 'radically unsound'[34] commenting that:

> 'The opinion clearly rests upon an insufficient analysis both of principles and of practice and Mr. Harmon's attitude seems to have been merely the caution of the ordinary lawyer who is determined not to concede unnecessarily a single point to the other side'.[35]

As far as international law is concerned, it can be said that the Harmon Doctrine has now been disregarded from international practice. Since it did not respond well to the developing concepts of international law under which the interests of all riparian states need to be taken into account in order to promote a fair and reasonable sharing among them of the water resources of international watercourses.

2.2 Absolute Territorial Integrity

In contrast to the Harmon doctrine, a concept of 'absolute territorial integrity' has been introduced and supported by downstream riparian countries. This endorses the rights of downstream countries to enjoy the free use of their water without any interference or harm being caused to it by upstream riparian countries. This notion is also known as a

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[34] Smith, *The Economic Uses...*, 8.
[35] *Ibid.*, 42 and 145.

'riparian right', as espoused by Egypt in a dispute over the Nile.[36] Pakistan also referred to this concept in its dispute with India over the Indus River.[37] Canada strongly supported it in its dispute with the US over diversion of the water of the Great Lake – St. Lawrence and Columbia River.[38] The US itself referred to it in its conflict with Canada in the Trail Smelter case,[39] in which it alleged that its territory had been damaged by transfrontier air pollution emanating from a smelter at Trail in British Columbia in Canada. The Legal Adviser of the US Department of States asserted that:

> 'It is a fundamental principle of the law of nations that a sovereign state is supreme within its own territorial domain and that it and its nationals are entitled to use and enjoy their territory and property without interference from an outside source'.[40]

The tribunal, however, did not support the US proposition. It nonetheless adopted a more conciliating position of international law ruling that 'Canada is responsible in international law for the conduct of the Trail Smelter',[41] because 'no state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence'.[42]

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[36] Exchange of Note between the UK and Egypt concerning the Use of the Waters of the River Nile for Irrigation Purposes of 7 May 1929, no. 1, paragraph 2., *UN Legislative Texts*, 100, see also McCaffrey, *The Law of International Watercourses*, Chapter 7; Godana, *Africa's Shared Water Resources*, 38-39; and C. Mallet, 'Law and The Nile River: Emerging International Rules and Shari'a' in *The Nile: Sharing A Scarce Resource*, P. Powell and J. Allan, eds., (Cambridge University Press: Cambridge, 1994), 365-384.

[37] See R.R. Baxter, *The Law of International Waterways*, (1964), 451.

[38] The Canadian delegation opposed the unilateral diversion of water by the US from Lake Michigan that could cause serious harm to navigation and the production of hydroelectric power in Canada. There were no alternative sources of water in Canada, which could be diverted into the Great Lakes system to replace the water withdrawn from Lake Michigan. See Annexes to the *Report of Permanent Committee on the Law Governing Use of International Rivers of the Inter-American Bar Association* (1960).

[39] This case involved transfrontier air pollution rather than the use of an international watercourse. A privately owned zinc and lead smelter located in Trail in Canada, caused sulphur dioxide fumes that were carried by the prevailing winds across the border into the US state of Washington. This damaged crops and timbers. The US requested Canada to commit to an indemnity and referred to the above concept as follows: 'it is a fundamental principle of international law of nations that a sovereign state is supreme within its own territorial domain and that it and its nationals are entitled to use and enjoy their territory and property without interference from an outside source'.

[40] Memorandum in Relation to the Arbitration of the Trail Smelter case, prepared by G.H. Hackworth, quoted in McCaffrey, *The Law of International Watercourses*, 129.

[41] The Award of the Trail Smelter Arbitration, 3 *UNRIAA* (1941), 1965.

[42] *Ibid.*

In the Lac Lanoux case,[43] Spain invoked the absolute territorial integrity notion against France. The tribunal rejected Spain's contentions and stated that:

> 'In any case, we do not find either in the Treaty and the Additional Act of May 26, 1866, or in international common law, any rule that forbids one state, acting to safeguard its legitimate interests, to put itself in a situation which would in fact permit it, in violation of its international pledges, seriously to injure a neighbouring state'.[44]

Obviously, the tribunal refused to acknowledge the concept of absolute territorial integrity because it ignores the interests of other watercourse states. Godana agrees with the tribunal, and sates that this concept simply 'allocates rights without corresponding duties'.[45] This characteristic does not conform to the current circumstances in which watercourse states are required to act in a certain manner and consider the interests of other watercourse states. As in the case of the Harmon Doctrine, the international community has abandoned the concept of absolute territorial integrity.

2.3 Equitable Utilisation[46]

The conflict between the above concepts convinced many international legal bodies, such as the Institute de Droit International (IDI)[47] and the International Law

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[43] 12 *UNRIAA*, 288; 53 *AJIL* (1959), 156; 24 *ILR* (1957), 101. In this case, Spain protested a French hydroelectric scheme that would have diverted waters from the River Carol upstream of the Spanish border. Spain made the claim on two important reasons: first, the returned water would come from another basin, and second the waters would be delivered only by artificial means, which depended on the willingness of France. This created 'inequality and the physical possibility of a violation of law'. Spain also proposed that France required consent from Spain before diverting the water of the River Carol. The Arbitration did not rule in favour of Spain, but held that France, as an upstream riparian state, must consult Spain to safeguard her rights in the watercourse.

[44] Paragraph 9 of the tribunal's finding.

[45] Godana, *Africa's Shared Water Resources,* 39.

[46] See also, J. Lipper 'Equitable Utilisation' in A.H. Garretson, R.D. Hayton and C.J Olmstead, *The Law of International Drainage Basin* (1967), 15; McCaffrey, *The Law of International Watercourses*, Chapter 9; E. Benvenisti, 'Collective Action in the Utilisation of Shared Freshwater: The Challenges of International Water Resources', 90 *AJIL* (1996), 404; C.B. Bourne, 'The Primary of the Principle of Equitable Utilisation in the 1997 Watercourses Convention' 35 *Canadian YIL* (1997), 223; and a comprehensive survey conducted by the ILC's second Special Rapporteur, S.M. Schwebel, in his Third Report in 2 *YBILC* (1982), Part 1, and corrigendum, 76-82; UN Doc. A/CN.4/348, paragraphs. 49-72.

[47] The related instruments adopted by the IDI include the 1961 Salzburg Resolution on 'Utilisation of Non-Maritime International Waters (except for navigation)' and the 1979 Athens Resolution on 'The Pollution of Rivers and Lakes and International Law'. Text, see 49 *Annuaire de l'Institut de Droit International* (1961), 381-384; and 58 *Annuaire de l'Institut de Droit International* (1979), 193-292 respectively. Article 2 of the Salzburg Resolution spelled out the right to use the water of riparian states that:

'Every State has the right to utilise waters which traverse or border its territory, subject to the limits imposed by international law and, in particular, those resulting from the provisions which follow.

Association (ILA),[48] that they should search for a principle that reconciled the differences between the Harmon Doctrine and the concept of absolute territorial integrity. As mentioned earlier, as a result the concept of equitable use was established as compromise.[49] It was first identified in Article IV of the Helsinki Rules, and the principle of equitable use and relevant factors were added by Article V thereof.

The obvious fairness of the principle of equitable use has made it well accepted in international watercourse agreements.[50] It was also adopted in the 1997 UN Convention and referred to by the ICJ in its judgement concerning the Gabčikovo-Nagymaros Dam dispute between Slovakia and Hungary.[51] In this case, the ICJ found that Czechoslovakia:

> 'by unilaterally assuming control of a shared resources, and thereby depriving Hungary of its right to an *equitable and reasonable share* of the natural resources of the Danube – with continuing effects on the ecology of the riparian area of the Szigetköz – failed to respect the proportionality which is required by international law'[52] (emphasis added).

The ICJ clearly declared that the principle of equitable utilisation is indeed a principle of international law. Interestingly, Judge Weeramantry went even further in a later case concerning Kasikili/Sedudu Island[53] in applying the above principle to navigational use of the Chobe River, the boundary river separating Namibia and Botswana. He mentioned in his dissenting opinion in this case that that equitable use and the benefit that watercourse states would acquire, as well as the safeguarding of

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This right is limited by the right of utilisation of other States interested in the same watercourse or hydrographic basin'.

[48] For the contribution of the ILA on this area of law, see S. Bogdanović, *International Law of Water Resources...*; and The ILA's Reports between 1954 and 1966.

[49] Fuentes, X., 'Sustainable Development and the Equitable Utilisation of International Watercourses' 69 *BYIL* (1998), 119-200, 134.

[50] See the agreements that adopted this principle in a survey conducted by the second Special Rapporteur, S.M. Schwebel, in his Third Report in 2 *YBILC* (1982), Part 1, and corrigendum, 76-82; UN Doc. A/CN.4/348, paragraphs. 49-72.

[51] *ICJ Report* (1997), 92; and 37 *ILM* (1998), 162. In this case, Hungary suspended its work in the jointly-operated Gabčíkovo-Nagymaros project in 1989 due to domestic political pressure over the environmental damage caused by this project. Czechoslovakia (Slovakia succeeded this project after Czechoslovakia split into two countries in 1992) decided to continue its diversion unilaterally, and dammed the Danube. Czechoslovakia diverted more than 80% of the water into their territory. Hungary protested this diversion.

[52] *Ibid.*, at paragraph. 85

[53] In this case, the Court was asked to determine the boundary between Namibia and Botswana around Kasikili/Sedudu Island and the legal status of the island. See the dissenting opinion of Judge Weeramantry. For the judgement, see *ICJ Report* (1999), 1045.

the environmental interests of the island, should be taken into consideration in demarcating the present river boundary, this would in order to allow the Parties to use the river equitably. He said that:

> 'A riparian boundary is meant to afford to both riparian states equal use and benefit from the boundary river. If the boundary is decided to be the channel which is not suited to carry the bulk of the vessels using the river, both states would not be able to use the river equitably. *To hold in the present case that the northern channel is the boundary would, by denying Namibia the use of the southern channel, cause far greater loss to Namibia than the loss that would ensure to Botswana if the southern channel were held to be the boundary, in which case Botswana would be denied only the use of the northern channel is comparatively of far less value. This important use of the river must be equitably shared by both riparian states*... As Namibia informed the Court..., ten of thousands of tourists...come to Namibia to visit its game parks, and the same is no doubt true of Botswana. The use of the southern channel to observe the wildlife on Kasikili/Sedudu Island would be a natural and important part of the agenda of the tourists in both countries.' (emphasis added)

Obviously, this dissenting opinion extends the application of the principle of equitable use to navigation in a manner, which has never been mentioned before. Although this dissenting opinion is not part of the ICJ's judgement and remains controversial, it recognises the normative status of the principle of equitable use as it is part of international law.[54] This study will now focus on the actual content and application of this principle and some controversies arising from Article 5 of the UN Convention.

2.3.1 Equitable Utilisation under the 1997 UN Convention

The principle of equitable utilisation was adopted in Article 5 of the 1997 UN Convention. It reads:

> 'Watercourse States shall in their respective territories utilise an international watercourse in *an equitable and reasonable manner*. In particular, an international watercourse shall be used and developed by watercourse States *with a view to attaining optimal and sustainable utilisation thereof and benefits therefrom consistent with adequate protection of the watercourse.*
>
> Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilise the watercourse and the duty to co-operate in the protection and development thereof, as provided in the present Convention' (emphasis added).

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[54] For further discussion on this topic, see, for example, Fuentes, 'Sustainable Development and the Equitable Utilisation ...'; Birnie and Boyle, *International Law*...; A. Tanzi and M. Arcari, *The United Nations Convention on the Law of International Watercourses* (2001), Chapter 3; and Report of the ILC, particularly the Third Report of the second Special Rapporteur in 2 *YBILC* (1982).

The two paragraphs of this provision deal with two main issues, viz. the equitable use of water and the participation of states in such use. Regarding the first paragraph, the obligation to use water reasonably and equitably is quite straightforward. It recognises the territorial sovereignty of riparian states and their right to use the watercourse within their jurisdiction subject to the concept of 'equitable use'. This right to the equitable use of the resources also implies the obligation not to exceed the limits of the right, nor to infringe upon other watercourse states' rights,[55] which was confirmed by the ICJ in its judgement of the Gabčikovo case. This first sentence reflects the idea of considering international watercourses as 'shared natural resources' because there are more than two riparian states involved.[56] The concept of 'shared natural resources' was however omitted from the final text in order to avoid certain problems.[57] Agreement and co-operation between the riparian states to use the water of the watercourses equitably clearly underline the characterisation of international watercourses as being 'shared natural resources'.[58]

The second sentence of the first paragraph spells out the goal of equitable utilisation which must aim at attaining the 'optimal and sustainable utilisation' of international watercourses.[59] The term 'sustainable use' was added in order to bring this goal into line with the Rio Declaration and Agenda 21, and with this addition a new trend has been set out.[60] Such use is also required to be 'consistent with adequate protection of the watercourse'.[61] These requirements are very important, as this is the first time that equitable utilisation has been required to aim at achieving 'sustainable use' of international watercourses and to be consistent with adequate protection of the watercourses. Adding these considerations emphasises the significance of

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[55] 2 *YBILC* (1994), Part 2; Doc. A/CN. 4/SER. A/1994/Add.1 (Part 2), 97; hereinafter the 1994 ILC's Report.
[56] 1 *YBILC* (1986), 240.
[57] Viz. to avoid the language that 'might suggest an erosion of state territorial sovereignty'. See Tanzi and Arcari, *The UN Convention...*, 103.
[58] *Ibid.*
[59] McCaffrey and Sinjela, however, regard the addition of the term 'sustainable' superfluous, which was a result of an *ex abundante cautela* act by the negotiating governments. See S. McCaffrey, and M. Sinjela, 'The 1997 UN Convention on International Watercourses', 92 *AJIL* (1998), 99. See section 2.2 below for further discussion on the topic of 'sustainable use'.
[60] For further discussion, see E. Hey, 'Sustainable Use of Shared Water Resources: the Need for a Paradigmatic Shift in International Watercourses Law' in G. Blake, *et.al., The Peaceful Management of Transboundary Resources* (1995), 127-152.
[61] The ILC made it clear in its Commentary on the final draft of the Convention that 'adequate protection' includes not only measures such as those relating to conservation, security, and water-

environmental concerns alongside the economic consideration in non-navigational uses of international watercourses. A non-exhaustive list[62] of relevant factors and circumstances that are to be addressed when considering equitable utilisation is indicated in Article 6.[63] Some form of co-operation and some exchange of data and information between watercourse states is obviously required.[64] This duty of watercourse states is also confirmed in Articles 8 and 9.

Paragraph 2 of Article 5 adopts the concept of equitable participation. This is to ensure that the goals adopted in paragraph 1 can be achieved.[65] Watercourse states are now obliged to participate in the use, development and protection of international watercourses. This provision reflects the need for these states to co-operate in the equitable use of international watercourses and to take affirmative steps towards this.[66]

Although the approach adopted in Article 5 is superfluous, it illustrates an attempt by the drafters to marry the concept of sustainable development to the principle of equitable utilisation. A challenge, however, has been put before it: can this new approach to the principle of equitable utilisation alleviate, if not resolve, the world's water crisis? It was stated in the Millennium Declaration[67] and the Johannesburg Declaration of the World Summit on Sustainable Development[68] that problems concerning people who have neither access to nor the ability to pay for safe drinking

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related disease, but also measures of 'control' in the technical, hydrological sense of the term, but also other co-operative works and activities initiated by States jointly. 2 *YBILC* (1994), Part 2, 97.

[62] This qualification means other conditions and circumstances relating to each watercourse may also be taken into consideration as factors may differ from one basin to another. This list therefore serves only as a guideline for further negotiations between the states concerned. It is interesting to note that 'conservation, protection of the watercourse' is included as one of the relevant factors to consider as a matter of equitable and reasonable utilisation.

[63] The 1994 ILC's Report, 101.

[64] McCaffrey, S., 'The UN Convention on the Law of the Non-Navigational Uses of International Watercourses: Prospects and Pitfalls' in S. M. A. Salman & L. Boisson de Chazournes, *International Watercourses: Enhancing Co-operation and Managing Conflicts* (1998), 19.

[65] McCaffrey and Sinjela, 'The 1997 UN Convention on International Watercourses', 99.

[66] McCafffrey, *The Law of International Watercourses*, 305-306. This view is also supported by the ICJ in the Gabčikovo case, see paragraph 147 of the judgement.

[67] The Millennium Declaration was adopted at the UN General Assembly in 2000 to reaffirm the commitment of the international community towards achieving sustainable development and poverty eradication. The goal to halve the number of people who are unable to reach or afford safe drinking water by 2015 was clearly stated in Article 19. UN Doc. A/RES/55/2. See Chapter 1 for more details.

[68] The Johannesburg Declaration is the product of the recent World Summit on Sustainable Development convened by the UN in 2002. It is in the Plan of Implementation to the Johannesburg Declaration that the need to solve the problem of drinking water and sanitation is reaffirmed. For the text of the Declaration, see UN Doc. A/CONF.199/L.6/Rev.2 (2002). Text of the Plan of

water are the world's most imperative problems. Could this new approach to the principles involved alleviate these problems?

Article 10(2) highlights the vital needs of humans for water usage. It states that 'in the event of a conflict between uses of an international watercourse, it shall be resolved with reference to Articles 5 to 7, with special regard being given to the requirements of vital human needs'.[69] In the present writer's view, although Article 10 does allow a state to have water to meet its 'vital human needs' in order to prevent starvation, it remains uncertain how this provision can be effectively implemented.

This is because 'vital human needs' is deemed by the ILC as just a phrase emphasising all the factors set out in Article 6[70] under which all the relevant factors are to be considered together. No priority is given to any particular factor. In addition, as indicated in Article 10(2), 'special regard' (not 'priority') is to be given to the use of water for this purpose.[71] Watercourse states are thus not obliged to prioritise it. Also, Article 10(2) does not acknowledge that the right to use water for 'vital human needs' is a human right and contains no inherent implication supporting this interpretation. Theoretically, the co-riparian countries concerned are not committed to provide such water, however, it does not restrict them from so doing or from selling their own share to a country in need. Such an approach does not facilitate achievement of the goal of halving the proportion of people who cannot afford water unless this provision is deemed to be a declaration of a concept of human rights in which case it should be accorded first priority.[72] It may be reasonable to state that the application of the principle of equitable utilisation under the context of the 1997 UN Convention does not facilitate the alleviation of the world's water crisis as called for

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Implementation, see www.johannesburgsummit.org, and see Chapter 1 for further discussion on this Declaration.

[69] The ILC interpreted 'vital human needs' as providing sufficient water to sustain human life, including both drinking water and water required for the production of food in order to prevent starvation'. See Statements of Understanding Pertaining to Certain Articles of the 1997 UN Convention on Non-navigational Uses of International Watercourses prepared by the Sixth Committee, 36 *ILM* (1997), 719.

[70] The ILC Commentary, 257.

[71] The ILC referred to the 1991 Delft Declaration that clearly emphasised the need to preserve and sufficient supply of freshwater to meet human needs because it is expected that humans will encounter a severe water crisis by the year 2000.

[72] See this discussion upon this issue raised at the Millennium Summit (2000) and the World Summit on Sustainable Development (2002) and the Third World Water Forum (2003). See also, the General

in the Millennium and Johannesburg Declarations. However, it remains to be seen whether or not this approach will be developed further in the future.

2.4 Common Management

The judgement of the PCIJ in the River Oder[73] is a milestone in that it laid down the concept of 'community of interest' in international watercourses law. In this case, the Court was asked to determine whether or not, under the Treaty of Versailles of 1919, the jurisdiction of the International Commission of the Oder extended to its tributaries situated in Warthe (Warte) and in Netze (Noteć) in Polish territory. Poland argued that the jurisdiction of the Commission ended where these tributaries cross the Polish border, while the other members[74] of the Commission contended that it should extend to the point at which the river or its tributaries ceased to be navigable. The issue before the Court clearly concerned the navigability of the river and the jurisdiction of the Commission was thus under consideration. The Court, however, went on to refer to the concept of 'community of interest' stating that:

> 'But when consideration is given to the manner in which States have regarded the concrete situations arising out of the fact that a single waterway traverses or separates the territory of more than one State, and the possibility of fulfilling the requirements of juristic and the considerations of utility which this fact places in relief, it is at once seen that a solution of the problem has been sought not in the idea of a right of passage in favour of upstream States, but in fact in that of a *community of interest* of riparian States. This community of interest in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the users of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others.
>
> *It is this conception that international river law*, as laid down by the Act of the Congress of the Vienna of June 9th, 1815, and applied or developed by subsequent convention, *is undoubtedly based....*
>
> If the common legal right is based on the existence of the navigable waterway separating or traversing several States, it is evident that this common right extends to the whole navigable course of the river and does not stop short at the last frontier.'[75] (emphasis added)

Comment No. 15 prepared by the UN Committee on Economic, Social and Cultural Rights, E/C.12/2002/11 (2002) in which the human right to water was defined in Articles 11 and 12.

[73] For, the ICJ's judgement on the River Oder case, see *PCIJ* Series A., No. 23, 5-46. Document instituting proceedings: Special Agreement of 30 October 1928.

[74] Czechoslovakia, Denmark, France, Germany, Great Britain, and Sweden.

[75] The ICJ's judgement on the River Oder case, 26.

The concept of 'community of interest' respects the equality and participation of all watercourse countries. It recognises the establishment of a joint international institution that is established to facilitate the co-operation between the states concerned and ensures that the 'community of interest' and the rights to equitable utilisation of these states are well protected. The concept of 'community of interest' is thus represented by a new approach of 'common management', which Birnie and Boyle regard as 'the logical combination of the idea that watercourse basins are most efficiently managed as an integrated whole, and the need to find effective institutional machinery to secure equitable utilisation and development'.[76] This approach has been well applied in many international and regional regimes. Examples of such arrangements include the Senegal River Basin Development Organisation (Senegal, Mauritania and Mali),[77] the Gambia River Basin Authority (Gambia and Senegal),[78] the Lake Chad Basin Commission (Cameroon, Chad, Niger and Nigeria),[79] the Niger Basin Authority (Benin, Cameroon, Ivory Coast, Guinea, Burkina Faso, Mali, Niger, Nigeria and Chad),[80] the Permanent Joint Technical Commission of the Nile (Sudan and United Arab Republic),[81] the International Joint Commission (USA and Canada),[82] the International Boundary and Water Commission (USA and Mexico),[83]

[76] Birnie and Boyle, *International Law...*, 304.

[77] It was established by the 1972 Convention Concerning the Status of the Senegal River. Text, see FAO, *Treaties concerning the Non-Navigational Uses of International Watercourses: Africa*, FAO Legislative Study No. 61, Rome (1997), 19. Article 1 of this Convention clearly declares that the OMVS (Organisation pour la Mise en Valeur du fleuve Senegal) is mandated to promote, co-ordinate and supervise studies and operations for the development of the Senegal River Basin. The OMVS functions through a non-permanent body, i.e. the Conference of Heads of States and Government, and three permanent bodies, viz. the Council of Ministers, the Standing Commission and the Permanent Water Commission. The Convention of Bamako of 21st December 1978 concerning the Legal Status of Works Jointly by the Member States has also entrusted the OMVS with the task of co-ordinating the schedules and programmes of operations and the maintenance of river basin development works jointly carried out by the member States.

[78] The 1978 Convention relating to the creation of the Gambia River Basin Development Organisation, text in FAO, *Treaties... : Africa*, 47.

[79] It was established under the 1964 Convention and Statutes relating to the Development of the Chad Basin, signed at Fort Lamy on 22nd May, text in FAO, *Treaties... : Africa*, 10; and *Journal Officiel de la République Fédérale du Cameroun* (1964), 1003.

[80] This organisation was established by the 1980 Convention Establishing the River Niger Authority, signed at Faranah, Guinea on 21st November, and the accompanying Protocol on the Development Fund of the Niger Basin, signed at Niamey on the same day. Text in FAO, *Treaties... : Africa*, 71.

[81] The Agreement for the Full Utilisation of Nile Waters was signed in 1959 at Cairo between Sudan and United Arab Republic to create the Permanent Joint Technical Commission. It is mandated to perform four main functions, viz. to draw up projects to increase the Nile River's yield, to supervise the execution of the approved projects, to make arrangements with the authorities concerned for works to be undertaken in or outside Sudan and to apportion water in times of shortage. (Article 4). Text in FAO, *Treaties... : Africa*, 236; 453 *UNTS*, 51; and *UN Legislative Texts...*, 143.

[82] The 1909 Boundary Water Treaty, 102 *British and Foreign State Paper*, 137. This treaty provides various principles and mechanisms to help prevent and resolves disputes, primarily those concerning water quantity and water quality along the boundary between Canada and USA. The Joint Commission

the Joint Technical Commission of Salto Grande (Argentina and Uruguay),[84] the Permanent Indus Commission (India and Pakistan),[85] the Permanent Water Commission (Namibia and South Africa),[86] the International Commission on the Protection of the Rhine Against Pollution (Germany, France, Luxembourg, the Netherlands and Switzerland),[87] the International Commission for the Protection of the Danube River (Austria, Bulgaria, Croatia, Germany, Hungary, Moldova, Romania, Slovakia, Ukraine and Yugoslavia),[88] the Plate (Plata) Basin Organisation (Argentina, Bolivia, Brazil, Paraguay and Uruguay),[89] the Zambezi Intergovernmental Monitoring and Co-ordinating Committee (Angola, Botswana, Malawi, Mozambique, Tanzania, Zambia, Zimbabwe and Namibia),[90] the Mahakali River Commission (India and Nepal),[91] the Indo-Bangladesh Joint Rivers Commission for Sharing of the

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was established by this Agreement. The Commission has its tasks extended by the Great Lakes Water Quality Agreement of 1972 and 1978 respectively.

[83] The International Boundary and Water Commission was originally created by the 1889 Boundary Convention between the United States of America and Mexico, text in *UN Legislative Texts,* 229.

[84] The 1946 Agreement concerning the Utilisation of the Rapids of the Uruguay River in the Salto Grande has constituted the Joint Technical Commission, and the two State Parties agreed on a formula of equitable sharing of the benefits from the project. Text in *UN Legislative Texts*, 160.

[85] It was originally established by the 1960 Indus Water Treaty. 415 *UNTS*, 125; *UN Legislative Texts...*, 300; and 1 *Indian JIL* (1960-1), 341.

[86] The two States created it through the 1992 Agreement on the Establishment of a Permanent Water Commission, 32 *ILM* (1993), 1147.

[87] The 1868 Convention on the Navigation of the Rhine officially created the Central Commission, unofficial English translation in 18 *British Foreign and States papers*, 1076. It was amended in 1963, *Command Paper* (Misc. No. 18, 1964), London: Her Majesty's Stationary Office, 2421. The 1976 Additional Agreement later included the European Economic Community (EEC) as one of its members. On 12th April, 1999 they signed a new Convention on the Protection of the Rhine as they were aware of the need to promote sustainable development of the Rhine River. This Convention enhances the power of the Rhine Commission as it has powers to take binding decisions. For text of the Convention, see http://home.att.net/~IntlH20Law. See also, A., Nollkaemper, *The Legal Regime for Transboundary Water Pollution: Between Discretion and Constraint* (1993); and A., Nollkaemper, 'The River Rhine: From Equal Apportionment to Ecosystem Protection' 5:2 *Review of European Community and International Environmental Law* (1996), 152-160.

[88] The 1994 Convention on Co-operation for the Protection and Sustainable Use of the Danube River or the Danube River Protection Convention has been in force since 1998. This instrument establishes the International Commission for the Protection of the Danube River by virtue of Article 18. Full text, see http: //ksh.fgg.uni-lj/danube/envconv. See also, for example, I. Zavadsky, 'Environmental Management of the Danube' 5:2 *Review of European Community and International Environmental Law* (1996), 36-39; and D.W. Rodda, 'Tackling the Environmental Problems of the Danube River Basin'5:2 *Review of European Community and International Environmental Law* (1996), 180.

[89] Treaty of the Plata Basin was signed at Brasilia on 23rd April 1969 and came into force on 14th August 1970. 875 *UNTS*, 3.

[90] United Nations, Conference of Plenipotentiaries on the Environmental Management of the Common Zambezi River System: Final Act, paper of the conference on 26th –28th May 1987. This organisation was created under the 1987 Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River System, FAO, *Treaties ... : Africa*, 84.

[91] Article 9 of the 1996 Treaty Concerning the Integrated Development of the Mahakali River has constituted this Commission. Its functions are, for example, to recommend to the Parties measures for the conservation and utilisation, and co-ordinate and monitor plans of actions. Text in 36 *ILM* (1997), 531.

Ganges Waters at Farakka (India and Bangladesh),[92] the Permanent Engineering Board (USA and Canada),[93] the International Commission for the Protection of the Meuse against Pollution,[94] the International Commission for the Protection of the Scheldt against Pollution,[95] the Komati River Basin Authority,[96] the International Commission for the Protection of the Elbe,[97] and the River Basin Management Institutions established for the Southern African Development Community (SADC) region.[98]

Although the concept of common management is a well accepted concept, the 1997 UN Convention makes no direct reference to it. Its implications can however be noticed throughout the instrument. Article 5 is a good example, as it requires the sharing of data for the determination of the equitability and reasonableness of any given use. This cannot be attained if there is no joint co-operation and realisation of the interests between watercourse states. Consultation under Article 6(2) also relies on common management as it requires some form of co-operation. The application of the 'no harm' rule needs the assessment of 'significant harm', which cannot be conducted unless there is some involvement of the states concerned – the states that are suffering from the adverse effects and the state that have caused the alleged harm.[99]

Nonetheless, the 1997 UN Convention leaves the question concerning whether or not a joint management mechanism should be established for watercourse states to decide.

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[92] This Commission was created by virtue of Article IV of the 1996 Treaty on Sharing of the Ganges Waters at Farakka, text in 36 *ILM* (1997), 519. It has limited functions being able only to monitor daily flows, submit data, and implement arrangements made under the Treaty (Articles VI, VI and VII).

[93] The 1961 Treaty with Canada relating to the Co-operative Development of the Water Resources of the Columbia River Basin, see above.

[94] The 1994 International Convention for the Protection of the Meuse against Pollution, 34 *ILM* (1995), 851.

[95] The 1994 International Convention for the Protection of the Schdelth against Pollution, *Ibid.*, 859.

[96] The Treaty on the Development and Utilisation of the Water Resources of the Komati River Basin, concluded between Swaziland and South Africa on 13th March 1992, text in FAO, *Treaties... : Africa*, 242.

[97] The 1990 Convention on the International Commission for the Protection of the Elbe, FAO, *Treaties concerning the Non-Navigational Uses of International Watercourses: Europe*, FAO Legislative Study No. 50, Rome (1993), 40.

[98] The 1995 Protocol on Sharing Watercourse Systems in the Southern African Development Community (SADC) Region, in FAO, *Treaties ... : Africa*, 146; see also the 2000 Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC), text 40 *ILM* (2001), 321.

[99] See the Lac Lanoux arbitration which stated that 'the state that cause significant harm cannot decide whether another state's interests will be affected; the other is the sole judgement of that'. See Lac Lanoux arbitration, 119 and Tanzi and Arcari, *The UN Convention...*, 193.

Article 8 (2) focuses more on the co-operation between watercourse states and recommends that these states 'may consider' the establishment of joint mechanisms to facilitate further co-operation. It states that:

> 'In determining the manner of such co-operation, watercourse states may consider the establishment of joint mechanisms or commissions, as deemed necessary by them, to facilitate co-operation on relevant measures and procedures in the light of experience gained through co-operation in existing joint mechanisms and commissions in various regions.'

The ICJ decision implied that there was a need to manage international watercourses in a common management manner in its judgement concerning the Gabčikovo case that:

> 'It is not for the Court to determine what shall be the final result of these negotiations to be conducted by the Parties. It is for the Parties themselves to find an agreed solution that takes account of the objectives of the Treaty, which must be pursued in a joint and integrated way, as well as the norms of international environmental law and the principles of the law of international watercourses'.[100]

The Court also recommended the re-establishment of the joint regime. Paragraph 147 of the judgement reads:

> 'Re-establishment of the joint regime will also reflect in an optimal way the concept of common utilisation of shared water resources..., in concordance with Article 5, paragraph 2, of the Convention on the Law of the Non-Navigational Uses of International Watercourses...'.[101]

What is particularly interesting in this statement is that in urging the Parties to re-establish the joint regime, the Court invoked Article 5(2) in which the obligation to equitably and reasonably participate in the use, development, and protection of an international watercourse is asserted. The Court did not refer to Article 8(2) in which the establishment of joint mechanisms or commissions is recommended. This implies that the Court did not recommend Hungary and Czechoslovakia to re-establish the joint regime because it was an obligation; rather it urged them to so do as part of an obligation to participate. This approach seems to demonstrate the reluctance of the ICJ to confirm that the establishment of joint institutions for shared water resources is an obligation under international law because it lacks *opinio juris.*[102] It is rather regarded as an *opinio necessitatis* - a 'principle of progressive international law'

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[100] Pargraph 141 of the judgement.
[101] Paragraph 147 of the judgement.

employed to facilitate the achievement of equitable use and the prevention of significant harm in international watercourses.[103]

2.5 No Harm

The concept of 'no harm' or the obligation not to cause significant harm, has been developed from the well-known Latin maxim '*sic utere tuo ut alienum non laedas*'. It is generally understood among riparian States that they 'must so use their own property as not to do injury to another'.[104] This concept is one of the most fundamental principles of international law, as states are under an obligation not to use their resources even within their own territories in such a manner as to cause serious damage to other countries.[105]

The responsibility of a state underlined in the 'no harm' rule, has become ever more important, particularly where it is employed to tackle the problem of transboundary pollution or degradation of the global environment.[106] It has been referred to in a number of cases, for example, the Corfu Channel case,[107] the Trail Smelter case,[108] the Lac Lanoux arbitration,[109] the Nuclear Tests case,[110] and in the advisory opinion

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[102] Tanzi and Arcari *The UN Convention...*, 191.

[103] 2 *YBILC* (1984), Part 1, 112, paragraph .59; Birnie and Boyle, *International Law...*, 305; and Tanzi and Arcari, *The UN Convention...*, 191.

[104] For more details of this concept, see J.G. Lammers, *Pollution of International Watercourses* (1984), 570; A., Nollkaemper, *The Legal Regime for Transboundary Water Pollution: Between Discretion and Constraint* (1993); and the Comment on Article X of the Helsinki Rules, see the *ILA's Report* (1966).

[105] See the Trail Smelter arbitration above; the Corfu Channel case, *ICJ Report* (1949), 22; the Nuclear Tests Case (Australia v. France), *ICJ Report* (1974), 388; the Advisory Opinion on the Legality or Threat of Us eof Nuclear Weapons, *ICJ Report* (1996), 226 at paragraph 29; and the opinion of Judge per de Castro in Lac Lanoux arbitration, 101 and 123.

[106] For example, P. Sands, *Principles of International Environmental Law* (1995), 347; J. Lammers, *Pollution of International Watercourses*, 381-5; Birnie and Boyle, *International Law...*, Chapter 3 (4); R. Lefeber, *Transboundary Environmental Interference and the Origins of State Liability* (1996), 19ff; L. Sohn, 'The Stockholm Declaration on the Human Environment', 14 *Harv ILJC* (1973), 423 and 485-93. See also the argument made by X. Fuentes, 'Sustainable Development and the Equitable Utilisation...', 140*ff*.

[107] In this case, the damages were caused to British warships due to the fact that Albania 'neither notified the existence of the minefield, nor warned them of the danger they were approaching'. The obligation 'not to allow knowingly its territory to be used for acts contrary to the rights of other states' is mentioned.

[108] The tribunal held that 'no state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another' This implies that preventive measures are necessary.

[109] In this case, the Arbitral Tribunal held that a state has an obligation not to exercise its rights to an extent that ignores the rights and interests of neighbouring states. France therefore cannot use water to the extent to which it pleases without taking into account the interests of Spain in sharing the water of Lac Lanoux.

of the ICJ with regard to the Legality of the Threat or Use of Nuclear Weapons.[111] Particularly in the last case, the ICJ made it clear that:

> 'The environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. The existence of the *general obligation of States to ensure that activities within their jurisdiction and control respect to the environment of other States or areas beyond national control is now part of the corpus of international law relating to the environment*'.[112] (emphasis added)

It was in this ICJ opinion that the 'no harm' rule was recognised for the first time as a principle of customary international law. However, it is interesting to note that Fuentes making a strong argument on this issue contends that none of these cases actually applied the 'no harm' principle, rather they employed the 'long-established principle that states must refrain from acting illegally'.[113]

Apart from Article X of the Helsinki Rules already mentioned above, the 'no harm' rule was identified together with the sovereign right of a state to exploit its own natural resources in Principle 21 of the Stockholm Declaration. It is this provision that later provided the basis for Principle 2 of the Rio Declaration and the concept of sustainable development. Principle 21 asserts 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 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'.

Principle 2 of the Rio Declaration reaffirmed the same concept. The term 'and developmental' was also added in order to emphasise the importance of the developmental factor in the application of this concept. It reads:

> '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

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[110] The Nuclear Tests Case, see above, 253, 389. In this case, Australia had asked the ICJ to declare the unlawfulness of a nuclear test carried out by France. Such a nuclear test 'involves the modification of the physical conditions of and over Australian territory [and] pollution of the atmosphere and of the resources of the sea'.

[111] *ICJ Report* (1996), 241-2 paragraph 29. The Court stated that 'the existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment'.

[112] *Ibid.*

[113] Fuentes, 'Sustainable Development and the Equitable Utilisation...', 136-137.

> environmental *and developmental* 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'. (emphasis added)

These two provisions set out the new direction in which international law and policy is now heading. Their influence has also affected the content of the 1997 UN Convention. The 'no harm' rule is incorporated in Article 7 of this Convention, which spells out the obligation of watercourse states as follows:

> '1. Watercourse states shall, in utilising an international watercourse in their territories *take all appropriate measures to prevent the causing of significant harm to other watercourse states.*
>
> 2. Where significant harm nevertheless is caused to another watercourse states, the states whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of article 5 and 6, in consultation with the affected state, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation.' (emphasis added)

One of the questions arising from this provision concerns what the term 'significant harm' means? This issue is important because it is a qualification that triggers the obligation to 'take all appropriate measures to eliminate or mitigate such harm and the discussion of compensation'. In this respect, the ILC provided a guideline for the interpretation of the term 'significant harm', which means, in the ILC's words, 'a detrimental impact of some consequences upon, for example, public health, industry, property, agriculture or the environment in the affected states'.[114] McCaffrey is not convinced by the ILC's elaboration, which he considers does not clearly establish 'the point at which the causing of harm to another state becomes wrongful under general international law'.[115] He suggests the application of a more flexible standard – 'one which may aptly be described as a use of one's property or territory that is *reasonable* in the circumstances vis-à-vis one's neighbour or co-riparian.'[116] Adoption of this standard would mean that 'legal injury rather than material damage' would be proscribed.[117] This would bring it in line with the principle of equitable utilisation, as set out in Articles 5 and 6 of the UN Convention.[118]

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[114] 2 *YBILC* (1988), Part 2, 36.
[115] McCaffrey, *The Law of International Watercourses*, 365
[116] *Ibid.*
[117] *Ibid.*
[118] *Ibid*; and see Tanzi and Arcari, *The UN Convention...*, 149; and Lipper, 'Equitable Utilisation', 45.

2.5.1 The 'No Harm' Rule and its Relationship to 'Equitable Utilisation'

As mentioned earlier, the 'no harm' proscription of the Helsinki Rules was not an independent concept because it has to be applied in a manner that is consistent with the principle of equitable use.[119] This approach emphasised that equitable utilisation was the governing rule in the utilisation of an international watercourse, and the 'no harm' rule was therefore subordinated to it.[120] This approach proved quite controversial during the process of drafting the 1997 UN Convention. The 'no harm' rule was, however, eventually incorporated in Article 7 of the Convention in the following terms:[121]

> '1. Watercourse States shall, in utilising an international watercourse in their territories, *take all appropriate measures* to prevent the causing of significant harm to other watercourse States.
> 2. Where significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, *take all appropriate measures*, having due regard for the provisions of article 5 and 6, in *consultation* with the affected State, to *eliminate or mitigate* such harm and, where appropriate, to discuss the question of compensation' (emphasis added).

When this is compared with Article X (1) of the Helsinki Rules, it can be seen that this provision does not subordinate the 'no harm' rule to the principle of equitable utilisation in the same manner as the Helsinki Rules. Paragraph 1 of Article 7 lays a straightforward obligation upon watercourse states to prevent the cause of significant harm to other watercourse states, although this is not an absolute obligation. The term 'take all appropriate measures' implies that the obligation is one of 'due diligence'.[122]

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[119] Text see above.

[120] Bourne, 'The International Law Association's Contribution…', 165.

[121] The Special Rapporteurs of the ILC had to change their approach back and forth in order to reach an agreed solution for the relationship between these two principles. Judge Schwebel, the second Special Rapporteur, proposed Article 8 (2), which gave priority to the concept of equitable utilisation. See 'Third Report on the Law of the Non-navigational Uses of International Watercourses', 2 *YBILC* (1982), Part 2, 103. Mr. J. Evensen and Mr. S. McCaffrey, the next two Special Rapporteur, reversed this position and gave full independence to the 'no harm' rule. See 'First Report on the Law of the Non-navigational Uses of International Watercourses', 2 *YBILC* (1983), Part 2, 172 and 'Second Report on the Law of the Non-navigational Uses of International Watercourses', 2 *YBILC* (1986), Part 2, 133 respectively. This reversal was criticised by most States. Therefore, Mr. R. Rosenstock, the last Special Rapporteur, decided to introduce a new approach, based on the concept of 'due diligence', to the protection of international watercourses; 'First Report on the Law of the Non-navigational Uses of International Watercourses', UN Doc. A/CN.4/451.

[122] The concept of 'due diligence' was reintroduced by the Special Rapporteur, S. McCaffrey and was incorporated in the 1994 version of the Draft Articles. 'Due diligence' was, however, deleted and replaced by the requirement to 'take all appropriate measures' laid down in Article 7 of the 1997 Convention in order to emphasise the purpose of 'preventing' harm. See, Statements of Understanding Pertaining to Certain Articles of the 1997 UN Convention on Non-navigational Uses of International Watercourses, prepared by the Sixth Committee, 36 *ILM* (1997), 719; McCaffrey and Sinjela, 'The

The ILC elaborated upon this provision indicating that it was not intended to guarantee that significant harm will not take place: rather, it was 'an obligation of conduct, not an obligation of result'.[123] This 'due diligence'[124] obligation thus makes this provision independent and fully detached from Article 5 and 6[125] because watercourse States may be liable for international responsibility if they fail to exercise the obligation of due diligence to prevent any significant harm to other watercourse states without infringing the obligation to use water equitably.

In a situation where significant harm is nevertheless caused despite all appropriate measures having been taken, paragraph 2 of Article 7 requires the reconsideration of the elements of equitable use[126] and the relevant factors indicated in Articles 5 and 6 to determine whether or not the cause of significant harm in question is equitable and reasonable. That is to say, Article 7 uses the qualification of equitable use as the factor to justify significant harm. If such significant harm is caused equitably or it is an equitable and reasonable harm, it may have to be tolerated. If not,[127] the conflict must be resolved by means of consultation, which aims: (a) to 'eliminate' the harm. If it does not eliminate the harm, the disputants must; (b) again consult to 'mitigate' the harm. However, if the damage still persists, they then must discuss the issue of compensation.[128]

1997 UN Convention on International Watercourses', 97-107, 100-101; and especially M. Fitzmaurice, 'The Law of Non-Navigational Uses of International Watercourses – The International Law Commission Completes its Draft', 8:2 *Leiden JIL* (1995), 366 for further analysis of the 1994 Draft Articles.

[123] 2 *YBILC* (1994), Part 2, Doc. A/CN. 4/SER. A/1994/Add.1, Part 2, 103. However, some authors go further in stating that the obligation under international law to prevent pollution is one of due diligence. See M.B Akehurst, International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law, 16 *Netherlands YBIL* (1985), 8-9.

[124] The Alabama case, (United States of America v. Great Britain), in J.B. Moore, History and Digest of the International Arbitration to which the United States has been a Party (1898), Vol. I, 572-3, and 612. Due diligence was defined as 'a diligence proportioned to the magnitude of the subject and to the dignity and strength of the power which is to exercise it"; and requiring "such care as governments ordinarily employ in their domestic concerns'. P. Dupuy, 'Due Diligence in the International Law of Liability' in OECD, *Legal Aspects of Transfrontier Pollution*, 1977, 369.

[125] Birnie and Boyle, *International Law...*, 309; C.B. Bourne, 'The Primacy of the Principle of Equitable Utilisation in the 1997 Watercourses Convention' 35 *Canadian YIL* (1997), 223-5.

[126] Such use must be undertaken with a view to attaining optimal and sustainable use and must be consistent with the adequate protection of the watercourse.

[127] Such as flooding caused by the collapse of poorly designed dams or knowingly using toxic pesticide along the river. McCaffrey, *The Law of International Watercourses*, 370.

[128] Article 7(2).

Although McCaffrey and Sinjela regard Article X of the 1997 UN Convention as 'a hard-won compromise as it is awkward and ambiguous and probably not satisfying to anyone,'[129] it does create a situation where the 'no harm' rule can indeed work hand in hand with the concept of equitable use. It is therefore reasonable to state that this approach establishes an innovative relationship and resolves the conflict between the two concepts of equitable use and of no harm that had inhibited progress for quite a long time.

2.6 Protection of International Watercourses

Article 20 lays down a general environmental obligation, which requires watercourse states to protect and preserve the ecosystems of international watercourses with due diligence.[130] This provision states that:

> 'Watercourse states shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses'.

This provision was modelled on Article 192 of the 1982 UNCLOS. As a result, it aims to promote both protection and preservation. The obligation to 'protect' was defined by the ILC as 'shielding the ecosystems of international watercourses from harm or damage', whereas the requirement to 'preserve' is applied to freshwater ecosystems that are 'in a pristine or unspoiled condition'.[131] 'The protection and preservation of aquatic ecosystems help to ensure their continued viability as life support systems, thus providing an essential basis for sustainable development'.[132]

The use of the term 'ecosystem' in Article 20 raises a question concerning the extent to which it enhances the effective protection of international watercourses. The ILC was of the view that the term 'ecosystem' is used because it has a precise scientific and legal meaning. The ILC aimed to exclude those 'surrounding areas that have

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[129] McCaffrey and Sinjela, 'The 1997 UN Convention on International Watercourses', 101.
[130] The ILC Commentary (1994), 280.
[131] The ILC Commentary (1994), 282.
[132] *Ibid.*

minimal bearing on the protection and preservation of the watercourse itself.'[133] Thus, 'an ecological unit consisting of living and non-living components that are interdependent and function as a community' would fall within the scope of this provision.[134] This narrow conception is criticised by Brunee and Troope who state that 'environmental security in the context of freshwater resources *can only be achieved through* a sophisticated understanding of regime formation and elaboration, linked with *a determined pursuit of ecosystem orientation*' (emphasis added).[135] This is because the term ecosystem is *indistinguishable* from 'the environment', and thus the only effective way to protect a watercourse is to protect 'the surrounding land areas or their environment' as well.[136]

In addition, it is interesting to note that the protection of the ecosystem under this provision cannot prevent certain types of harm. As indicated by the ILC, the term 'protect' implies 'shielding from harm'. This implies that only 'new' harm can be guarded against because 'existing harm' cannot be shielded; according to the ILC, 'existing harm' need only be reduced and controlled.[137] What would then happen in the case of an 'existing harm' that currently affects the ecosystem of an international watercourse? The mechanism indicated in Article 7 may fill this gap but there would still exist some situations where the harm may need to be tolerated or where only compensation need be paid.

Another possible solution is to apply Article 21 in such a way that it would fill this gap. Pollution in this context is defined as 'any detrimental alteration in the composition or quality of the water'. Therefore, to be able to apply Article 21 to deal with any existing 'harm' to the ecosystem of international watercourses, the concept of harm requires further comment – significantly, concerning whether or not harm includes pollution.

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[133] ILC Commentary (1994), 280.
[134] *Ibid.*, 280-281. The Expert Group on Environmental Law of the WCED defined the term 'ecosystem' as the 'systems of plants, animals and micro-organisms together with the non-living components of their environment', See also, WCED, *Environmental Protection and Sustainable Development: Legal Principles and Recommendations* (1987), 45.
[135] Brunee J. & S. Troope, 'Environmental Security and Freshwater Resources: Ecosystem Regime Building', 91 *AJIL* (1997), 26.
[136] Birnie and Boyle, 314; L.B. Sohn, 'Commentary. Articles 20-25 and 29', 4 *Colo. JIEL&Pol* (1993), 215, 216.
[137] See Commentary on Article 21, the ILC Commentary (1994), 291.

In addition, this provision illustrates an attempt to address the problem of biodiversity degradation.[138] Article 20 reflects the current trend of international law in that it promotes the holistic approach in dealing with environmental problems. This is a step forward of international watercourses law, making it in line with the concept of sustainable development and Chapter 18 of Agenda 21. This provision widens the scope of the 1997 UN Convention in dealing with more complex issues, such as the degradation of the biodiversity of international watercourses, in order to ensure that the ecosystems of these resources are protected and conserved effectively and sufficiently.

3. Sustainable Development of International Watercourses

The above sections have illustrated the ways in which the principles underlying international watercourses law have been developed. It is now clear that equitable utilisation is the leading principle and that it works hand in hand with the 'no harm' rule. Protection from water pollution is also required, while common management and the establishment of a joint water committee are well accepted as effective mechanisms for approaching the problems of international watercourses.

Since the concept of sustainable development has become a guiding principle, [139] international watercourses law is no exception. It is no longer accepted that water development projects can be undertaken without taking into account the adverse effects caused or which could be caused to the environment. The balancing of the existing principles and rules governing the different areas of social, economic and environmental development must be addressed in an integrated manner in order to achieve sustainable development.[140] This section therefore aims to show the role and effects of this concept upon the rules and principles of international watercourses law.

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[138] UN Doc. A/C.6/51/SR.21 (1996), at 11-12, paragraph 58-59. The Expert Consultant, Mr. R. Rosenstock, replying to the proposal made by the delegate from Argentina that the word 'biodiversity' be mentioned in Article 20, argued that the concept of biodiversity was included in the notion of an ecosystem, as defined in the ILC Commentary and in the Biodiversity Convention.

[139] See the ICJ judgement on the Gabčíkovo case. For details, see Chapter 1.

[140] Sands, P., 'International Law in the Field of Sustainable Development' 65 *BYIL* (1994), 379.

3.1 Sustainable Development and Equitable Utilisation

Although there was pressure requiring that the 1997 UN Convention should give effect to the concept of 'sustainable development' and the principles of the Rio Declaration, this concept was mentioned therein only once. Clearly, sustainable development of international watercourses is not the objective of this Convention, but if sustainable development of international watercourses is to be attainable, one must seek a new mechanism allowing the social, economic, and environmental considerations to play in accordance with the fundamental principles of international watercourses law. In this context, the principle of equitable utilisation must be considered because it is the leading principle of this Convention.

In order to conduct equitable use that promotes the achievement of the sustainable development of international watercourses, the present study proposes that the '*relevant factors*' of equitable use and '*inherent elements and components*' of sustainable development should be used as the criteria for 'prioritising' equitable uses. Thus, possible scenarios could be based on the equitable uses that are the most sustainable; sustainable; less sustainable; least sustainable; and unsustainable. It is important that in practice the equitable use that is most sustainable be given first priority, whereas the equitable use that is least sustainable be given the lowest priority if the sustainable development of the whole international watercourse is to be fully realised.

In practice, one can take the 'precautionary principle' to demonstrate the above proposal. The precautionary principle is not yet a principle of international watercourses law *per se*, but it is an element of sustainable development that may be taken into account when considering the effect of the use of a watercourse. Supposedly, States A, B and C are each planning water development projects. Each is an equitable and reasonable use according to the relevant factors and circumstances. The first project by State A aims to use the water for industrial purposes which would lead to the discharge of hazardous substances into the watercourse and down to the sea where State D, a neighbouring country, which is non-watercourse, relies on the quality of the water for its fishery. State B is performing experiments in fish farming. It aims to develop biologically engineered species of fish, which are bigger than

normal and can breed outside the breeding season. At some point, it may accidentally introduce alien species into the watercourse. State C plans to use the water for agricultural and domestic uses.

Under the concept of equitable use, these three projects are all justifiable because they are equitable uses. The interests of State D are not considered here because it is not a watercourse state. However, under the concept of sustainable development and considering the 'precautionary principle', State D may approach these states and request that they 'look afresh at the effects on the environment' and seek co-operation to prevent and control foreseeable harm.[141] Whether or not States A, B and C would agree to do so is not the issue addressed here; however, State D's request would surely suggest that equitable use does not guarantee the sustainable development of international watercourses and the environment (including the marine environment). In addition, if the three watercourse states do indeed intend to promote the sustainable development of the environment as a whole, the most 'compromissory' method would be to prioritise these projects, i.e. to determine which project would most benefit and promote the sustainability of the watercourse. It is here that elements of sustainable development come into play and assist watercourse states in considering other side effects caused by development projects that are less sustainable or unsustainable for the watercourse and its related environment. Obviously, some form of close co-operation and a balancing of the relevant interests must be undertaken by these countries.

Applying the concept of sustainable development opens up an opportunity for the further development of international watercourses law without altering the leading role of equitable utilisation. Watercourse states remain obliged to use the water equitably, but in cases where there are more than two competing equitable uses, the elements of sustainable development can resolve this conflict by providing other balancing aspects for consideration. As a result, the direction in which equitable use should be oriented, and thus the most sustainable equitable use achieved, can be indicated and given priority for implementation. It is this function that makes

[141] Birnie and Boyle, *International Law*..., 115.

sustainable development a necessary element in the consideration of equitable uses without making it the prevailing factor.

The advantages of applying sustainable development in tandem with equitable use do not necessarily need to be written into the international agreement (even though adopting these two concepts in the same instrument represents an ideal situation). This is because sustainable development is a legal concept. As its application does not depend on state practices or *opinio juris,* it can be put into practice by a competent body.[142] The way the Mekong River Commission (MRC) now performs its task is perhaps the best example of a competent organisation applying the concept of sustainable development to modify the normal effects of equitable use as will be discussed later in Chapter 4.[143]

3.2 Sustainable Utilisation of International Watercourses

After long discussion, the concept of sustainable utilisation was adopted in the 1997 UN Convention as a reflection of the concept of sustainable development. It was initially proposed to replace the term 'optimal utilisation'.[144] However, its introduction was opposed by some members who were concerned about the uncertainty of the concept of 'sustainability'.[145] However, concerns over the lack of reference to the concept of sustainable development and the need to keep the Draft Articles in line with the Rio Declaration were expressed when the ILC conducted its second reading of the Draft Articles.[146] The revision of the fundamental principle of the Draft Articles that was contained in Article 5 was thus pursued in order to reflect this concept.

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[142] Lowe, V., 'Sustainable Development and Unsustainable Arguments' in A. Boyle and D. Freestone, ed., *International Law and Sustainable Development* (1999), 33-4.

[143] See Chapters 3 and 4 for details.

[144] See the proposal of Tomuschat, Summary Records of the Meetings of the 46th Session, 1 *YBILC*, (1994), paragraph 24 at 174. He stated that the term 'optimum utilisation' to be replaced by 'sustainable development' because the latter includes the notion of long-term utilisation.

[145] See the statements of Rao and Calero Rodrigues in *ibid,* paragraph 30-31at 175; and paragraph 27 at 175 respectively. Rao said that sustainable develoment is generally a matter for individual states acting with regard to their domestic resources. Rodrigues was of the view that althgouth the term 'sustainable development' was in wide use at present, it might not necessarily be of universal application in the future.

[146] UN Doc. A/51/275 (1996). See the concerns expressed by Columbia, Finland, Hungary, Portugal and the US regarding the lack of reference of the concept of sustainable development.

After prolonged negotiation, the term 'sustainable' was coupled with the term 'optimal' in paragraph 1 of Article 5.[147] Tanzi and Arcari observe the incorporation of the concept of sustainable use and comment as follows:

> '... the express mention of sustainable utilisation in Article 5,..., inherently enhances the normative relevance of the concept of sustainability in the application of the principle of equitable utilisation....[148]
>
> The fact that the concept of sustainable utilisation is mentioned in Article 5 together with that of optimal utilisation makes it clear that the imperatives of conservation and environmental protection must be integrated with the pattern of economic exploitation of international watercourses for the purposes of equitable use. Accordingly, any restrictive approach to the scope of the equitable utilisation principle, traditionally conceived to be confined to the apportionment of waters among co-riparians, has been definitively removed'.[149]

The incorporation of the concept of sustainable use in Article 5 of the UN Convention demonstrates the aim of the ILC and the Working Group in giving effect to the concept of sustainable development and the Rio Declaration. Economic considerations, the core of the principle of equitable utilisation, are now addressed in the broader environmental context. The ICJ has also followed this broad interpretation of the principle of equitable utilisation stating in its judgement in the Gabčikovo case that equitable and reasonable use that is unilateral and causes continuing effects on the ecology of the riparian area is unlawful. Paragraph 85 of the judgement concluded that Czechoslovakia had failed to respect the proportionality required by international law in unilaterally assuming control of the shared resources of the Danube River.[150] It is concerning this judgement that Boyle interestingly observes that the Court endeavoured here to interpret the concept of equitable utilisation in a broader context of sustainable development. He states that:

> 'Equitable utilisation and sustainable utilisation are not the same – a use may be equitable as between two parties without necessarily being sustainable. Both the Court and the Watercourses Convention recognised this implicit tension and did not shrink from the inevitable conclusion that..., *the equitable utilisation of an international watercourses must be set in a broader context of sustainable development.* If this conclusion is correct, it will stand as perhaps the most radical re-writing of the law relating to international watercourses since

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[147] UN Doc WG/CRP.94. For a brief history of the negotiation, see Tanzi and Arcari, *The UN Convention...*, 110-117.
[148] *Ibid.*, 114.
[149] *Ibid.*, 115.
[150] See above for full text of this paragraph.

> the River Oder case. The Court has not stopped grandiose dam projects, but it has put a question mark over them'. [151]

Although the ICJ did follow the trend set out by the 1997 UN Convention and interpreted the principle of equitable utilisation in a broader environmental context, this does not mean that international watercourses law accepts and lays down an obligation requiring that states must use international watercourses sustainably. This is because the language of Article 5 clearly shows that the governing principle is equitable use. The practice of watercourse states in general also confirms the *opinio juris* of the principle of equitable utilisation but whether or not they interpret it in the same way as did by the ICJ remains to be seen. It is still far from clear that state practice establishes that water resources must be used sustainably. Only the Mekong Agreement lays down an obligation upon its Parties to utilise the water and other related resources of the Mekong River Basin sustainably.[152] Examples of states applying the concept of sustainable use are therefore quite limited.

3.3 The Maintenance of Minimum Water Flow

The need to maintain a minimum flow of water is another important issue concerning sustainable development of international watercourses and equitable use of water resources. Basically, it is a concept aiming to preserve a minimum level of water for the purposes of flood control or drought prevention.[153] It may also be referred to for environmental purposes, viz. to maintain and preserve the ecological, chemical and physical integrity of the water of such rivers and the biodiversity of flora and fauna dependent on it.

The concept of the maintenance of a minimum flow of water was brought to international attention when the Water Resource Committee of the ILA discussed this issue. A. Utton and J. Utton proposed an Article on Adequate Stream Flows for the consideration of the Water Resource Committee at the Rotterdam meeting in 1998,

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[151] Boyle, A.E., 'The Gabčíkovo-Nagymaros Case: New Law in Old Bottles', 8 *YBIEL* (1997), 16.
[152] Article 1.
[153] In the Mekong region, this duty has been established since the riparian States concluded their Joint Declaration of the Principles for Utilisation of the Waters of the Lower Mekong Basin in 1975 (Article IV). For text, see Annex B.

and suggested that the time had come to adopt a particular provision on this subject.[154] They cited the practice of States, international river treaties and non-river treaties as evidencing support for normative character of this concept. The practice of the Western American States[155] was emphasised in illustrating a long history of state practice in this matter.

However, at the international level, there is only limited reference to an obligation to maintain a minimum flow. Only the 1959 Treaty between Russia, Finland and Norway concerning the Regulation of Lake Inari by Means of Kaitakoski Hydro-Electric Power Station and Dam[156] and the 1995 Mekong Agreement[157] evidence application of this concept, and only the latter requires its implementation for environmental purposes. The practice of the Murray-Darling basin (although this is not an international watercourse) is another example of a watercourse regime that requires an 'adequate flow' of water for the purpose of environmental conservation.[158] In non-river related treaties, there is no clear indication of the obligation to preserve certain levels of water. Even though they refer to the Ramsar Convention and the EU Directive for the Conservation of Natural Habitats and of Wild Fauna and Flora[159] as the most relevant instruments, the Uttons admit that these only 'echo' the rationales

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[154] The Water Resources Committee of the ILA adopted his proposal at its meeting in Rotterdam in 1998. See also, A.E. Utton and J. Utton, 'Adequate Streams Flows' in S. Bogdanović, *International Law of Water Resources...*, 387.

[155] Such as the practice of the Colorado Water Conservation Board (established in 1973) which established rights on over 7,000 miles of state mainstreams to maintain instream flows and natural lake levels. Some other States chose to pass legislation aiming to preserve stream flows in their state by restricting dams, impoundments and other obstructions. These included California, Oklahoma, Oregon, and South Dakota. *Ibid.* at 299-380.

[156] 346 *UNTS*, 212. This Treaty required that 'the flow of water from Lake Inari shall be continuous within the limits of a daily mean discharge of 120 to 240 cubic metres per second'. See M. Fitzmaurice, 'Water Management in the 21st Century' in A. Anghie and G. Sturgess, eds., *Legal Visions of the 21st Century: Essays in Honour of Judge Christopher Weeramantry* (1998), 425-463 at 445-446 for a comparison between the types of the river commissions operating in the Nordic area, including the River Commission established by this treaty.

[157] Article 6 (a) highlights the need to preserve the permanent nature of the Mekong river by maintenance 'not less than the acceptable minimum monthly natural flow during each month of the dry season', see Chapter 3 for further discussion.

[158] This obligation is also known as 'the Cap'. The Cap is the volume of water that would have been diverted under 1993-1994 levels of development. By limiting the future growth of water utilisation, the Cap promotes the sustainable use of the Basin by preserving the existing security of water supply for users and preventing any deterioration of the flow at South Australia.

[159] Council Directive 92/43/EEC (1992); OJ (L.206) (1992), 7. This directive requires that special areas of conservation must be established if there is any deterioration of the natural habitats that has severely threatened animal and plant life.

for the implementation of this concept for the benefit of wetland and wildlife conservation, rather than codifying it.[160]

With regard to the relationship between equitable use and the maintenance of a minimum water flow, the question arises concerning whether the former dominates the latter. That is to say, when watercourse states are engaged in dispute concerning their equitable use even though such use could reduce the level of water below a minimum acceptable level. The Mekong Agreement provides perhaps the best illustration of the fact that these two concepts can work hand in hand but that to achieve this a special agreement must be arranged. Under Article 5 of the Mekong Agreement, the Mekong Contracting Parties are obliged to utilise the waters of the Mekong River in a reasonable and equitable manner. However, such use is regulated by three additional factors, one of which is found in the Rules for Water Utilisation and Inter-basin Diversion.[161] These require that the levels of the flows and monitoring measures be set out and then, of course, the minimum acceptable water flow becomes a factor in considering matters related to equitable use. The maintenance of the water flow therefore becomes an integral part of equitable use. This mechanism allows equitable use to remain the leading principle of the Mekong Agreement whilst the obligation to maintain water flow is also applied to ensure that equitable use of water will maintain minimum flow of the river.

Thus, there is no doubt that the maintenance of a minimum water flow is important. However, the 1997 UN Convention does not provide a rule on this matter. Even though Article 25 asserts the obligation for the regulation of water flow, it does not go so far as to include a requirement to maintain the minimum flow of international watercourses. Due to the lack of supporting evidence, its legal status therefore remains far from clear, as it does not yet clearly have normative force under international law. However, in the present writer's view, the value of a requirement to maintain minimum flow cannot be ignored in the future because the maintenance of a minimum water flow of water is the fundamental requirement for alleviating present water crises. Also, it is the only requirement that integrates the issues of water

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[160] Utton and Utton, 'Adequate Streams Flows', 393-394.

[161] These regulations must also be implemented pursuant to the Basin Development Plan, i.e. the blueprint development plan at regional level. See Chapter 3 of this thesis.

quantity and water quality because the amount of water always affects the quality of water and its biological diversity. Further discussion of this topic by the Committee on Water Resources of the ILA or references made to it by tribunals will open up the possibility of further development of this concept. In particular, if a tribunal refers to it in the process of judicial reasoning, both the concept's content and its effect upon the application of other norms would gradually become clearer. This in turn could well alleviate the problems related to the quantity, quality and biological conditions of international watercourses.

3.4 The Protection and Preservation of Biological Diversity

The problem of the degradation of biodiversity in international watercourses results from overuse or the poor or inadequate protection of them and their related environment. Article 22 of the UN Convention addresses this problem and requires that:

> 'Watercourse states shall take all necessary measures to prevent the introduction of species, alien or new, into an international watercourse which *may have effects* detrimental to the ecosystem of the watercourse resulting in significant harm to other watercourse states.' (emphasis added)

This provision aims to fill the gap in the definition of 'pollution' in Article 21(1), which does not include 'biological alteration'.[162] As it is a matter of due diligence,[163] watercourse states are not subject to international responsibility if they have done all that can to prevent the introduction of such species.

The words 'may have effects' in Article 22 imply the taking of precautionary action to prevent any such introduction.[164] By this analogy, watercourse states must not and cannot rely on scientific uncertainty to justify their inaction and this need for precautionary action applies to the whole area of the 'ecosystem' of international watercourses.[165] Significant harm in this context includes 'harm to the environment of watercourse states'.[166] 'Alien' is defined by the ILC as 'species that are non-native'

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[162] See paragraph 2 of Article 21, The ILC Commentary (1994), 297.
[163] *Ibid.* .
[164] The ILC Commentary (1994), 298.
[165] The ILC Commentary (1994), 280-1.
[166] The ILC Commentary (1994), 298.

and 'new' refers to 'species that have been genetically altered or produced through biological engineering'.[167]

Concerning its content Article 22, firstly, makes the duty to protect the 'ecosystem' of international watercourses unnecessarily complicated. As explained earlier. the duty to protect the 'ecosystem' of international watercourses (Article 20) is a straightforward obligation. It is to be applied without any qualifications, viz. it does not allow states concerned to wait until the harm is seen to be caused.[168] However, Article 22 now links the protection of the 'ecosystem' (from the introduction of alien or new species) to 'due diligence' and the causing of 'significant harm to other watercourse states'. As a result, Article 22 allows preventative measures to be undertaken only when the detrimental effects are caused to the 'ecosystem', which result in 'significant harm to other watercourse states'. Any detrimental effects to the ecosystem that do not cause significant harm to watercourse states are surprisingly not covered by this provision.

It is true that the drafters aimed to keep this provision in line with Article 7 of the 1997 UN Convention, but in this writer's view, it makes the protection of the 'ecosystem of international watercourses' too complicated and thus impractical to implement. Environmental lawyers are also not impressed because this renders environmental concerns subject to the interests of watercourse states. It is therefore disappointing that Article 22, which is the only provision dealing with the protection of the biological diversity of international watercourses, does not seriously promote this. It would be of more practical value, from the environmental point of view, were the term 'resulting in significant harm to other watercourse states' to be deleted. This would have established a diligent obligation to take into account, as the only criteria for triggering this duty, the environmental condition of the watercourses.

Secondly, although the requirement to take 'all necessary measures' reflects the different capabilities of states to implement this obligation, this provision is still quite difficult for developing countries to fulfil. Given the fact that this due diligence obligation expects states to behave in a certain manner (though it does not expect

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[167] The ILC Commentary (1994), 297.
[168] Tanzi and Arcari, *The UN Convention...*, 234.

results from them),[169] poorer riparian countries may be able to do very little to prevent the introduction of alien or new species, either because they cannot afford to do so or because they do not have the appropriate technology. The 1997 Convention would have been more pragmatic if it had provided the practical mechanisms, such as financial or technological assistance, to assist poorer watercourse states to achieve its aims.[170] Adopting this provision without practical support implies that though this Convention recognises the problem of the degradation of biodiversity it has not addressed it effectively.[171]

3.5 The Protection and Preservation of the Marine Environment

Inclusion of provisions concerning the protection and preservation of the marine environment is another innovation of the 1997 UN Convention. Article 23 refers, for the first time, to the inter-relationship between the freshwater and marine environments. It aims to tackle the problem of the degradation of the marine environment, particularly in estuary areas, through co-operation between watercourse states and other states, in order to ensure that pollution resulting partly from use of international watercourses does not travel down to the sea and adversely affect the marine environment.[172] This obligation requires watercourse and other states to take individually or jointly the necessary measures[173] for the protection and preservation of the marine environment. Article 23 of the 1997 UN Convention states that:

> 'Watercourse states shall, individually and, where appropriate, in co-operation with other states, take all measures with respect to an international watercourse that are necessary to protect and preserve the marine environment, including estuaries, taking into account generally accepted international rules and standards'.

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[169] The ILC Commentary (1994), 237.

[170] Compare, for example, the Biodiversity Convention's relevant provisions (Articles 16-20).

[171] The Rhine Convention's relevant provisions on co-operation may provide the best illustration of these requirements. Since the Sandoz incident in 1986, the Rhine riparian countries have seriously committed themselves to restoring depleted species, particularly salmon which had disappeared since that disaster. The increasing number of salmon recorded in 2000 shows the success of this programme (the Rhine Action Programme). It is clear that this has occurred because the riparian States share, *inter alia,* similar financial and technological backgrounds. For the Sandoz incident, see D' Oliveira, H.U.J, 'The Sandoz Blaze: The Damage and the Public and Private Liabilities' in F. Francioni and T. Scovazzi, *International Responsibility for Environmental Harm* (1991), 429 and for the Rhine Action Programme, see http://www.iksr.org/hw/icpr/6uk.htm. See also relevant mechanism provide for in the CBD.

[172] The ILC Commentary (1994), 298.

[173] Statements of Understanding Pertaining to Certain Articles of the 1997 UN Convention, prepared by the Sixth Committee, 36 *ILM* (1997), 720.

The ILC made it clear that the obligation to protect and preserve the marine environment is not an obligation to protect the marine environment *per se* but it is an obligation to 'take measures with respect to an international watercourse that are necessary to protect that environment'.[174] As 'watercourse states could conceivably damage an estuary through pollution of an international watercourse without breaching their obligation not to cause significant harm to other watercourse states'.[175] this provision protects the marine environment by laying down an independent obligation upon watercourse states to assume the responsibility not to cause harm. Such a duty therefore applies irrespective of whether or not the harm is being caused to other watercourse states. The marine environment is not defined in this context but, according to the 1987 UNCLOS, it refers, *inter alia,* to the water, flora and fauna of the sea as well as the sea-bed and ocean floor.[176]

It can thus be said that this Convention attempts to extend the environmental responsibility of watercourse states to include the protection of the marine environment and in so doing the Convention is innovative. For the first time, the protection of freshwater and the marine environment have been integrated, which reflects the essential requirement that the sustainability of the environment as a whole be considered. To make practical sense of this new area, international watercourses law now applies an holistic approach to its protection in embracing and applying 'generally accepted international rules and standards' to this goal. As observed by Sohn, these rules and standards can include both established rules as well as those yet to be ratified.[177] There are therefore a number of pertinent rules and standards that can now be applied to fill the gaps in international watercourses law. Different principles and rules that have never before been inter-related may now be so related and work together within forums provided under this provision. Article 23 therefore demonstrates an innovative approach, introduced into international watercourses law as an original contribution, and it is this provision that clearly reflects the holistic approach implied in the concept of sustainable development and relevant provisions

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[174] The ILC Commentary (1994), 299.
[175] *Ibid.*
[176] Article 1 para. 1(4) of the 1982 UNCLOS.

of the Rio Declaration. The Rhine Convention remains to date, however, the only agreement that has evidenced this trend and given it effect. Article 3(4) of the Rhine Convention requires the Rhine riparian States to help to restore the environment of the North Sea.

4. Conclusion

As far as the 1997 UN Convention is concerned, a number of fundamental principles concerning the non-navigational uses of international watercourses law are now codified. However, if one were to assess the extent to which it reflects the core new concept of sustainable development and its elements, the answer may be somewhat less than impressive.

The only reference in the Convention to the concept of sustainable development is made in Article 24. It is not, however, expressed as an obligation to be pursued under this Convention; it is only required to be part of management planning and it does not require watercourse states to implement it. The adoption in Article 5 of the concept of sustainable utilisation alongside the principle of equitable utilisation provides the only means incorporated in the Convention of modifying the normal effect of the equitable utilisation principle. This does not, however, change the way in which the principle of equitable use dominates the whole Convention.

Birnie and Boyle commenting on the principle of equitable use in the broader environmental context, state that it has 'limited utility' and 'cannot sustain more than a modest role in allocating riparian rights. It affords an insufficient basis for measures of more comprehensive environmental protection, and does not ensure the integration of ecological, developmental, and intergenerational considerations which is central to fulfilment of sustainable development as the overriding objective of contemporary water resources policy'.[178] Therefore, if this Convention is to achieve the sustainable development of international watercourses, a proper mechanism is required; one

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[177] Sohn, L.B. 'Commentary...', 221. This also reflects the characteristic of sustainable development in this matter as all aspects of *lex lata* principles as well as *lex ferenda* rules may be applicable, see Fuentes, 'Sustainable Development and the Equitable Utilisation...', 128.
[178] Birnie and Boyle, *International Law...*, 330.

which promotes the above purpose without impeding the leading role of the principle of equitable use. This Chapter has already indicated means of achieving this.

Nonetheless, it still remains to be seen to what extent the 1997 UN Convention will further influence in a broader context of sustainable development. In the meantime, it is helpful to analyse the impact of the concept of sustainable development upon watercourses law at regional level. Subsequent effects are not further considered here but will be analysed in the case study of the Mekong River Basin undertaken in the next Chapter.

CHAPTER 3: APPLICATION OF THE CONCEPT OF SUSTAINABLE DEVELOPMENT IN THE LOWER MEKONG RIVER BASIN

INTRODUCTION

It having been demonstrated in Chapter 2 that the concept of sustainable development is playing an increasingly important role in strategies for management of international watercourses, this Chapter analyses state practice in applying this concept at a regional level in the Mekong River Basin.

Apart from the reasons indicated in the Introduction to this study, the Mekong River Basin has been selected as a case study because only a limited amount of research has been conducted in this region, particularly concerning legal development. This study therefore aims to explore recent developments concerning the legal rules and principles applied in this region, and the problems arising from implementation of the 1995 Agreement on the Co-operation for the Sustainable Development of the Mekong River Basin (hereinafter the Mekong Agreement). It is in this instrument that the concept of sustainable development has been adopted for the first time in any international watercourse agreement. The significance of this makes the Mekong regime a particularly worthwhile subject of detailed study.

Thus, this Chapter focuses on the most important features of the 1995 Mekong Agreement and illustrates how the concept of sustainable development is applied in this region. What are the mechanisms for integrating environmental concerns into the development planning process? The first section embarks on the study of the emergence of Mekong co-operation and its history and provides an overview of the 1995 Mekong Agreement. The influence of the concept of sustainable development on the legal mechanisms established by this Agreement and upon the fundamental principles adopted in it is discussed in the second section. The key provisions, including the principle of equitable utilisation, the obligation to maintain water flow and the duty to protect the environment of the Mekong River are explored in detail in order to show how the Mekong mechanisms allow them to work hand in hand without conflict. The mandates and functions of the Mekong River Commission (MRC) are

investigated in the third section in order to illustrate how important this organisation is in achievement of sustainable development of the Mekong region. Conclusions are drawn in the last section.

1. The Mekong River Basin: A Long History of Co-operation[1]

The Mekong River, at a length of 4,800 km, is the twelfth longest river in the world and the longest river in South East Asia.[2] It has two upper riparian states, China and Myanmar (previously known as Burma), and four lower riparian states, Cambodia, Laos (or Lao PDR)[3], Thailand, and Vietnam. They share the waters of the Mekong which originate in the north western edge of the Tibetan plateau in China and then, as the mainstream race through the joint Myanmar-Thai-Laos boundary known as the 'Golden Triangle'. This river also constitutes the frontier between Laos and Thailand, and then traverses Cambodia. Just below Phnom Penh, the capital of Cambodia, the river divides into two branches before flowing into the South China Sea at the Mekong Delta in Vietnam. (See Maps 1 and 2)

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[1] For other aspects of the Mekong River Basin, see B. Stensholt, *Developing the Mekong Subregion* (1997); B. Stensholt, ed., *Development Dilemmas in the Mekong Subregion*, Workshop Proceedings on 1-2 October 1996 (1996); M.J.G. Parmwell and R. L. Bryant, eds., *Environmental Change in South East Asia* (1996); ESCAP and ADB, *State of the Environment in Asia and the Pacific* (2000); ADB, *Economic Co-operation in the Greater Mekong Subregion* (1993); SEI and IEM, *UNDP Support to Mekong River Commission: Background Report* (1997); K. Theeravit, et.al., *Co-operation in the Mekong Development* (1991); MRC, *Greater Mekong Subregion: State of the Environment Report* (1997); C. H. Schaaf and R.H. Field, *The Lower Mekong: Challenge to Co-operation in Southeast Asia* (1963); P. Chomchai, *The United States, The Mekong Committee and Thailand: A study of American Multilateral and Bilateral Assistance to North-East Thailand Since the 1950s* (1994); and N.T. Dieu, *The Mekong River and the Struggle for Indochina: Water, War, and Peace* (1999).

[2] In terms of annual discharge, the Mekong ranks eighth in the world as it releases 15,000 cu m per second and its drainage basin covers 795,000 sq. km. The starting point for the Lower Mekong Basin is at Km 2382 at the confluence of the Nam Ruak (a Mekong tributary between Thailand and Myanmar) and the Mekong were the Golden Triangle is located. The Mekong Secretariat, *The Mekong Committee: A Historical Account (1957-1989)* (1989), 3.

[3] Laos is also known as Lao PDR and for consistency purposes will to be referred to as Laos throughout the rest of the thesis.

The Mekong River Basin

Area:	***795,000 km² (21)***
Length of mainstream:	***4,800 km (12)***
Average discharge:	***15,000 m³/s (8)***

Upper Mekong Basin
Lower Mekong Basin
n% **Flow contribution**
(n) **Rank in the world**

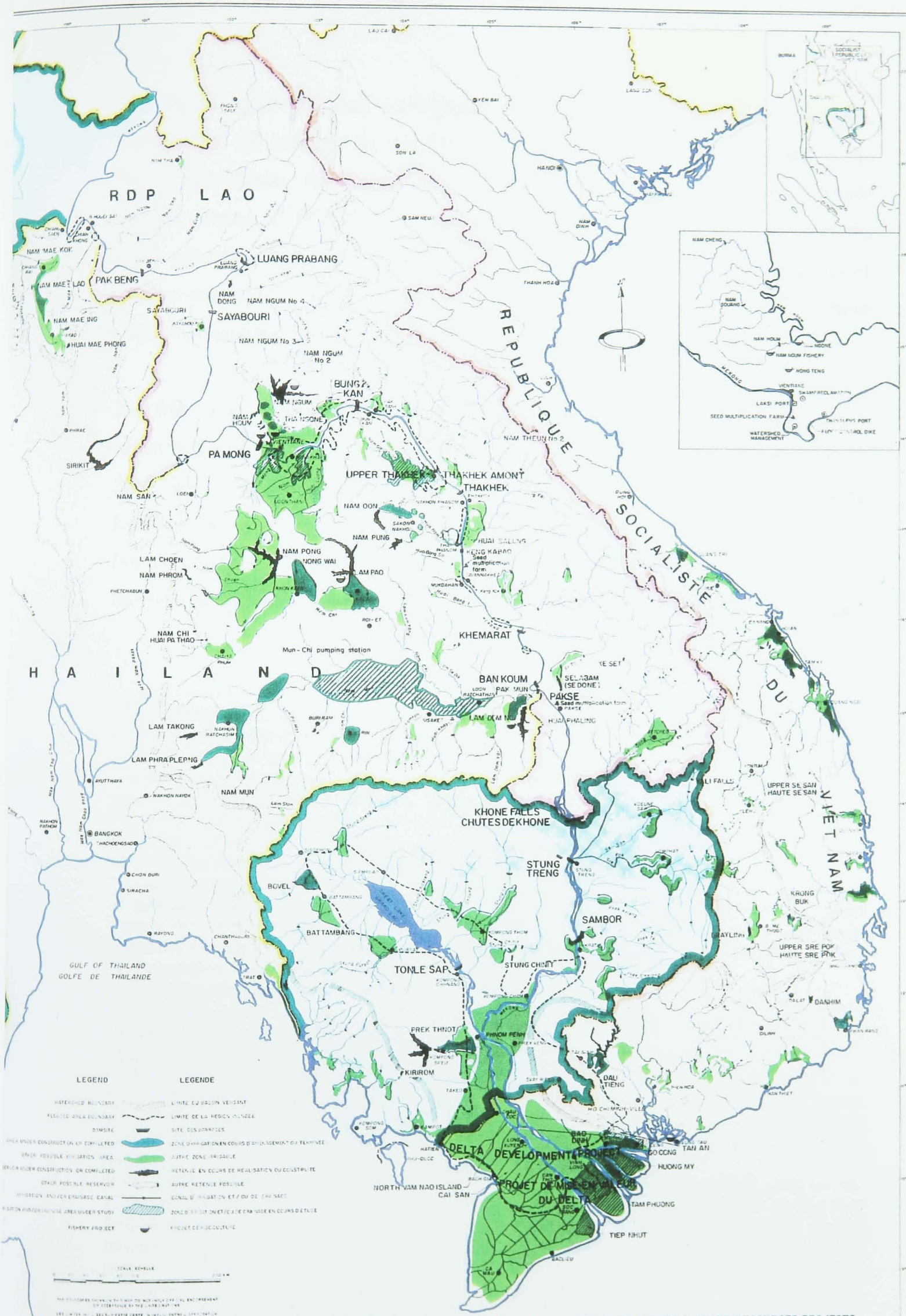
CHINA
MYANMAR
LAOS
VIET NAM
THAILAND
CAMBODIA
Hanoi
Gulf of Tonkin
Vientiane
Bangkok
Phnom Penh
Ho Chi Minh City
Gulf of Thailand
South China Sea

16%
2%
35%
18%
18%
11%

N
W E
S

0 200 400 600 800 1000 Kilometers

MRC Secretariat 1995



GENERAL MAP OF THE LOWER MEKONG BASIN SHOWING EXISTING AND POSSIBLE WATER RESOURCES PROJECTS
CARTE GENERALE DU BASSIN INFERIEUR DU MEKONG INDIQUANT LES PROJETS ACTUELS ET POSSIBLES DE MISE EN VALEUR DES RESSOURCES EN EAU

Interim Mekong Committee 1986

Mekong River co-operation was initiated in 1957 by the United Nations Economic Commission for Asia and the Far East (ECAFE, later renamed as the Economic and Social Committee for Asia and the Pacific or ESCAP) and the four lower riparian countries.[4] ECAFE chose the Mekong River Basin[5] because of not only the great potential of the river itself[6] but also the positive attitude of the four lower riparian countries.[7] It is important to note that China and Myanmar did not participate in this co-operation because they did not have an interest in this.[8]

The four lower riparian countries concluded the first agreement[9] - the Statute for Co-ordination of Investigation of the Lower Mekong Basin[10] (the Mekong Statute) - in 1957, which also established a Committee for Co-ordination of Investigations of the Lower Mekong Basin, better known as the Mekong Committee (MC).[11] It had very limited objectives, viz. only to establish Mekong co-operation and the MC. It made no mention of obligations concerning the use of water or protection of the environment.

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[4] After World War II, the UN was concerned to restore social and economic conditions in the countries, which had suffered economically from the War. The UN therefore created ECAFE (now ESCAP) as a subsidiary organ to be responsible for restructuring and reforming the economic situation of these countries. Its headquarters are currently situated in Thailand. ESCAP has 51 member states and 9 associate members. For further details, see www.unescap.org.

[5] It was quite difficult for ECAFE or ESCAP to promote water development projects in areas such as the Indus or Ganges or Yangtze where there were political conflicts between the riparian countries. This explains why the role of ESCAP was constrained in those regions.

[6] It was suggested that the Mekong River could, at full capacity, be used to irrigate up to 4.3 million ha of land and generate 130,000 kWh/year from 24,000 MW installed capacity. The Bureau of Flood Control (ECAFE), *Preliminary Report on Technical Problems Relating to Flood Control and Water Resources Development of the Mekong – an International River* (1952); and The United States Bureau of Reclamation, *Reconnaissance Report – Lower Mekong River Basin* (1955).

[7] The Mekong Secretariat, *The Mekong Committee: A Historical Account...*, 11.

[8] At the time, China was not a member of UN (the UN was the main supporter of this project). Myanmar did not express interest in this co-operation. *Ibid.*.

[9] UN Doc. E/CN.11/453, ECAFE, SR, 13th Session, 1957, 251-2.

[10] The draft of the Statute was prepared in 1957 by an *ad hoc* Secretariat established for the Development of Water Resources in the Lower Mekong Basin, ECAFE/L.119. For text of this Statute, see UN, *Legislative Texts and Treaty Provisions concerning the Utilisation of International Rivers for Other Purposes than Navigation*, ST/LEG/SER.B/12 (1963), 267 and is reproduced in Annex A of this thesis.

[11] During the existence of the 1957 Statute, reports were conducted by many agencies to assist the MC to reveal the actual ability of the Mekong Basin. Among those, a study prepared by the Ford Foundation was a good example focusing on economic issues, including market factors, natural resources, and basic education and training. Its recommendations were very practical as it pointed out several useful conclusions, for example, a need to strengthen the staff of the MC, and expand the Committee's services in order to provide better and more effective benefits to all the member States. See also G. White, E. De Vries, H. Dunkerley, J. Krutilla, *Economic and Social Aspects of Lower Mekong Development*, (1962).

It was replaced by the Joint Declaration of Principles for Utilisation of the Waters of the Lower Mekong Basin (continuing the MC) adopted in 1975.[12]

The 1975 Joint Declaration was the most advanced legal instrument adopted in this region during the 1970s. This was so because it included most of the important basic principles of international watercourses law, such as equitable utilisation; the requirement to maintain the water flow;[13] environmental impact assessment procedures;[14] and the no harm rule.[15] It also adopted groups of provisions that were to be particularly applied to the use of the mainstream and its tributaries. More importantly, the integration of environmental concerns into decision making on development projects was clearly adopted in Article III, which was the first reference to the concept of balancing the importance of social, economic and environmental concerns ever found in a Mekong legal instrument. This was a key provision requiring that each utilisation of water resources must also consider possible effects on the water balance and water quality of the Basin.

Unfortunately, the 1975 Joint Declaration was never activated because of Cambodia's political disorder. The 1978 Declaration concerning establishment of the Interim Committee for Co-ordination of Investigations of the Lower Mekong Basin (replacing the MC with the Interim Mekong Committee (IMC)) was later adopted to pursue ongoing projects.[16] It did not contain legal obligation concerning either the use or the protection of the Mekong as found in the previous instrument. The 1978 Declaration was later replaced by the 1995 Agreement on Co-operation for the Sustainable Development of the Mekong River Basin when Cambodia proposed to resume its membership after the civil war was ended in 1992.[17] The 1995 Mekong Agreement

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[12] For text, see Annex B of this thesis.
[13] See below.
[14] Article XVII.
[15] Article IX.
[16] For text of the Declaration, see Annex C of this thesis. For an analysis on the IMC, see W. Van der Oord, *Status of the Interim Mekong Committee* (1979), 2, unpublished work, available at the MRC Secretariat.
[17] *The 1991 IMC Annual Report* (1991), 11. The National Council of Cambodia (SNC) which were the official government of Cambodia at that time, put forward a proposal to reactivate the MC. The other three countries welcomed this request and agreed to draft a new Mekong Agreement, which would deal with new issues arising from the use of the Mekong River. See also, M. Nanni, 'The Mekong Committee Revisited', 47 *Law Comunita Internazionale* (1992), 188-213; and H.G. Halbertsma, 'Legal Aspects of the Mekong River System', 34 *Netherlands International Law Review* (1987), 25-53.

also established the Mekong River Commission (MRC) to supersede all functions of the IMC.[18]

It is impossible for this study to cover all aspects of the issues arising from the four Mekong instruments. Only issues arising from the 1995 Mekong Agreement will therefore be the focus of this Chapter and the other three agreements will be referred to where appropriate.

1.1 Overview of the 1995 Mekong Agreement[19]

This Mekong Agreement was first drafted in 1992 with legal assistance from the United Nations Development Programme (UNDP). The objectives of the Mekong Agreement were clearly stated in paragraph 5 of the Preamble, which reaffirmed the determination of the Parties to 'co-operate and promote in a constructive manner …the sustainable development, utilisation, conservation and management of the Mekong River Basin water and other related resources… for the social and economic development and the well-being of all riparian states'. These are required to be 'consistent with the needs to protect, preserve, enhance and manage the environmental and aquatic conditions and maintenance of the ecological balance' of this Basin.

The Mekong Agreement consists of five chapters. These include, Chapter I: Preamble; Chapter II: Definitions of Terms; Chapter III: Objectives and Principles of Co-operation; Chapter IV: Institutional Framework and Chapter V: Addressing Differences and Disputes. A Protocol is also attached establishing rules of procedures for the MRC. Only Chapters III and IV are selected for discussion here because they deal with legal issues relating to the concept of sustainable development and the way in which it is to be applied.

Chapter III contains ten Articles, which lay down the objectives and basic principles of the Agreement. The most relevant provisions include, for example, a commitment

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[18] 34 *ILM* (1995), 864, reproduced in Annex D of this thesis.
[19] See also, P. Chomchai, 'Management of Transboundary Water Resources: A Case Study of the Mekong' in G H Blake, et.al., *The Peaceful Management of Transboundary Resources* (1995), 245.

to establish a Basin Development Plan (Article 2); a duty to protect the environment and ecological balance of the Mekong from pollution and harmful effects (Article 3); an obligation to use the waters reasonably and equitably (Article 5); a duty to co-operate in the maintenance of the flows on the mainstream (Article 6); and a commitment to prevent and cease harmful effects (Article 7).

Chapter IV establishes the MRC as a means to promote common management in this region. It consists of three important bodies, (1) a Council, (2) a Joint Committee and (3) a Secretariat. Their composition, powers and mandates are addressed in Articles 11-27. The MRC is charged with specific missions to negotiate, carry out activities on behalf of, and represent the Contracting Parties' interests in any matters. It is also empowered to settle any disputes that are brought before it.

1.2 Basin Development Plan (BDP)

To achieve sustainable development of the Mekong River Basin, the four Parties agreed to formulate a BDP to be used as a long-term development strategic plan at basin level. Article 2 states that the Parties concerned agree:

> 'To promote, support, co-operate and co-ordinate in the development of the full potential of sustainable benefits to all riparian States and the prevention of wasteful use of Mekong River Basin waters, with emphasis and preference on joint and/or basin-wide development projects and basin programmes through the formulation of a basin development plan, that would be used to identify, categorise and prioritise the projects and programmes to seek assistance for and to implement at the basin level.' *(sic)*

The terms 'sustainable benefits' were used to invoke the influence of sustainable development in the BDP. Although the term 'sustainable benefit' was not elaborated elsewhere,[20] the contents of the BDP are expected to ensure that the full potential of the river will be utilised whilst the long-term benefits for all riparian States will not be curtailed. This can be ensured through prevention of wasteful use, for instance. The BDP also emphasises that the Mekong River Basin will be commonly managed by all the Parties, and thus reflects the integrated characteristic of the BDP which takes into account the interest of all the Parties concerned in formulating such a long-term

[20] Even in the Draft Commentary to the Mekong Agreement, see G. Radosevich, *Draft Commentary and History of the 1995 Mekong Agreement*, unpublished work, (1995), 9.

development plan. This is to ensure that the Mekong is used equitably and fairly for the benefit of all the Convention's Parties.

In June 1995, the MRC launched a project to draft the BDP.[21] Until 1997, the prospective donors delayed commencement of the formulation of the BDP because of the readily available resources and a full appraisal of project.[22] Eventually, the project began in late 1998 with financial assistance from Denmark (DANIDA) and Sweden (SIDA). At present, it is in the first of three stages of the drafting process. This first phase is expected to be completed by 2003. A 'short-list' of possible models will be adopted as the basis for selecting the most appropriate model for the official BDP.[23]

Once the BDP is completed it is anticipated that it will play a significant role in establishing a substantial foundation and concrete direction for development policies in the Mekong River Basin. Its contents will, hopefully, translate the generalised concept of sustainable development into concrete strategic plans. The implications of this concept would thus become gradually clearer and more specific, which would facilitate application of the basic principles adopted in Chapter III and the MRC's performance in promoting the achievement of sustainable development of the Basin.

2. Influences of Sustainable Development on the Legal Mechanism of the 1995 Mekong Agreement

References to the concept of sustainable development can be found in both the Preamble and Article 1 of the 1995 Mekong Agreement. Paragraph 5 of the Preamble reaffirms the concept through the determination of the Parties to co-operate and promote the sustainable development, utilisation, conservation and management of the Mekong River Basin. Social, economic and environmental concerns were referred to as key components of this co-operation, thus emphasising the core concepts of sustainable development. In addition, attempts to achieve the well being of all riparian States were also highlighted. The term 'all riparian States' was used to emphasise the importance of the collaboration of *all* states concerned, including China and

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[21] The MRC, *Formulation of the Mekong Basin Development Plan (Basinwide)* (1999), 1. Part of the MRC's mandate is to formulate the BDP (Article 24).
[22] *The 1997 MRC Annual Report* (1997), 12.

Myanmar. This term may raise some misunderstanding in relation to the interpretation and implementation of the instrument because these two states are not Parties to the Mekong Agreement.[24]

Article 1 translates areas of co-operation of sustainable development into extensive fields of activities, including development, utilisation, management and conservation of water and related resources of the Mekong. These activities are required to be undertaken in a manner which optimises the potential for multiple use and mutual benefits of all riparian States and minimises the harmful effects that may result. This requirement reflects the balance between social and economic development and environmental protection, which becomes the key obligation necessitating that all kinds of development projects achieve a proper balance between these three pillars. This obligation has significant effects on the fulfilment of the fundamental obligations of the Mekong Agreement, viz. equitable use, maintenance of water flow, protection of the environment and the ecological balance, and avoidance and minimisation of harmful effects, because these obligations must now be fulfilled under the 'umbrella' of the sustainable development concept.

2.1 Equitable Utilisation

2.1.1 Development of the Principle from 1957-1995

Although the MC was commanded by the 1957 Mekong Statute to 'draw up and recommend to participating governments criteria for the use of the water of the main river for the purpose of water resources development',[25] such criteria were never formulated. This was because the MC spent most of its time studying basic matters relating to the Basin, such as its hydrology, geographical aspects, and the economic aspects of the basin states. The reports and publications produced by the MC during that period evidence that this was so.[26]

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[23] The MRC, *Formulation of the Mekong Basin Development Plan* ..., 18.
[24] See further analysis in Chapter 4.
[25] Article 4 (c) of the 1957 Statute.
[26] For example, the 1952 Preliminary Report on Technical Problems Relating to Flood Control and Water Resources Development of the Mekong River; the 1956 Reconnaissance Report on the Lower Mekong Basin; the 1957 Wheeler Report; the 1970 Indicative Basin Plan. All these reports remained

It was not until the adoption of the 1975 Joint Declaration that principles concerning the use of waters, including the equitable utilisation notion were first recognised. Article V stated that:

> 'Individual projects on the Mainstream shall be planned and implemented in a manner conducive to the system development (*sic*) of the Basin's water resources, in the beneficial use of which each Basin State shall be entitled, within its territory, to *a reasonable and equitable share*. Each project shall be required to be technically feasible, economically justified, socially desirable and consistent with the sovereign rights of the Basin States' (emphasis added).

Article VI went on to elaborate 'all relevant factors' which needed to be considered, such as the economic and social needs of each Basin State, the climate, and the population dependent on the waters of the Basin in each Basin State. It is interesting to note that the 1975 Joint Declaration was adopted some time after the adoption of the 1966 Helsinki Rules.[27] Article V of the Joint Declaration was almost reproduced in Article VI of the former, but details of 'relevant factors' were reiterated with some alterations.[28] This demonstrates the influence of the concepts of the Helsinki Rules upon the Joint Declaration.

Nonetheless, the 1975 Joint Declaration moved a step further than the Helsinki Rules. Its Article III required environmental concerns be considered in the decision-making process of development projects.[29] Each project was required to take into account 'the water balance and water quality of the Basin' as well as the 'reasonable share' of waters that they were due to receive. This provision reflected the concept of sustainable development in that it made clear that it was not only social and economic needs that needed to be considered as key concerns in utilisation of water but that environmental effects must also be taken into account. This provision thus represented

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unpublished and are available only at the MRC Secretariat though some have been collected in the ESCAP library in Bangkok.

[27] *The 1970 MC Annual Report* (1970), 12. The US offered a grant to enable the MC to send representatives to attend the 49th ILA Conference at the Hague.

[28] These include, subparagraph 9 of the Joint Declaration; the Mekong States added 'the' at the very end of the sentence; subparagraph 10 from which the term 'co-Basin States' was deleted; and subparagraph (11) in which the term 'another Basin' state was used instead of 'a co-Basin' State. Articles V (3) of the Helsinki Rules was reproduced with only one alteration as the term 'shall' was replaced by 'are to' in the Joint Declaration. For details, see Annex B of this thesis.

[29] See below at 2.3.1 Development of the Protection of the Mekong River Basin (1957-1995).

the first instance of integration of environmental concern into equitable use of water of the Mekong River Basin.

The 1975 Joint Declaration was not, however, put into practice. Projects and works within the MC therefore had to be halted. The three riparian States (Laos, Thailand, and Vietnam), thus, concluded another instrument, i.e. the 1978 Declaration, which did not deal with the issue of water sharing. The concept of 'reasonable and equitable' utilisation of water resources has, therefore, now been abandoned.[30]

2.1.2 Equitable Utilisation under the 1995 Mekong Agreement[31]

'Equitable use' was revitalised following conclusion of the 1995 Mekong Agreement, Article 5 of which reads:

> 'To utilise the waters of the Mekong River system in a reasonable and equitable manner in their respective territories, pursuant to all relevant factors and circumstances, the Rules for Water Utilisation and Inter-basin Diversion provided for under Article 26 and the provision of A and B below:
>
> A. On tributaries of the Mekong River, including Tonle Sap, intra-basin uses and inter-basin diversions shall be subject to notification to the Joint Committee.
>
> B. On the mainstream of the Mekong River:
>
> 1. During the wet season:
>
> a) Intra-basin use shall be subject to notification to the Joint Committee.
>
> b) Inter-basin diversion shall be subject to prior consultation, which aims at arriving at an agreement by the Joint Committee.
>
> 2. During the dry season:
>
> a) Intra-basin use shall be subject to prior consultation which aims at arriving at an agreement by the Joint Committee
>
> b) Any inter-basin diversion project shall be agreed upon by the Joint Committee through a specific agreement for each project prior to any proposed diversion. However, should there be a surplus quantity of water available in excess of the proposed uses of all parties in any dry season, verified and unanimously confirmed as such by the Joint Committee, an inter-basin diversion of the surplus could be made subject to prior consultation.' (*sic*)

The above text illustrates that there are three factors to be considered in implementing the principle of 'reasonable and equitable utilisation'. These include: (a) all relevant factors and circumstances; (b) the Rules for Water Utilisation and Inter-basin Diversion (to be formulated under Article 26); and (c) provisions A and B of Article 5.

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[30] For general observations on this concept, see Chapter 2 of this thesis. See also a list of agreements that have adopted it, surveyed by Mr. Schwebel in 2 *YBILC* (1982), Part I, 76.

(a) All Relevant Factors and Circumstances

This first element was not defined in the Agreement. However, some indications of its nature may be found in Article VI of the 1975 Joint Declaration or Article 6 of the 1997 UN Convention on Non-navigational Uses of International Watercourses. These factors included, for instance, the geography of the Basin, the economic and social needs of each Basin State, and the past utilisation of the water of the Basin as well as in particular, existing utilisation.

(b) Rules for Water Utilisation and Inter-Basin Diversion

The Rules for Water Utilisation and Inter-Basin Diversions (hereinafter the Rules), also known as the Water Utilisation Programme (WUP) among the four riparian countries, are important instruments with considerable effects upon the application of equitable utilisation. According to Article 26, the Rules are the specific instruments for implementing the obligations to attain an equitable use of water and to maintain a minimum water flow (Articles 5 and 6). They are expected to include such information as the time frame for the wet and dry seasons, the location of monitoring stations, and the procedural rules concerning equitable use and minimum water flow. The Rules can therefore play significant roles in the co-operation required to implement the concept of sustainable development because they can generate new norms that modify the normal effects of putting the principle of equitable utilisation into practice.

At the time of writing, the Joint Committee (JC) of the Mekong River Commission (MRC) is still engaged in drafting the Rules and it is clear that the Rules details are based on the concept of sustainable development.[32] The Rules contain three different components, namely, A. Basin Model Package and Knowledge Base; B. Development of Rules for Water Utilisation; and C. Institutional Strengthening of the MRC and

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[31] 34 *ILM* (1995), 864, reproduced in Annex D of this thesis.
[32] The MRC, *Water Utilisation Programme: Project Implementation Plan* (1999), Annex A, 16.

NMCs.[33] This study will discuss only Component B because it is most relevant to the notion of equitable use of water. In this component, five sets of 'water utilisation rules' are expected to be formulated under the Start-Up project.[34] They can be divided into procedural and technical rules, as follows:

Procedural Rules

1. Procedural rules for information exchange (completed in 2001);
2. Procedural rules for monitoring water use and diversions in the Mekong Basin (expected to complete by the end of 2003);
3. Procedural rules for notification and prior consultation (completed in 2002)

Technical Rules

4. Rules for the maintenance of flows (expected to complete by the end of 2004);
5. Rules for water quality (expected to complete by the end of 2005).[35]

At the time of writing, only the Procedures for Data and Information Exchange and Sharing (the Procedures) and the Preliminary Procedures for Notification, Prior Consultation and Agreement (the Preliminary Procedures) have been completed and adopted (in 2001 and 2002 respectively).[36] They are the key rules attributed to equitable use and sustainable development of the Mekong River Basin. The former were drafted with the idea that sustaining the quality and condition of the watercourse can only be achieved if all Parties are informed of what takes place in other Parties' territories, and

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[33] SMEC, *Water Utilisation Programme Preparation Project: Final Report* (1998), 17. SMEC is an Australian consulting company, which was recruited to conduct a preliminary research on the Water Utilisation Project (WUP) two years after the Mekong Agreement was concluded. The consulting company suggested that the riparian States needed to put effort into working on the WUP on three areas, viz. (i) the Preliminary Basin Model (funded by AusAid), (ii) Component I - GEF-WP or GWP (mainly financed by the World Bank through the Global Environment Facility (GEF) and (iii) Component II - Monitoring and Data Systems. However, the MRC made some changes and the first component, i.e. 'Preliminary Basin Model' has been transformed into a new project, the 'Basin Model Package and Knowledge Base'. Component I, the GWP, has disappeared without clear explanation, but Component II has now been merged with the WUP project.

The WUP project aims to formulate three important instruments: A: Basin Modelling and Analytical Tools, B: Rules for Water Quantity and Quality and C: Implementation Strategy for the GWP and WUP. Section B has been divided into five sub-sections, namely, Section B1: Water Rules for Water Quantity, Section B2: Rules for Water Quality, Section B3: Information Exchange, Monitoring and Notification Protocols, Section B4: Country and Regional Consultation and Section B5: Action Plan. The MRC, *Water Utilisation Programme: Project Implementation Plan* (1999), Annex H, 3.

[34] The MRC, *Water Utilisation Programme...*, Annex A., 1. The whole WUP was expected to start by late 1999 and to be completed within six years.

[35] *Ibid.*, Annex A, 17. For recent development, see *The MRC Annual Report* (2002).

[36] Text, see Annex E and F respectively.

vice versa. The latter relates to provisions A and B of Article 5 and will be discussed below. The Preliminary Procedures obviously allow the Parties to estimate the possible effects and feasibility of other future development projects. Therefore, making basic data and information available for the uses of the four riparian countries and public access to promote constructive co-operation and ensure the sustainable development of the Mekong Basin are the main focuses of this instrument.[37]

Article 3 of the Procedures requires the exchange and sharing of necessary data and information on a regular basis relevant to effective implementation of the Mekong Agreement.[38] Although this is subject to the laws and regulations of each country,[39] some specific data and information is required to be exchanged, including for example, information related to water resources; topography; environment/ecology; and flood management. The JC of the MRC is the body responsible for guiding the exchange and arranging the consultation.

It should be noted that information concerning the state of the environment and ecology is among the data required to be exchanged and shared. This is important because it enables environmental concern to become an integral part of the Rules for Water Utilisation and Inter-basin Diversion and facilitates also application of the principle of equitable utilisation. Thus, when the MRC considers whether or not a particular use of water is equitable, the state of the environment can also be taken into account within the Rules for Water Utilisation and Inter-Basin Diversion. This opportunity is important because it may enable modification of the normal effects of equitable use. If other Parties which have information concerning the state of the environment and the ecology of the Mekong consider that the proposed development projects would cause adverse effects to the environment, they may reject them on the ground that they are not equitable uses. They may also request such projects to be carried out in a more environmentally friendly fashion. The Rules for Water Utilisation and Inter-Basin Diversion are therefore the *first mechanism* to invoke the application of equitable use to facilitate achievement of sustainable development of the Mekong River Basin.

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[37] See Article 2 of the Mekong Agreement.
[38] Article 3.
[39] Article 3, paragraph 1 indicates that such sharing must be subject to laws concerning, for instance, the national defence or security or copyrights protection.

(c) Provisions A and B of Article 5[40]

The two sub-paragraphs of Article 5 are also very significant in implementation of the principle of equitable utilisation and the concept of sustainable development. Certain procedural requirements were involved in this provision to ensure that use of the water of tributaries and mainstream during two problematic seasons, viz. the wet and dry seasons, will be equitable for all the Parties. Sub-paragraph A deals with the use of tributaries and their regulation is not complicated because tributaries are not the main source of water for the Parties. It requires only that the Parties notify the JC if they wish to conduct either inter-basin[41] or intra-basin[42] uses of the Mekong tributaries.

Sub-paragraph B is more important and complicated since all the Parties concerned rely heavily upon the flow in the Mekong mainstream. This provision requires that the use of the water in the mainstream both during the wet and dry seasons[43] must be subject to notification or prior consultation with the aim of concluding an agreement. Notification applies to intra-basin use of the Mekong mainstream during the wet season. Prior consultation and the conclusion of a specific agreement are demanded if inter-basin diversion of water is carried out during the dry season. It is therefore clear that both sub-paragraphs constitute mechanisms for ensuring that the use of water resources will be determined on the basis of thorough discussion among all the Parties and that the water is used in a reasonable and equitable manner.[44]

Notification and prior consultation are to be carried out in accordance with the Preliminary Procedures for Notification, Prior Consultation and Agreement. For

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[40] See mechanism of provisions A and B as tabulated in Annex G to this thesis.

[41] Inter-basin diversion, on the other hand, covers all diversion of water from the Mekong River to other basins, which are not geographically connected to the Mekong basin. The diverted water will not, of course, return to the Mekong basin; for instance, water diverted from the Mekong mainstream to the Chao Phraya basin in Thailand is an inter-basin diversion.

[42] It refers to diversion of water within the Mekong drainage basin, for example, that flowing from the Tonle Sap (the Great Lake) in Cambodia to the nearby basin where the waters are geographically connected.

[43] They are defined as '... According to the preliminary analyses of the relatively long time series of hydro-meteorological data, the wet season may start during mid-May to mid-June and end from mid-November to mid-December. The Joint Committee will decide on the actual dates of the start and the end of the wet and dry seasons, based on analyses by MRC Secretariat together with the NMCs of long term mainstream flow data.

[44] See also Annex G to this thesis.

example, if the Parties wish to carry out intra-basin[45] or inter-basin diversion of any surplus quantity of water[46] during the dry season, prior consultation and conclusion of a specific agreement will be carried out by the JC. The JC may also establish a fact-finding team to assist it in this matter.[47] However, it is interesting to note that the Preliminary Procedures empower the JC to 'address any matters' during the process of prior consultation before putting forward its decisions to the Council concerning whether or not the uses in question should be authorised. The term 'any matters' is very broad, and thus, in the writer's view, can be used as a channel through which the JC may address 'environmental concern' during the process of consultation. It is through use of this channel that the opportunity arises for environmental concern to be taken into account during the decision making process of water development in order to ensure that the sustainable development of the Basin is achieved.[48] The role of the JC in this respect is thus very important because its views can modify the normal effects of equitable use. Ultimately, the JC may invoke environmental effects as reasons for rejecting any projects that, in its view, would cause significant adverse environmental impacts on the environment and the ecological balance affecting the sustainability of the Mekong River Basin. The mechanisms provided in provisions A and B of Article 5 are therefore a *second mechanism* for activating the concept of sustainable development whereas equitable use remains the most important principle concerning the utilisation of the Mekong waters.

It can be concluded that the special relationship between equitable use and sustainable development indicated in the Mekong Agreement is different from those indicated in the 1997 UN Convention because the former is not confined to applying the concept of equitable use solely as a principle governing utilisation of water. Three additional factors can be invoked to ensure that the application of equitable utilisation will promote sustainable development. Obviously, these factors provide mechanisms through which environmental concerns can be included, in a complicated but unique and innovative way, in the decision making process relating to equitable use. The

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[45] Article 5 (2)(a).
[46] Article 5 (2)(b). The Preliminary Procedures also indicates the function of the Joint Committee that is relevant to this provision as it is required to verify and unanimously confirm availability of surplus quantity of water on the mainstream that can be used for inter-basin diversion in the dry season. See Article 5.3.3 of the Preliminary Procedures.
[47] See Article 5.3.2 (e) of the Preliminary Procedures.
[48] Article 1 (b) of the Procedures.

Rules for Water Utilisation and Inter-basin Diversion and the obligation to carry out prior consultation provide the best channels for this as illustrated above. Whether or not these mechanisms will be applied effectively depends on the practice of the JC and the Council. But it can reasonably be concluded, it is submitted, that the Mekong Agreement requires equitable utilisation to be provided for under the umbrella of the concept of sustainable development, even though this is not explicitly stated in the Mekong Agreement.

2.2 Maintenance of Minimum Water Flow

Apart from the principle of equitable use, the Mekong Agreement also lays down an obligation upon its Parties to maintain certain levels of water flow in dry, wet and flood seasons in order to ensure that sustainable development of the region is achieved. This obligation is not novel as the first reference to this requirement was made in the 1975 Joint Declaration, Article IV of which clearly stated that the Parties must ensure that conservation of the Basin's water resources ensures maintenance of water flow; and quality. This evidences a clear intention to integrate the issues of water quality and water quantity into the use of water. It was expected that by these means the environment and the biological diversity of the river would also be maintained. It was though this provision also that the requirement of maintaining the water flow was, for the first time, used for the purpose of environmental protection. Article 6 of the 1995 Mekong Agreement reaffirms this concept and it reads:

> 'To co-operate in the maintenance of the flows on the mainstream from diversion, storage, releases, or other actions of a permanent nature; except in the cases of historically severe droughts and/or floods:
>
> A. Of not less than the acceptable minimum monthly natural flow during each month of the dry season;
>
> B. To enable the acceptable natural reverse flow of the Tonle Sap to take place during the wet seasons; and,
>
> C. To prevent average daily peak flows greater than what naturally occur on the average during the flood season.
>
> The Joint Committee shall adopt guidelines for the locations and levels of the flows, and monitor and take action necessary for their maintenance as provided in Article 26.' (*sic*)

It is clear that this Article intends to ensure firstly that the *'acceptable minimum monthly flow'* of water is maintained during the dry season. This is to safeguard the

riparian states from any water shortage and prevents annual droughts from having more serious effects. However, if there is a surplus of water, this can be shared by virtue of Article 5 (B)(2). The meaning of the term 'acceptable' flow was considered during the drafting of the Mekong Agreement. The riparian States eventually agreed that the acceptable level should be calculated upon the basis of the data available on the highest (1966), mean (1978), and lowest (1992) discharges of water, as gauged at Pakse.[49]

Secondly, the *'acceptable natural reverse flow'* is required to be maintained during the wet season (generally from mid May to mid June, and mid November to mid December).[50] This is due to the fact that, in this season, the overflow of the Mekong naturally reverses its direction and flows back up the river to be held in the Great Lake or the Tonle Sap in Cambodia. This circumstance normally raises the water level in the Great Lake by up to 8 to 10 metres[51] and in the dry season, this reserved water would naturally flow back to the Mekong mainstream to maintain the highest flow of the River during the dry season. Therefore, it is necessary to maintain 'acceptable natural reserve flow' during the wet season to prevent serious drought in the dry season.

Lastly, the Mekong Agreement demanded that the *'average daily peak flow'* be preserved during the wet season. This is to ensure that the Parties will not release, control and restrain the water reserved in the dams in order to exceed the agreed average daily peak flow and also so that flooding is prevented. The data of the 'average daily peak flows' must therefore be shared and used as an early-flood warning system, so that the riparian States will prepare to minimise the most harmful of the effects that may result.

The language used in Article 6 does not make clear whether or not it aims at achieving such purposes. Even in the Draft Commentary it is stated that the purpose of this provision was to deal only with drought and flooding.[52] Therefore, the view that Article 6 of the Mekong Agreement was drafted for environmental purposes

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[49] Pakse is a place located in Laos where apparently the most reliable data collection site is situated.
[50] See Article 1 of the Preliminary Procedures for Notification, Prior Consultation and Agreement in Annex F.
[51] Radosevich, *Draft Commentary*..., 24.
[52] *Ibid.*

seems to be a mistake.[53] It is not like a similar provision introduced by the ILA at the London Conference in 2000 which was intended to protect biodiversity of international watercourses.[54]

Nonetheless, whatever the original purposes were the Contracting Parties are not restricted from interpreting this provision in favour of environmental conservation and achievement of the sustainable development of the Basin. As revealed in the 2002 Annual Report of the Mekong River Commission, the Parties made it clear that annual flooding is a key element in the creation and maintenance of the biodiversity of the river.[55] This is a significant pointer to their policies, implying that Article 6 is currently being implemented to promote the environmental conservation *and* biological diversity of the Mekong River Basin. This is supported by monitoring the levels of water at 21 monitoring stations along the Mekong mainstream. The data from the daily monitoring are sent to the MRC to be used for flood prediction and prevention, which also benefits the preservation of biodiversity of the river.

This evolution shows that the obligation to maintain a minimum flow provides a forum for discussion of and encourages the closer integration between these two subjects, viz. water utilisation and the conservation of biodiversity. It is a matter of fact that the quantity of water and the state of biological, chemical and physical integrity are inter-related and cannot be separated solely on the basis of their nature. If the use of water decreases, biodiversity is adversely affected and *vice versa*. The scope of this provision thus needs to be extended if the sustainability of the watercourses is to be fully realised.

Secondly, the expandable application of Article 6 illustrates that the obligation to maintain a minimum flow is a flexible concept, not yet an established principle. It is

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[53] Utton, A.E. and J. Utton, 'Adequate Stream Flows' in S. Bogdanovic, ed., *International Law of Water Resources: Contribution of the ILA* (2001), 392.

[54] The report prepared by the Committee on Water Resources Law of the ILA at its 2000 London Conference. *The ILA's Report* (2000). See discussion of this topic in Chapter 2. The Article on Adequate Stream Flows reads:

> 'Consistent with the principle of equitable utilisation, basin States shall, individually and, where appropriate, in co-operation with other basin States, take all reasonable measures to ensure stream flows adequate to protect the biological, chemical and physical integrity of international watercourses including their estuarine zones.'

[55] *The MRC Annual Report* (2002), see the online version at www.mrcmekong.org.

this flexibility that provides an opportunity to the Parties to refer to the goals of the Mekong Agreement and direct the scope of its application to aim towards sustainable development of the Mekong River. This is interesting because such modification does not wait for a tribunal to step in and make sense of this interpretation through judicial reasoning. This can occur simply by the agreement among the Parties concerned. which shows that as much as judicial reasoning is regarded as 'having persuasive authority as statement of the law',[56] negotiation between the Parties concerned remains the most effective mechanism for modifying or reinforcing the normal effects of concepts of law outside juridical proceedings.

2.3 Protection of the Mekong River Basin

2.3.1 Development of the Protection of the Mekong River Basin (1957-1995)

Like other poor developing countries, the Mekong Parties did not focus much attention on the issues concerning conservation of the river's environment. It was not until 1972 that the need for the protection of water quality was mentioned for the first time.[57] An Ad Hoc Panel of Environmental Consultants was established in April 1973 to assess current knowledge and research with respect to environmental conditions in the Lower Mekong Basin.[58] As a result, the 1975 Joint Declaration included some environmental protection provisions. The most important was that in paragraph two of Article III where the effects on water balance and water quality of the Basin were required to be taken into consideration in evaluating each particular water utilisation. This provision clearly integrated environmental concern into decision-making on development projects, which for the first time would reflect the concept of sustainable development. This approach was much more advanced than that in the Helsinki Rules which it attempted to reproduce.[59]

Since the 1975 Joint Declaration was never put into practice, those environmental projects were therefore greatly affected, particularly those which involved

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[56] Lowe, V., 'Sustainable Development and Unsustainable Arguments' in A.E. Boyle and D. Freestone, *International Law and Sustainable Development* (1999), 34.
[57] *The 1972 MC Annual Report* (1972), 14.
[58] *The 1973 MC Annual Report* (1973), 29.
[59] Many of the legal concepts were reiterated including, for example, the 'basin' concept and the 'reasonable and equitable utilisation' principle.

transboundary pollution. However, in 1985 the issue concerning the protection of the environment was raised again and the water quality-monitoring network (WQMN) [60] was created and has become one of the key bodies for the protection of the Mekong River Basin.

2.3.2 Protection of the Mekong River Basin under the 1995 Mekong Agreement

In the light of the objective of achieving sustainable development of the Mekong River Basin, the Mekong Agreement devoted two provisions to establishing fundamental obligations to protect the environmental and ecological balance of the Mekong River Basin from pollution (Article 3), and to avoid, minimise and mitigate harmful effects on the environment (Article 7).

(a) Duty to Protect the Environment and the Ecological Balance

The obligation to protect the environment is found in Article 3 of the Mekong Agreement. It is a general obligation that elaborates the objectives of the Mekong Agreement set out in Article 1 which aimed to achieve sustainable development through constructive utilisation, *conservation, management 'consistent with the need to protect, preserve, enhance and manage the environmental and aquatic conditions and maintenance of the ecological balance of the river'*. In this respect, the Parties agree:

> 'To protect the environment, natural resources, aquatic life and conditions, and ecological balance of the Mekong River Basin from pollution or other harmful effects resulting from any development plans and uses of water and related resources in the Basin'.

The content of Article 3 implies that it aims to deal with 'new known pollution'. This is to ensure that the environment and biodiversity of the Mekong River Basin, particularly that in the areas of the Great Lake (also known as Tonle Sap), and the Mekong Delta – the most important food sources, are protected from pollution.[61]

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[60] *The 1985 IMC Annual Report* (1985), 73-75. This was the last Annual Report which specified that it was produced by the 'Committee for Co-ordination of Investigations of the Lower Mekong Basin' or the 'MC', though its cover stated clearly that this Committee consisted of only three riparian States (i.e. it did not include Cambodia).

[61] Radosevich, *Draft Commentary...*, 11.

Article 3 offers a wide range of protection which includes 'the conditions of water and land resources, air, flora and fauna' (*sic*),[62] and natural resources, aquatic life and conditions, and ecological balance. Although this provision fails to include protection of the marine environment,[63] the requirement to preserve the conditions of the water, land, and air reflects an integrated approach and illustrates a great understanding of the ecological cycle of the river and the surrounding areas.

Article 3 is a strict obligation without any qualification. The Parties are therefore required, as a fundamental obligation of the Mekong Agreement, to protect the environment and ecological balance of the watercourse from pollution and harmful effects. Its implementation does not depend on 'due diligence' or 'significant harm' qualifications, and it can be deemed one of the most comprehensive and challenging environmental obligations in this instrument.[64]

As a result, this strictness of the commitment is questionable and it remains uncertain whether, and to what extent, Article 3 will be effectively implemented. First of all, the wide range of protection offered implies that there are more than two environmental subjects involved, such as transboundary pollution, biodiversity, land-based pollution, air pollution, deforestation, navigation, and tourism. To achieve the most effective protection, the relationships between all these issue areas need to be clarified. It is obvious that this Mekong Agreement does not to date go so far as to provide an appropriate mechanism for these new areas; it thus remains questionable how the Parties will endeavour to make sense of the underlying principles of these related subjects and how they will resolve possible conflicts.[65] Secondly, the term 'pollution' is not defined in the Agreement. Therefore, questions concerning what kind of pollution or to what degree its effects should be considered harmful remain unanswered and need to be elaborated upon. Thirdly, the term 'protect the environment from pollution' also implies that only 'new known' pollution or effects, will be prevented. What about the effects of 'unknown' pollution, or the introduction of alien species into the Mekong or the surrounding areas which may affect the

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[62] Definition of 'environment' given in Chapter II of the Agreement.
[63] See Article 23 of the 1997 UN Convention in Chapter 2.
[64] Compare this with the 1994 Agreements on the Protection of the Rivers Meuse and Scheldt, the 1994 Convention on Co-operation for the Protection and Sustainable Use of the Danube River, and the 1999 Convention on the Protection of the Rhine in which similar requirements are adopted.

condition of the River? Should this obligation include application of precautionary actions to protect the environment? And who should decide these matters? There remains a gap to be filled at some future date.

With regard to the BDP, it is disappointing that environmental concerns have been incorporated but only as one of the themes to be taken into account by the BDP but not as in a self-contained individual sector.[66] This shows that even the strategic development plan of the Mekong River Basin does not emphasise the need to protect the environment indicated in Article 3 of the Mekong Agreement, leaving uncertain to what extent and how rigorously the Mekong Parties will comply with this obligation. This is a setback because the BDP was expected to serve, at the very least, as a checklist of the qualifications and requirements that development projects should strictly observe. The theme of the plan as it stands at present is therefore not sufficient to ensure that development projects will integrate environmental protection into their framework. Sustainable development of the Mekong River Basin will, it is likely, be difficult to achieve if the BDP does not accord equal attention to environmental protection.

(b) Prevention and Cessation of Harmful Effects

The obligation to prevent and cease harmful effects was adopted in Article 7, which reads:

> 'To make every effort to avoid, minimise and mitigate harmful effects that might occur to the environment, especially the water quantity and quality, the aquatic (ecosystem) conditions and ecological balance of the river system, from the development and use or discharge of wastes and return flows. Where one or more States is notified with proper and valid evidence that it is causing substantial damage to one or more riparians from the use of and/or discharge to water of the Mekong River, that State or States shall cease immediately the alleged cause of harm until such cause of harm is determined in accordance with Article 8. *(sic)*'

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[65] See the role of the MRC in solving this problem below.

[66] The Conceptual Framework of the BDP indicated that there would be eight key sectors and four themes that the BDP is expected to embrace. Eight key sectors include 1) irrigated agriculture, 2) watershed management, 3) fisheries, 4) hydropower, 5) navigation, 6) tourism and recreation, 7) water supplies (domestic and industrial uses) and 8) flood control and flood management. Four themes are comprised of 1) environment (including specific ecosystems, and their water demand), 2) human resources development, 3) socio-economics (including poverty reduction, and cultural and gender

In order properly to interpret this provision, it should first be noted that it contains requirements dealing with two separate matters. The first sentence asserts a due diligence obligation of the Parties in dealing with (1) possible known harmful effects and (2) existing harmful effects. As far as the former is concerned, use of the term 'avoid' indicates that the effects are those 'known' between the Parties concerned. Such effects may be made known in advance by means of environmental impact assessment (EIA).[67] The MRC is currently formulating a basinwide environmental impact assessment formula to be applied to development projects.[68] If the result of the EIA establishes that the project in question should be authorised, the Parties concerned are required by virtue of this provision, to make every effort to avoid any possible damage that may occur to the environment. As for the latter, the terms 'minimise and mitigate' imply the pre-existence of such harm and therefore the Parties are obliged to minimise and mitigate its effects. This pollution control mechanism does not, however, apply to the 'new or unknown' harmful effects. This issue will be discussed in the next chapter, however, as it falls within neither the scope of the general principle to protect the environment laid down in Article 3 nor under this provision.

Although the above obligation is one of due diligence,[69] it remains one of the most ambitious and challenging environmental obligations in this Agreement. This is so

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aspects), and 4) public participation. The MRC, *Detailed Planning Phase for Formulation of the Mekong Basin Development Plan, Final Report* (Part II: Conceptual Framework) (1999), 9.

[67] Sequeira, D., Chief Technical Adviser, Environment Unit, in an interview given to the writer at the MRC Secretariat, Phnom Penh, July 19th, 1999. Due to the policy of the MRC Secretariat not to disclose any written documents to outsiders, all the information under this topic has necessarily had to be based on this interview.

[68] According to the MRC's ongoing drafting process, the expected basinwide EIA may contain some provisions concerning process as follows: Supposing that a water development project is proposed by a riparian State, as a primary consideration, the MRC would not be involved in the decision making process but would pave the way for that State to decide, according to its national EIA regulations, whether or not the project would harm the basin. If not, it may only be required to conduct an EIA at national level. As a second step, if the project in question is likely to cause harm at the basin level, it will then be put forward to the MRC for consideration concerning whether or not the MRC's EIA (the EIA at the basin level) should be carried out. As the third step, if the MRC agree to conduct an MRC's EIA, the project in question will be classified under one of these groups: Group A covers projects for which a 'full' basinwide EIA must be conducted because they are likely to produce significant harm to the basin. Group B includes projects that may have to carry out 'some degree' of or a 'partial' basinwide EIA since they may cause certain form of environmental damage. Group C embraces projects for which no basinwide EIA is required due to their limited environmental impact upon the basin. However, the MRC has not yet succeeded in defining or drafting its own criteria or factors that will be used to determine whether a project in question should be categorised as Group A, B or C. See the diagram in Annex H.

[69] The terms 'to make every effort to ... minimise and mitigate...' implies so.

because, as has been observed by environmental lawyers, minimising or reducing existing adverse effects is much more difficult to achieve than preventing the occurrence of new pollution.[70] The implementation of this provision may encounter many difficulties, such as the fact that compliance with this obligation may need to be closely monitored and that the exchange of necessary information must be undertaken thoroughly. The implementation of this sentence will prove the willingness of the Parties as to how seriously they are putting environmental obligations into practice.

The second sentence of the provision affirms the existence of the 'no harm' rule. It asserts the right of the Parties not to be substantially damaged by any use or discharge of water by the others. This provision is quite confusing and seems impractical to be put into practice. This is so because 'substantial damages' is the key element of this provision, it therefore implies that the Parties are allowed to cause 'insignificant' damages to other Parties.[71] But if such insignificant damages caused insignificant harmful effects to the ecological balance of the Mekong River, would these activities be allowed to take place? This is surely a breach of the absolute obligation to protect the environment and ecological balance of Article 3.

Before answering the above questions, it is important to examine whether insignificant damages to the Parties necessarily involve 'environmental adverse effects'? According to the absolute obligation of Article 3, the degree of adverse effects is thus made irrelevant. It is therefore almost impossible that insignificant harm to the Parties caused by the use of and/or discharge to water of the Mekong River would not at the very least involve a degree of degradation of the environment and disturbance of the balance of the ecology. This is so because the environmental and ecological balance of the river is sensitive and broad in context. By virtue of this

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[70] Lammers, J.G., *Pollution of International Watercourses* (1984), 192ff.

[71] At this point, it is interesting to note that the Mekong Agreement makes no mention of the definition of 'substantial damage' therein. So, it is doubtful how Article 7 (which deals with prevention and cessation of harmful effects) really works in practice because no-one knows at what level particular damage should be deemed substantial and thus the operation concerned must be ended. Furthermore, before such damage could be considered substantial, should any State or body step in to declare that ecological harm has been caused (to it as well as to the watercourse)? Under the Mekong Agreement, there is no provision referring to this situation, which means there is a gap, enabling States Parties to pollute water resources legally as long as their activities have not yet been shown to have produced substantial damage. Compare this requirement with Article 21 (3) (c) of the 1997 UN Convention on Non-Navigational Uses of International Watercourses as it requires the establishment of lists of substances that must be prohibited, limited, investigated or monitored.

fact, if Article 3 were to be implemented rigidly, there is no chance that the 'no harm' rule would be put into practice since the use of or discharge of water by the Parties would at the very least affect the conditions of the environment and ecology of the Mekong. Article 3 would thus prevent all kinds of development projects and uses of waters that would cause even insignificant harm to the environment. let alone substantial damages cause to other Parties by such development projects. Article 3 is therefore unrealistic and makes the application of the 'no harm' rules impossible.

In addition, the term 'substantial damage' in the second sentence of Article 7 is unclear. No definition is given in the Agreement, which gives rise to questions concerning its interpretation and the competent body for this purpose, viz. who would decide whether such 'damage' is substantial? Should the MRC or only the Parties suffering from such damage take part in this consideration? The duty to notify with accompanying *'proper and valid evidence'* is also open to debate, as it is unclear who would decide whether the evidence *is* 'proper and valid'? What would happen if the affected States intentionally turn a blind eye to[72], or do not have sufficiently advanced technology to detect, such harm? Would such substantial damage be allowed to continue forever or should the MRC step in and take action in the interests of the rest of the member States? It is unfortunate that the Mekong Agreement provides no answer to these questions and does not identify the body intended to be competent to deal with these conceivable problems.

(c) Incompetence of Environmental Institutions and Use of Information

Despite the above criticism, Article 7 is put into practice through the establishment of the Environment Unit and the Water Quality Monitoring Network (WQMN). They deal with environmental projects under the auspices of the MRC.[73] The WQMN is the

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[72] This circumstance may arise if the two States concerned agree to allow environmental harm to occur and neither of them would raise this because they assist and benefit each other in other ways on some other matters.

[73] The MC had originally initiated 'Basinwide Water Quality Studies' in 1980. This was because the States concerned had become increasingly aware of the degradation of water quality, which had resulted from expanding population densities and intensification of resource use. See IMC, *Establishment of a Water Quality Monitoring Network (Basinwide)* (progress report, MKG/E.87016) (1987), 1. There are in total 102 monitoring stations in the lower Mekong region, 11 stations in Cambodia, 17 stations in Laos, 19 stations in Thailand, and 55 stations in Vietnam. This may be compared with the monitoring network of the Danube River Basin, which is also known as the Trans-

body which has the responsibility to monitor and sample water for pollution control purposes; therefore, this section will focus on its functions and performance in the protection of the environment.

The WQMN originated in 1985 through the co-operation of Laos, Thailand, and Vietnam. It is a body separate from the MRC and privately funded by SIDA (Swedish International Development Authority).[74] It undertakes its functions through a water quality laboratory and to date it has four laboratories each one located in different riparian States, namely in Phnom Penh (Cambodia), Vientiane (Laos), Bangkok (Thailand) and Ho Chi Minh City (Vietnam), to analyse and evaluate the quality of water with monthly sampling from 102 water monitoring stations.[75] Their main activities concern, for instance, sampling water,[76] discovering sources of water quality degradation,[77] bacteria testing,[78] a bottom fauna programme,[79] sediment sampling,[80] pesticide analysis,[81] remote sensing and, most importantly, predictions of environmental effects of basin-wide development plan.[82]

National Monitoring Network (TNMN), which was first initiated in Bucharest in December 1985 by the Danubian States who signed the Bucharest Declaration. This network has 61 sampling stations. The Monitoring, Laboratory, and Information Management Expert Group (MLIM/EG) was also established to be responsible for this TNMN.

[74] The first phase of the WQMN started from 1985-1994 with funding from SIDA; See The Environment Unit, *Water Quality Monitoring Network Project*, a report on the project national co-ordinators meeting, 19-21 July, 1993, 1. The second phase ran from 1994-1996. K. Keola, *Water Quality Monitoring Network Project in the Lower Mekong Basin*, a report of the seminar in 'Municipal Wastewater and Watershed Management', 26th - 30th August (1996), Cha-am, Thailand, 7. The third phase commenced in 1996 and finished in 1998.

[75] There are 102 monitoring stations in the lower Mekong region: 11 in Cambodia, 17 in Laos, 19 in Thailand, and 55 in Vietnam.

[76] At the time of writing, there are 97 monitoring stations, compared to 15 stations when this project was first created: See A Wilander and R. Eriksson, *Water Quality Monitoring Network in the Lower Mekong Basin*, a paper written by for the seminar on Water Quality Monitoring in Asia and Pacific, Beijing, China, 18-23 September, 1989, 7.

[77] For example, acid sulphate soil and intrusion of salinity found in the Mekong Delta area, and salt deposits in the Khorat Plateau in northeast of Thailand. *Ibid.*, 8-10.

[78] The first test was made in Vietnam in May 1986 and monitoring started in July 1986 at up to 31 stations. *Ibid.*, 11.

[79] It was found that the Mekong is poor in bottom fauna as a result of high water velocity, unstable sediments, and low availability of organic substances (food) while the tributaries are richer with respect both to abundance and diversity. *Ibid*, 12.

[80] It was first found that most of sediment sampling was done at stations in Thailand, whereas the other two countries lacked of information, which made it difficult to get overview of erosion and siltation problems in these areas. *Ibid.*

[81] In Thailand and Laos, fish were collected in Laos and Thailand for pesticide analysis. Some substances, e.g. organochlorine compounds were found therein. *Ibid.*, 13.

Close scrutiny of the performance of the WQMN makes it clear that there is a loophole in the system for digesting information derived from this body. The report produced by three consultants who were recruited for a project to 'review and modernise the WQMN' confirmed this, stating that the information derived from the network has yet to be properly used.[83] What the Environment Unit has been doing since 1985 is to analyse the data and send it on to the IMC and MRC (since 1995), to be kept in the MRC's database. However, if such data had been forwarded to environmental managers or policy makers, it could usefully be used to predict any possible environmental degradation in the future, or considered in the decision making process to ensure that environmental concerns are emphasised to an extent equal to social and economic concerns. Such failures as this contribute to the ineffective implementation of Article 7.

The same consultants' report went on to assert that a measure of pollution control is also necessary for the implementation of Article 7. The WQMN has now been merged with the Water Quality and Pollution Control projects and the network renamed as the 'Water Quality Monitoring and Pollution Control' project.[84] However, the latest Annual Report made no mention of any changes or progress in the new structure of the WQMN.[85] It is, therefore, not possible to further clarify and analyse the current situation of this body.

(d) Other related Environmental Programmes

In 1997, the MRC adopted the ISO[86] 14000, funded by Switzerland to be applied within the MRC's environmental projects. The ISO 14000 consists of a series of

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[82] This is one of the objectives for modernising the WQMN. For details of recommendation, see E. D. Ongley et.al., *Water Quality Monitoring Network Project: Review and Modernisation* (Draft Report), Bangkok, Thailand, (1997), 11.
[83] *Ibid*, 4.
[84] *Ibid*, 7.
[85] *The MRC Annual Report* (2001). It mentioned only that the MRC has commenced a process of Water Quality Network Revision that should be completed by the end of 2002. The revision will re-examine the location and number of sampling sites, sampling methods, parameters included, sampling frequency, quality assurance, laboratory procedures, and condition of laboratories.
[86] ISO is a system created by the 'International Organisation for Standardisation' (ISO) used to assess the level of standardisation of a particular activity. This organisation is a specialised international body founded in Geneva in 1947 (of which Cambodia, Thailand and Vietnam are members) and concerned with standardisation in all technical and non-technical fields except electrical and electronic engineering (the responsibility of the International Electrotechnical Commission). It does not initiate or

standards comprising several guideline standards and one compliance standard (ISO 14001) that will be a model for standardising their environmental management system.[87] It has been expected since 1997 that specific training will be introduced in all riparian States with a particular focus on environmental assessment and management.

3. Institutional Mechanism – The Mekong River Commission (MRC)

3.1 Composition and Mandates

The structure of the MRC is different from those of the MC and the IMC because the MRC consists of three important bodies: the Council; the Joint Committee (hereinafter JC) and the Secretariat (see organisational charts in Annexes I and J). The new organisational structure of the MRC is better arranged than the earlier ones. Different functions are allocated to different bodies, which facilitates more adequate and effective implementation of the Agreement.

The Council is the highest body, composed of one member from each Party at Ministerial and Cabinet level. It is mandated to perform three important functions: to formulate development policies; to make decisions on the implementation of the Agreement, including the approval of the BDP and the Rules for Water Utilisation and Inter-Basin Diversion; and to solve any disputes arising from the instrument.[88]

The JC is the most important executive body. It is composed of one member from each Party at no less than Head of Department level. The JC is mandated to perform many significant functions. For example, under Articles 24 and 26, the JC is responsible for formulating the Basin Development Plan and the Rules for Water

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write standards but provides the means by which national engineering, safety, and industrial standards can be co-ordinated. Because of technological evolution, ISO standards are optimally reviewed (and, if necessary, revised) every five years. ISO 14000 is a series of standards concerning Environmental Management Systems (EMS). *Britannica Encyclopaedia*: CD 2000 version.

[87] 2 *Mekong News* (1998), 6. From a review and assessment of institutional capacity for ISO 14000 and EIA, it was apparent that the majority of the concerned organisations within the riparian States are not ready to adopt and implement a full-scale Environmental Management System (EMS) for certification to ISO 14000. More training is required in order to prevent misunderstanding and promote the EMS in order to achieve the goal of the Mekong Agreement, i.e. sustainable development.

[88] Article 18 of the Mekong Agreement.

Utilisation and Inter-Basin Diversion;[89] under Article 5, it is the depository for notification of the intra-basin use of the water in wet season; and it is required to carry out prior consultation for the benefit of all Parties in cases where any Party wishes to conduct inter-basin use of the water in the wet season, or intra-basin use in the dry season.[90] It is also authorised to discuss the possibility of diverting water for inter-basin use during the dry season. According to the Procedures for Data and Information Exchange and Sharing, the JC is also required to be involved in approving the standard of data and information to be exchanged and shared, and in monitoring the compliance with the above obligations, assessing the effectiveness of the implementation of the Procedures.[91] It is also empowered to solve any disputes if they are submitted to it.[92]

The MRC Secretariat was also established in order to assist and carry out the decisions and tasks assigned to it by the Council and the JC.[93] It has a Chief Executive Officer (CEO) as its director.

3.2 Role of MRC and the Implementation of the Concept of Sustainable Development

According to the MRC's mandates, it plays an active and important role in implementing the Mekong Agreement with the aim of achieving sustainable development of the Basin. These responsibilities involve the basic functions of the MRC to represent, act on behalf of, and facilitate the co-operation and communication between each Party to the Agreement and the international community.[94] In practice, co-operation between each Party is conducted through NMCs.[95] However, NMCs do not participate individually in the international community. If they initiate a project on the Mekong, it will be sent to the MRC for approval. If it requires further financial or technical supports, the MRC will act on behalf of the Parties to raise funding from potential donors. This will be undertaken through a special body called 'the Donor

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[89] See Chapter 5 for details.
[90] Article 5.3.3 of the Preliminary Procedures, see Annex F.
[91] Articles 4 (b) and 5 and 5.2 of the Procedures, see Annex E.
[92] Article 24 (f) of the Procedures.
[93] Article 30 of the Mekong Agreement.
[94] Paragraph 7 of the Preamble.
[95] Relevant departments of the government of each country that are responsible for the Mekong co-operation.

Consultative Groups'.[96] It is this function that establishes the importance of the MRC as a body, which carries out negotiations, meets difficulties, or handles complaints or compliments from the donors concerning the progress of the projects.

In addition, the MRC is responsible for considering whether or not development projects comply with the basic obligations of the Mekong Agreement before listing them in the Annual Work Programme. These include: the obligation to protect the environmental and ecological balance of Article 3; the principle of equitable and reasonable use of Article 5; the requirement to preserve minimum flow of Article 6; and the due diligence obligation to avoid, minimise and mitigate harmful effects to the environmental and ecological balance of the Mekong River Basin indicated in Article 7. As the role of the MRC is guided by the concept of sustainable development,[97] it is very important that it, particularly the Council, approve only projects that are operated in a 'constructive…manner for the sustainable development…of the Basin'.[98] Qualifications, knowledge, and the competence of each member of the Council therefore become significant issues because their opinions and decisions will be reflected in interpretation and implementation of the concept of sustainable development.

For example, suppose an inter-basin diversion from water of the Mekong mainstream is proposed by State A. The Mekong Agreement requires the JC to carry out prior consultation and to conclude a specific agreement to justify that the use proposed is equitable. It is within the power of the JC to demand that all the needed documents are submitted to it. During this proceeding, the JC may address any matters requiring further discussion. It is here that the opinions and decisions of the MRC become significant because they could change the normal effects of those basic principles of international watercourses law which to aim at achieving sustainable development of the Basin. This does not mean that those principles are subordinated to the concept of sustainable development. What happens here is that these principles will perform their normal functions but the concept of sustainable development would be put into play

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[96] The MRC, *Minutes of the First Meeting of the Council*, 1st – 4th August 1995, Phnom Penh. The Donor Consultative Groups was established in 1995 by the Council to facilitate and promote mutual understanding between potential donors and the MRC.
[97] Article 18
[98] Article 18 (A).

when the MRC wants to ensure that the application of the Parties to use water will not cause long-term adverse effects to the watercourse. The MRC is thus the key body for implementing existing principles and ensuring sustainable development at different times and for different purposes. The functions and objectives of the existing principles and of sustainable development are, therefore, not conflicting.

The role of the MRC in this respect is very important as it is allowed to set out new norms and standards. This opens up a direct route for elaboration of the concept of sustainable development through institutional mechanisms without waiting for the judicial reasoning process, as took place in the Gabčikovo case. The concept of sustainable development also presses the MRC to consider the sustainability of the whole greater Mekong Basin. The MRC, therefore, is involved in the promotion of full collaboration between the six riparian countries and invited representatives from China and Myanmar also to take part in its first 'Exploratory Meeting' in November 1995.[99] This assembly was aimed at promoting co-operation and the exchange of views and data concerning the use of the water of the Mekong River amongst the six riparian States.[100] A second 'Exploratory Meeting' followed in March 1996 in order to finalise details and prepare the procedures for the more substantial 'Dialogue Meeting'.[101] Some major conclusions were arrived at during the first meeting as the six countries agreed to convene further 'Dialogue Meetings' once or twice a year.[102] The emergence of this concept of a 'Dialogue Meeting' indicates a more promising future for full co-operation between all six States and for achievement of sustainable development of the whole greater Mekong region.[103]

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[99] *Report of the IMC's Special Session of 30th August 1991*, 1

[100] The MRC, *Proceedings of the First Exploratory Meeting*, 22nd November 1995, 1.

[101] 2 *Mekong News* (1995), 3. The Dialogue meeting aimed to promote closer co-operation between the six Mekong riparian States as the four lower States realise that they cannot get optimal benefit from and develop the waters of the River sustainably unless all the six riparian countries are collaborating.

[102] The MRC, *Proceedings of the Second Exploratory Meeting*, 19th March 1996, 2.

[103] In the first 'Dialogue Meeting', interest in integrated co-operation between the six riparian States was expressed. (The Statement made by the Head of Delegations of Cambodia in the MRC, *Record of the First Dialogue Meeting*, 26th July 1996, Bangkok, Thailand, 2.)The concept of trust, partnership and the integration of the Great Mekong Family as well as the need to exchange information among them were emphasised. The representative from Thailand also proposed as an imperative requirement, the improvement of the environment for the benefit of future generations, whilst that from Vietnam appreciated the closer co-operation of the two upper riparian countries. Myanmar highlighted the target of achieving sustainable development and fairness in this sub-region in addition to the approach proposed by China to take gradual steps in undertaking co-operative activities among the six countries in six areas. These include hydrology, navigation and transport, tourism and recreation, energy and hydropower, human resources development, environment and ecological balance, and water resources development. Unfortunately, the outcome and developments at the 'Dialogue Meeting' were not

3.3 Settlement of Disputes

The MRC is also involved in the modification of the normal effects of basic principles through its judicial reasoning role. Articles 18 (c) and 24 (f) indicate that it has power to settle any differences arising from interpretation or implementation of the Agreement. The Council and the JC would be the first bodies to deal with these issues, depending on where the case arises.[104] In other words, if the issue occurs within the Council, the Council must resolve it. If it arises within the JC, the JC must solve it first; if it fails, the cause is then referred to the Council for further decision.[105] However, if the disputes cannot be settled at Council level, it has to be referred to the relevant Governments for negotiation through diplomatic channels.

It is through this channel that that the Council and JC can make use of their powers to modify the effects of obligations of Articles 3-7 to aim at achieving sustainable development of the Mekong River Basin. The decisions of these two bodies are therefore very important because they will reinforce the normative force of the concept of sustainable development as well as clarify the way in which the principles of Articles 3-7 are applied in the context of sustainable development and vice versa. The characteristic and implementation of this concept should become clearer over time as practice develops and this may contribute to new norms and standards for the use and protection of the waters of the Mekong River Basin, which can be applied in the broader context of international watercourses law. The role of the MRC in this respect is therefore very important and will remain so given the importance of the river to these 6 developing countries.

4. Conclusion

This Chapter has illustrated that the Mekong Agreement contains effective mechanisms for the implementation of the concept of sustainable development. Among these, the most interesting is the integration of environmental concerns into

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disclosed in the latest 1998 MRC Annual Report. Additional analysis of this field will therefore require further research.

[104] Article 34.

[105] See Articles 18 (c) and 24 (f) respectively.

the decision-making process of equitable utilisation of water resources. Such integration is promoted in the Rules for Water Utilisation and Inter-Basin Diversion, and through the provisions A and B of Article 5. Both identify the qualifications necessary for applying the principle of equitable use. To put these mechanisms into practice, the MRC must be involved in this process in order to ensure that the economic considerations of equitable utilisation are considered in a broader environmental context and that equitable use promotes the sustainable development of the whole basin. This mechanism reflects the objective of the principle of equitable utilisation that is designed to facilitate achievement of sustainable development of the Mekong River Basin.

The Mekong regime also demonstrates that common management and the establishment of a competent organisation are necessary for the accomplishment of the above goals. The MRC is the key body that operates and promotes all procedures, makes all decisions, and approves all projects that might be operated in the region. This centralised role for the MRC makes it a body that can modify the normal effects of the principles of the Mekong Agreement, such as equitable utilisation. If it finds that such an equitable use does not promote the sustainability of the basin, it is not required to authorise a project; it can reject it. The consultation that the MRC is authorised to arrange also enables promotion of participation of all Parties in this common management process. The MRC has also played a significant role in inviting China and Myanmar to participate in the exchange of information and data concerning water utilisation. These are recent key initiatives that now strengthen the means of attainment of sustainable development for the whole basin and offer opportunities for its realisation.

When one compares the Mekong Agreement with the 1997 Convention (discussed earlier in Chapter2), it is quite clear that the former gives far stronger effect to the concept of sustainable development than the latter. More importantly, the former provides the practical mechanisms for implementing this concept. These new arrangements represent a major contribution of this region to the development of international watercourses law and to the watercourses law of other regions. The problems and prospects for the implementation of this concept will be discussed in the

next Chapter in order to provide an insight into existing problems that arise from the Mekong regime.

CHAPTER 4: PROBLEMS AND PROSPECTS REGARDING IMPLEMENTATION OF THE CONCEPT OF SUSTAINABLE DEVELOPMENT AND OPERATION OF THE MEKONG AGREEMENT

INTRODUCTION

Following discussion of application of the concept of sustainable development in the previous Chapter, this Chapter explores current implementation of this concept in the Mekong Agreement and development of the Mekong Agreement itself. Accordingly, this Chapter intends to provide an insight into its existing problems and to suggest ways and means available for resolving them. The experience of the Mekong and the Parties in the operation of this Agreement will be examined. Other regions can then also observe the practices under this Agreement and thus avoid repeating its problems, particularly those concerning issues related to shared water management, implementation of and compliance with the Agreement.

This Chapter is divided into four sections: the first examines the problems deriving from centralised management of co-operation. The role of the MRC will be thoroughly examined to reveal all the impediments inhibiting effective implementation of the concept of sustainable development and that of the Mekong Agreement itself. The second section discusses current developments concerning the putting of the principles and obligations of the Mekong Agreement into effect by the four Parties. The domestic laws of the four Parties will be investigated to show how effectively they have enacted their obligations at the national level. This will include evaluation of the enforceability of this instrument and the extent to which the Parties comply with their commitments under the Mekong Agreement. The third section explores conundrums or problems of this region, which continue to delay its development. Conclusions are drawn in the final section.

1. Centralised Management System and the Role of the MRC

Having explained in the previous Chapter that every development project in the Mekong River Basin must now be considered by and obtain the approval of the MRC, it can be seen that the management and operation of the whole regime is centralised in and entirely operated by this institution. Thus the MRC is the central forum for discussion and negotiation among the four Parties on all aspects of development in the Mekong River Basin. Its functions therefore are not limited to basic functions but extend to involve other activities, such as verifying documents;[1] considering and justifying whether any proposed development projects comply with the principles of the Mekong Agreement;[2] and even conducting environmental studies and assessment for the benefit of the Parties.[3] This wide-ranging role for the MRC emphasises the importance of its involvement and decisions, but at the same time causes some difficulties for the development of the region.

First of all, the means of adhering to the concept of sustainable development raise matter of opinion and are subject to interpretation by each individual Party. Even though each Party may propose development projects, which it deems to be promoting the sustainable development of the Basin and adhering to all the principles of the Mekong Agreement, this does not guarantee that the MRC will grant its approval of them. It very much depends on what the MRC can or cannot agree on in the relevant negotiations and prior consultations. In these circumstances, legal issues may become transformed into matters of international politics in which relative bargaining powers are the most important factor in reaching a compromise. It is here that the centralised management of the Mekong seems to render the pursuit of sustainable development uncertain and unpredictable because negotiations within the MRC may somehow change or alter the direction of its application. This arrangement

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[1] If the Parties are required by Article 5 of the Mekong Agreement to notify or arrange prior consultation on a project, as the case may be, the MRC is mandated to verify and check the completeness of the necessary documents and may request more information if necessary. This function is indicated not in the Mekong Agreement but in the Preliminary Procedures for Notification, Prior Consultation and Agreement adopted in 2002. For text of the Preliminary Procedures, see Annex F to this thesis.

[2] For this purpose, it may set up fact finding teams, arrange consultation with other Parties or give advice, and request more information on or modification of the projects. See functions of the MRC Secretariat and the JC of the MRC in the Preliminary Procedures for Notification, Prior Consultation and Agreement of 2002, particularly, Sections 4.3.2, 4.3.3, 5.3.2, 5.3.3, and 5.4.

[3] Article 24 (d) of the Mekong Agreement.

may lead to unpredictable or even undesirable development of the concept of sustainable development.[4]

Second, the centralised management and other roles of the MRC could restrict the potential for development of the concept of sustainable development outside the auspices of the MRC. This is because the Agreement's system leaves the authority to interpret or elaborate the principles of the Mekong Agreement entirely in the hands of the MRC. Any further development of the law in this region is therefore in its hands rather than those of the Parties to the Mekong Agreement.

Third, centralised management obviously increases the workload of and causes delays in other important tasks carried out by the MRC. The extensive responsibilities of this body, coupled with the large numbers of project proposals brought before it for consideration and endorsement, have stretched its capacity to cope with so many things at once. Moreover, it has other significant functions; for example, conducting studies and assessments for the protection of the environment and maintenance of the ecological balance of the Basin; preparing basin-wide environmental impact assessment guidelines;[5] contacting donor countries for financial and technical assistance; and, most importantly, representing the Parties before the international community and donors to report on the progress of projects funded or assisted by them. Its performance is, therefore, depreciated - the delay in the commencement of the BDP formulation is a good example of the impact of its work overload.[6] This issue is very important as it affects the impression made on the donors, and their confidence in general and in the Mekong project, which may make future requests for assistance from donors much more difficult to obtain.

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[4] See Section 3 of Chapter 3 in which the functions of the MRC are clarified, establishing that it has authority to set out rules and regulations to promote the achievement of sustainable development of the region.

[5] Although a requirement to conduct environmental impact assessment is not included in the Mekong Agreement, EIA has been carried out in this Basin since the emergence of the Environment Unit in 1985. There is not an obligation of the Parties to carry out EIA, but in practice the MRC would undertake such studies for them. See Article 24 (d), which clearly prescribes such a function on the JC. Information supplied by D. Sequeira, Chief Technical Adviser, Environment Unit, in an interview given to the writer at the MRC Secretariat, Phnom Penh, July 19th, 1999. Due to the policy of the MRC Secretariat not to disclose any written documents to outsiders, all the information on this topic has necessarily been based on this interview.

Fourth, the Mekong model seems to water down the responsibility of the Parties for giving full effect to their commitment to achieve sustainable development. This is so because the Mekong Agreement makes no mention of any duty to report to the MRC the results of, or problems arising from the operation of development projects. In addition, the role of the MRC, the body which would verify and justify all development projects, would cease once it has made its decisions concerning whether or not to authorise a project. The Mekong Agreement again makes no mention of who should monitor the operation of such projects, or how they should do so in order to evaluate the extent to which the sustainability of the Mekong River Basin is maintained. It is here that the Mekong model neglects the possibilities of utilising the supervisory service that the MRC can offer. It is disappointing that this role of the MRC is overlooked because just as the Parties to the Mekong Agreement have no duty to report on their performance, the MRC also has no mandate to monitor or inspect the extent to which sustainable development of the Basin is achieved.

Provision of a supervisory function for international watercourse organisations may not yet have become a norm of international watercourses law, but many watercourse regimes do adopt this approach in order to ensure that both the international institutions and the Parties to the relevant Agreement have duties towards each other to secure law enforcement, and the achievement of the objectives and effective implementation of these agreements. This role can be manifested in various forms,[7] but monitoring and inspection are those most commonly used.[8] For example, the 1999 Convention on the Protection of the Rhine requires the Rhine Commission to monitor and inspect the effectiveness of actions undertaken by the Parties[9] and the Parties also have a responsibility to inform and report to the Commission on the result of the implementation of the instrument.[10] The 1998 Danube Convention adopts a similar

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[6] The delay was caused by lack of needed resources (such as human and financial resources), pending full operation of the MRC on this project. *The 1997 MRC Annual Report* (1997), 12.

[7] See P.W. Birnie and A.E. Boyle, *International Law and the Environment* (2002), 205-209. Birnie and Boyle raise four important supervisory techniques commonly used in international law: these include monitoring and reporting; fact-finding and research; inspection; and non-compliance procedures.

[8] Monitoring is conducted and based on the information provided by the Parties, so that the relevant international institutions can assess how effectively the convention is operating. Inspection requires a different procedure as the relevant institution itself conducts the inspection.

[9] According to Article 8 (1)(d) of the Rhine Convention, the Rhine Commission itself is required to evaluate the effectiveness of the actions..., notably on the basis of the reports of the Contracting Parties....

[10] Article 5 (2) of the Rhine Convention.

mechanism. It requires the Contracting Parties to monitor and assess their own domestic activities and then report their compliance and the adoption of their appropriate law and regulations to the Danube Commission.[11] At this stage, the Parties are also committed to communicate, exchange information, and consult with each other and the Danube Commission.[12] The Commission then assesses and reviews progress on implementation of the Convention. These procedures are instituted to ensure that the reporting procedure stated above has been carried out effectively and that the effectiveness of the Convention itself is properly evaluated.

The Committee of Water Ministers, established in 2000 by the Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC) also has some supervisory functions in the respect of overseeing and monitoring the implementation of that instrument.[13] The 1996 Israel-Jordan-Palestine Liberation Organisation Declaration on Co-operation on Water Related Matters requires each Party to monitor and keep proper records of all water production, supplies and consumption and publish the result of their co-operation in a regional publication.[14] The Joint Bodies (both at ministerial and managerial levels) should collaborate with the relevant Parties in this respect. Section 7 of Chapter I of this instrument also establishes explicit sanctions to deter non-compliance. The Finnish-Swedish Frontier River Commission, which was established by the 1971 Agreement on Frontier Rivers between Finland and Sweden, is another powerful institution that has responsibilities to manage shared water resources and also performs supervisory functions.[15] The structure of the 1964 Convention Relating to the Development of the Chad Basin (Fort Lamy)[16] and the 1994 Convention on the Establishment of the Lake Victoria

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[11] Article 10 of the Danube Convention.
[12] Article 11 of the Danube Convention.
[13] Article 5, 40 *ILM* (2001), 321.
[14] 36 *ILM* (1997), 761.
[15] The most interesting function of this Commission is its extensive administrative and judicial powers as it is regulated by the municipal laws of the two countries. As far as the latter role is concerned, it can perform as a national court by reference to the legislation of Finland and Sweden, this could be a possible model for other watercourse regimes. For further insight into this Commission, see M. Fitzmaurice, 'The Finnish-Swedish Frontier Rivers Commission', 5 *Hague YBIL* (1992), 33-67; and M. Fitzmaurice, 'Water Management in the 21st Century' in A., Anghie, and G., Sturgess, eds., *Legal Visions of the 21st Century: Essays in Honour of Judge Christopher Weeramantry* (The Hague: Kluwer Law International, 1998), 425-463, at 449ff. For text of the 1971 Finnish-Swedish Boundary River Agreement, see 825 *UNTS*, 191.
[16] *Journal Officiel de la République Fédérale du Cameroun* (1964), 1003.

Fisheries Organisation[17] adopt a line similar to those mentioned above, since the relevant institutions are also mandated to perform supervisory functions. This system can also be found in larger regimes such as the European Community. Article 15 of EC Directive 2000/60/EC requires member States to send reports and copies of river basin management plans to the Commission and the Commission must review the progress of the implementation.[18]

The above examples are taken from well-developed regimes, which make good use of international watercourse institutions to promote achievement of their objectives and implementation of the concept of sustainable development. This implies that these regimes have a 'decentralised' character as the international watercourse organisation not only has a duty to serve the Parties but also the Parties have a duty to report progress to it. This mutual obligation or relationship is very important because it reflects the fact that shared water resources management is not about establishing an obligation on just one body to work for the other; rather the relevant bodies and Parties must be committed to perform certain functions to ensure that the objectives of the agreements, such as sustainable development, can be achieved. This relationship also emphasises the sovereign rights of the Parties in developing water resources equitably as well as their responsibility to comply with their commitments and provides for punitive consequences if they fail to do so effectively. This structure may not be suitable or provide the best outcome for every regime but it is perhaps the most effective model applied in many developed regimes, and might solve the problems of its excessive workload of the MRC and improve its performance.

Nonetheless, the model applied in the Mekong regime has its advantages. The Parties can share resources, facilities, technology, know-how, and, in particular, the costs of conducting researches on transboundary projects. As noted in Chapter 3, having the MRC to represent the four Parties to the international community and the donor

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[17] Text in FAO, Treaties concerning the Non-Navigational Uses of International Watercourses: Africa, FAO Legislative Study No. 61, Rome (1997), 122.

[18] This EC Directive is aimed at establishing a framework for European Community action in the field of water policy, to achieve the ultimate objective of 'the elimination of priority hazardous substances and contribute to achieving concentrations in the marine environment near background values for naturally occurring substances'. See paragraph 27 of the Preamble to the Directive. Article 24 of this EC Directive also sets a deadline for the member States to bring into force appropriate laws and regulations by 22 December 2003 and they must inform the Commission of this matter.

countries can offer many benefits: there would then be only one body carrying out negotiations, tackling difficulties, meeting requirements, or handling complaints or compliments from the donors on behalf of the Parties. The negotiators and persons who approve development projects would be the same persons.[19] Misinterpretations and misunderstandings should thus be rare. This may be another advantage of the centralised management of the Mekong co-operation.

2. Implementation of the Mekong Agreement by the four Parties

It is clear that the objectives and principles of the Mekong Agreement cannot be achieved if its four Parties - Cambodia, Lao, Thailand and Vietnam - do not enact these principles into their domestic laws. This section is therefore designed to explore the extent to which these Parties have implemented the principles within their domestic law. The relevant laws in this section are those collected from the four countries up to the present time of writing.

2.1 Cambodia

Cambodia had, for more than two decades, suffered greatly from civil war and political disturbance.[20] Such a situation resulted in turbulent development of the country and

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[19] See Section 3.2 Role of MRC and the Implementation of the Concept of Sustainable Development in Chapter 3. The delay on the formulation of the Rules for Water Utilisation and Inter-Basin Divisions illustrates the downside of a centralised system. The donor (World Bank) refused to support the project were it to be included in the BDP on the grounds that it would make the BDP too complicated a document for drafting purposes and there were no readily available resources or commitment from the four Parties. The MRC needed to negotiate with the donor on behalf of the four Parties. It took four years before the Parties were able to start the project with different sources of funding from SIDA and DANIDA. The writer is of the view that it may have taken less time to start the drafting if the four Parties had been able to participate and be involved in the negotiation with the potential donors. This would have better speeded up the process of and secured the success of negotiation. See interview conducted by the present writer with K. Jirayoot, the Process Hydrologist Modeler, Planning Unit, at the MRC Secretariat, Phnom Penh, July 15th, 1999. See also SMEC, *Water Utilisation Programme Preparation Project: Final Report* (1998); and MRC Secretariat, *Water Utilisation Programme: Project Implementation Plan* (1999).

[20] For Cambodian history, see also D. P. Chandler, B. Kiernan, ed., *Pol Pot Plans the Future: Confidential Leadership Documents from Democratic Kampuchea, 1976-1977* (1988), D. Bull, *The Poverty of Diplomacy: Kampuchea and the Outside World* (1983), and M. Osborne, *Politics and Power in Cambodia, the Sihanouk years* (1973).

caused poverty, damages to the environment[21] and obstructing the evolution of law and legislation.[22] Nonetheless, the implementation of the Mekong Agreement is evidenced by the establishment of a Cambodian Ministry of Environment and adoption of an 'Environmental Protection and Natural Resources Management Act (Kram)[23]', promulgated by the Cambodia government in 1996.[24] This Act has five objectives that are relevant to this study. These include (1) protecting and upgrading the quality of the environment and public health by means of prevention; reduction and control of pollution; (2) assessing impacts on the environment; (3) ensuring the rational and sustainable preservation, development, management and the use of natural resources; (4) encouraging and providing possibility of public participation; and (5) suppressing those acts which may adversely affect the environment.[25]

Although this legislation does not specifically state that it was adopted to implement the principles of the Mekong Agreement, the concept of sustainable development is referred to in Article 1 of the legislation. In this respect, National and Regional Environmental Plans will be established to institute the measures necessary to ensure the sustainable use of Cambodia's resources.[26] To make more sense of this, environmental impact assessment, management of natural resources, protection of environment, monitoring and inspection and public participation are all required to follow the direction given by the Plans. This clearly reflects the same strategy as that

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[21] For example, during the Pol Pot years, the population was forced to build a large number of canals and carry out hydrological works without having appropriate technical understanding or knowledge. This was because the majority of the skilled Cambodian engineers had fled the country or were killed. Such activities caused damaged to the landscape or resulted in the hydrological devices no longer functioning. For the current state of Cambodia's environment, see Ministry of Environment of the Royal Government of Cambodia, *Cambodia: First State of the Environment Report* (1994), on file with the present writer.

[22] At the time of writing, Cambodia has six additional environmental legal instruments in force, including a Land Law; Decree-Law on Forestry Administration; Law on Protection of Cultural and National Heritage; Law of Land Management of Urbanisation and Construction; Decree-Law on Fishery Management and Administration.

[23] 'Kram' is a name used to represent a piece of legislation that is passed by the National Assembly and implemented by the King of Cambodia. However, if the King signs Decrees, which are presented by the Council of Ministers, they are called 'Kret'. Subdecrees that are issued by the Council of Ministers or Ministries are known as 'Prakas'. W.L. Chee, 'Cambodia Country Report' in R. Beckman and L. Kurukulasuriya, *Environmental Legislation and Sustainable Development*: Workshop Report, UNEP/APCEL/MRLC (1996), 42-57; also reproduced in D.G. Craig, *et.al. Capacity Building for Environmental Law in the Asian and Pacific Region,* Vol. I, (2002), 254-262.

[24] Text available online at www.ifrance.com/cambodialaw/envirnt/env001.g.htm. The drafting of this law has been assisted by UNEP consultants since 1994, see also B. Boer, et.al., *International Environmental Law in the Asia Pacific* (1998), 205.

[25] Article 1.

[26] Article 3.

appearing in the Mekong Agreement under which the BDP is included as the key regional development plan.[27]

It becomes clear that the key mechanism to promote the achievement of this legislation's aims is the obligation to conduct an EIA. It is believed that conducting an EIA and having recommendations in place would promote the sustainable use of natural resources and sustainable development within this country.[28] This concept so dominates this instrument, that, to a certain extent, other environmental principles, such as reduction and mitigation of pollution, seem irrelevant because they have not been reaffirmed in this Act; nor was the principle of equitable use or the need to maintain the water flow mentioned in this legislation.

With regard to EIA, both private and publicly operated development projects must submit their results to the Ministry of the Environment and to the government for final decision.[29] Existing activities are also required to submit assessments.[30] Once the projects under consideration are in operation, they must comply with the obligation to prevent, reduce and control water pollution and waste (which will be prescribed in a list of the sources, types and quantity of prohibited pollutants and hazardous substances).[31] These are the only environmental obligations laid down in this instrument.

Following another inherited element of sustainable development, the rights of the public to participate and have access to information were also included in this law, in order to enhance the effective application of the obligation of exchange of information and data sharing indicated in the Procedures for Data and Information Exchange and Sharing, which was in process of drafting when this Act was adopted.[32] The Ministry of Environment will further formulate procedures concerning this matter, however.

What makes this instrument particularly interesting is that it contains a mechanism for evaluation of its progress and effectiveness. Monitoring and inspection requirements

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[27] Compare with paragraph 5 of the Preamble and Article 1 of the Mekong Agreement.
[28] This legislation devotes Chapter III on EIA and Chapter IV also stated clear that EIA is necessary for natural resources management. See also Article 9.
[29] Article 6, paragraph 1.
[30] Article 6, paragraph 2.
[31] The Ministry of Environment will announce this list later. Article 12.
[32] See Chapter 3.

are indicated in Articles 14-15, which are relatively advanced measures compared to the Mekong Agreement. Article 14 demands that owners or those to be responsible for the operation of factories or industrial zones undertake a monitoring process, provide samples and report their progress and outcome of operation to the Ministry of Environment. Article 15 allows the Ministry of Environment or other concerned bodies to inspect the site of premises or any other relevant areas if there is evidence of environmental degradation. It is here that one finds the most advanced mechanisms under the Cambodian law. These two provisions also make use of the Ministry of Environment as the most important agency for this matter.

It can thus be said that although the Cambodian Environmental Protection and Natural Resources Management Act does not give as full effect to the principles of the Mekong Agreement as it should have, it does highlight some of its core concepts, viz. sustainable development and pollution control (through EIA). Notably, its monitoring and inspection mechanisms are a step forward compared to those adopted in the Mekong Agreement. These are good examples, which clearly show the sincerity of Cambodia's attempts to implement general principles of international environmental law, if not the Mekong Agreement as such.[33] It now depends on the Cambodian government, which needs to prepare for the necessary change and to educate their people and civil servants to understand the means by which and reasons why they should comply with this new law in order to better use, develop, manage and benefit from their resources (including water) in a rational and sustainable manner.

[33] It should be noted here that the monitoring and inspection mechanisms have not been effectively put into practice due to a lack of technical expertise and funding. The case of Tiger Brewery evidences that the company had carried out EIA and submitted the result to the Ministry of Environment. The company was granted a licence to operate on the condition that it complied with the recommendations set out in the EIA report. It was, however, not within the capacity of the Ministry to monitor the company's compliance. See 'Cambodia Country Report' in R. Beckman and L. Kurukulasuriya, eds. *Environmental Legislation and Sustainable Development*: Workshop Report, UNEP/APCEL/MRLC (1996), 42-57.

2.2 Laos or Lao PDR

Laos[34] is a landlocked country. It may be economically underdeveloped but it is very rich in natural resources and biodiversity. Unspoiled tropical forests cover large areas of Laos. Forests and biodiversity are, therefore, its main profitable resources, which makes it heavily reliant on export to other countries. As a result, it has recently suffered severe environmental degradation,[35] including loss of biodiversity, climate change, flood and drought, deforestation, and adverse effects on its water.[36] The aftermath of the civil war resulted in significant damage to the country's environment. The Laos government has initiated projects to reform the law, and established a Science, Technology and Environmental Agency (STEA) especially to deal with environmental matters.[37] The 1996 Water and Water Resources Law[38] was later drafted to set out regulations concerning the preservation of water resources in order to ensure that the quantity and quality of the waters for domestic consumption is maintained.[39]

This Water and Water Resources Law makes no reference to the Mekong Agreement. Its Preamble rather implies that it was formulated in pursuance of Article 40, Clause 2 of Laos's Constitution, which provides for enactment of necessary new laws.[40] This

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[34] For Laotian politics, see G. C. Gunn, *Politics Struggles in Laos, 1930-1954: Vietnamese Communist Power and the Laos Struggle for National Independence* (1988), H. Toye, *Laos: Buffer State or Battleground* (1968), J. J. Zasloff and L. Unger, *Laos: Beyond the Revolution* (1991), M. Stuart-Fox, *A History of Laos* (1997), and A.J. Dommen, *Conflict in Laos: the Politics of Neutralisation* (1964). For an economic perspective, see M. Than, et.al. *Laos' Dilemmas and Options* (1997).

[35] As of 1996, the rate of logging in Laos was at about two to three times the sustainable yield level. Illegal logging is very common and widespread. ADB, *Laos and The Greater Mekong Subregion: Securing Benefits for Economic Co-operation* (1996).

[36] The high rate of deforestation in Laos meant that it ranked the third among the sixteen countries in the world, which had highest level of deforestation rated by ESCAP (for the period between 1981 and 1985). However, during the 1990-1995, Laos was ranked ninth, but still remained in Group I (a group of country that had highest rate of deforestation). ESCAP and ADB, *State of the Environment in Asia and Pacific 2000*, (2000), ST/ESCAP/2087, 27, especially at Table 2.2.

[37] For general discussion on land and water resources development, see German Foundation for International Development (DSE), *Legal and Institutional Conditions for Land and Water Resources Development in Laos and Vietnam* (1997), a paper published for international workshop and national meeting arranged by DSE.

[38] An unofficial English text is on file with the writer, translated by Dirksen Flipse Doran & Le. Lawyers and Counsellors. It is also available online at www.lao-energy.com/laws/water/water.htm.

[39] Anonymous, *Legal and Institutional Conditions for Land and Water Resources Development in Lao PDR and Vietnam*, a paper presented to the Workshop Proceedings held on 3-14 March 1997 in Vietnam and Laos, unpublished, on file with the present writer.

[40] X, *Constitutions of the Countries of the World*, G.H. Flanz, ed., text translated by J.J. Zasloft, issued January (1992).

consists of ten chapters, which are expanded into 49 provisions covering a wide range of aspects concerning water and water resources management.[41] Article 1 spells out the function of this instrument, stating that it aims to require that the exploitation, use and development of water and water resources be conducted in such a manner as to ensure that their quantity and quality are preserved without no damage to the environment.[42] It is this provision which clearly reflects the concept of sustainable development, which is also the key objective of the Mekong Agreement which Laos had signed the previous year.

As in the relevant laws of Cambodia and Thailand, water and water resources are declared national properties and are open for use by both individual and juristic entities.[43] However, these uses are subject to approval by the relevant authorities and must comply with the principles governing water resources development activities indicated in Article 22.[44] It is interesting to note that this instrument lays down a strict environmental obligation on water users to protect the water, water resources[45] and the environment by complying with these principles and other relevant regulations.[46] They are also required to participate in the maintenance and preservation of water and provide the necessary information for the enforcement of this obligation.[47] These are the clearest environmental obligations laid down by this instrument.

With regard to water flow, this law is the only legislation emphasising the importance to Laos of the Mekong River. The Mekong River is declared Laos' main source of water, providing water for the main catchment, sub-catchment, and tributary catchment areas of Lao.[48] The uses of such an important source of water and water resources are therefore regulated as users must register and obtain approval from the

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[41] Article 2 differentiates water and water resources as 'water is one type of liquid natural resources' whereas 'water resources are natural resources that are inhabiting water, they may or may not have life, they include, for example, plants, marine animals, rocks, minerals, sand, ...etc'.
[42] Article 1.
[43] Article 14.
[44] Article 22 spells out significant principles of water development, which must (1) be conducted in compliance with the National Socio-Economic and Environmental Development Plan; (2) be carried out in a manner in which water resources and the environment are preserved; (3) prevent adverse effects on water; and (4) be inspected by relevant authorised agencies.
[45] Article 7.
[46] See Article 9.
[47] Article 23.
[48] Article 10.

relevant authorities,[49] except for small-scale uses.[50] It is here that the maintenance of the water flow is clearly highlighted. The diversion, separation and modification of water flow are rigidly regulated by Article 27. The relevant authorities must approve all such activities regardless of scale, with no exception for small-scale diversion or modification. This provision clearly implements Article 6 of the Mekong Agreement and also goes further in recognising that even small-scale of diversions or modifications of water can cause adverse effects on the flow of the Mekong River. Therefore, these must be regulated and authorised as much as medium and large scale water diversions. The responsibility to protect and maintain the water flow is extended to include other activities that may cause the water supply to dry up, become polluted, depleted, or which destroy natural beauty. The maintenance of forest and lands in the catchment areas is clearly required in this instrument as the Laos government recognises that all these activities can also affect the water flow of the Mekong River. They thus need to be regulated.

In addition, Laos in 1991 formulated a more general domestic law on environmental protection.[51] The Law on Environmental Protection sets out rules and regulations on protection of natural resources and biodiversity to ensure sustainable socio-economic development of the nation.[52] It also contains provisions concerning prevention of water pollution that deserve mention here. For example, Article 5 stresses the importance of preventive mechanisms. To this end, this law requires all persons and organisations to report to or inform the responsible agency of any event that leads or could lead to the loss of water[53] or the possibility of disaster.[54] Environmental management and monitoring are the key mechanisms used to observe and maintain

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[49] These requirements apply to medium and large scale uses of water. As far as the large scale use of water is concerned, an environmental impact assessment and details of means of reducing such impacts must also accompany the application. See Articles 16-17 for definitions of medium and large scale use and Article 18 for the detailed requirements for each type of use.

[50] Article 15 spells out the meaning of 'small scale use', which it defines as 'use that is not of a business nature but for the following purposes:

1. Family (residential) use for the benefit of the general household or for cultural use;
2. Fishing and raising fish or other marine animals;
3. Collecting dirt, rocks, gravel, sand, mud, and other vegetation in or around a water source;
4. Use in forestry production and for livestock or for basic family use.

[51] National Assembly No 02/99/NA, also available at www.lao-energy.com/laws/environment/environment.htm

[52] Article 1.

[53] Article 13.

[54] Article 17.

the standards of environmental quality, not only for the purpose of water pollution control[55] but also for prevention of degradation of the environment in general.[56]

This instrument also highlighted the significant role of the Science, Technology and Environment Agency (STEA), as well as relevant authorities at grassroots level, in carrying out environment management and monitoring.[57] Another interesting provision in this instrument is Article 41, which sets out an environmental inspection mechanism to enable supervision of all related activities and 'ensure effective environmental protection.' This obligation of inspection is very important because it allows the protective mechanisms to be evaluated and thus provides for effective results, which will benefit the protection of the environment and other resources of this country in the longer term.

As illustrated above, these two instruments highlight, both the key concept of sustainable development and the obligations of the Mekong Agreement. The concept of sustainable development, the maintenance of water flow, and the protection of water resources have been emphasised and backed by detailed mechanisms. The principle of equitable use is not mentioned in these instruments. However, it may be possible that within the rigidly regulated regime instituted by the Water and Water Resources Law, such a principle may be referred to in the National Socio-Economic Development Plan of Lao.[58] If this were to be the case, it could be said that Laos is now one of the most seriously committed Parties to the Mekong Agreement, having successfully implemented the key obligations of the Mekong Agreement into its domestic law. That said, it may well prove interesting to revisit implementation of these laws in the future, as this would reveal both the way in which and the degree of effectiveness with which Laos has put them into practice. This would contribute to the development of water law and of international watercourses law as a whole.

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[55] Article 23.
[56] Part IV: Environment Mitigation and Restoration: Articles 24-29.
[57] Articles 35-41.
[58] Compare this with Thailand, see below.

2.3 Thailand[59]

Thailand has enacted a number of domestic laws relating to the use and preservation of water resources. Among these, the most important ones are (1) the 1992 Enhancement and Conservation of National Environment Quality Act;[60] (2) the 1992 Factory Act;[61] (3) the 1992 Hazardous Substances Act;[62] (4) the 1992 Promotion of Energy Conservation Act;[63] (5) the 1961 National Park Act;[64] (6) the 1965 Land Reform for Agriculture Act;[65] and (7) the 1942 State Irrigation Act.[66] Thailand also has National Economic and Social Development Plans[67] which establish national

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[59] For general analysis of economic and legal perspectives on water resources in Thailand, see TDRI, *Water Conflicts*, 2nd ed. (1994); M. Kaosa-art, *et.al.*, *Water Resources Strategy for the Next Millennium* (2001); TDRI, *Water Management Policy* (2001); K. Chewvit and S. Koosuwan, 'Law Related to Water Utilisation' in *Drafting Water Law* (in Thai) a paper presented at the seminar 'Drafting the Law for Utilisation and Conservation of Water', 2nd May 1992, held at the Law Faculty, Chulalongkorn University, Bangkok, 86-7; F. Flatter and T.M. Horbulk 'Economic perspectives on water conflicts in Thailand', *Water Resources Journal* (1996), September, ST/ESCAP/SER.C/190, 79-86; and ESCAP, *Assessment of Water Resources and Water Demand by User Sectors in Thailand* (1991), ST/ESCAP/1068.

[60] Text, see 109, *Thai Government Gazette*, No. 37 of 4 April, 2535 B.E. (1992). This instrument is very important for environmental protection in Thailand. It covers a wide range of mechanisms to abate natural disasters and pollution caused by contamination and spread of pollutants. With regard to water resources, it also establishes specific water quality standards for: (a) river, canal, swamp, marsh, lake, reservoir, and other public inland water sources according to their use classifications in each river basin or water catchment; (b) coastal and estuarine water areas; and (c) groundwater quality standards.

[61] Text in 9, *Thai Government Gazette*, No. 37 of 4 April 2535 B.E. (1992). Upon the basis of this legislation, a factory can be categorised under one of three groups depending on its type, kind, and size and capability to engage in certain business. The Ministry of Industry would basically be able to adopt criteria and regulations relating to details of the factory's operation and most importantly concerning the standards and methods of controlling the discharge of wastes, pollutants or other substances that may affect the state of the environment (Section 8(5)). The factory must allow the officials of the Ministry to inspect it and report on the performance of the factory and the compliance with the regulations prescribed by virtue of this law. Further regulations may also be issued as Ministerial rules.

[62] Text in 109, *Thai Government Gazette*, No. 39 of 29 March 2535 B.E. (1992). This law aims to regulate the use of hazardous substances as this is deemed one of the most effective means to control and reduce water pollution and protect the environment from degradation. Hazardous substances are classified into four types. The production, import and export or possession of such substances must comply with announcements of the Minister of Industry.

[63] Text in 109, *Thai Government Gazette*, No. 33 of 2535 B.E. (1992). Section 4 clearly identifies the authority and function of the National Committee on Energy Policy concerning issuance of all measures relating to national energy, including water resources.

[64] Text in *Thai Government Gazette* of 3rd October 2504 B.E. (1961). Section 16 constitutes an obligation not to modify waterways, as to do so can cause floods or droughts.

[65] Text in 45 *Thai Government Gazette* No. 10 of 14th February 2518 B.E. (1965).

[66] Section 28 prevents the discharges of waste and other objects that may become toxic or discharges of chemical substances in the irrigation waterway, text in *Thai Government Gazette* of 22nd September 2485 B.E. (1942).

[67] The National Economic and Social Development Plan is a five-year blueprint the purpose of which is to guide the development of the country. The Office of the National Economic and Social Development Board formulates this Plan. Water development has been incorporated for the first time in the Third

policies on important matters, including water development and is now in the period of its Ninth National Plan (2002-2006) in which sustainable development is re-emphasised as the ultimate goal,[68] pursuant to the wishes of the King Rama IX of Thailand, who would like to see the country achieve self-sufficiency, particularly in water resources.[69] This said, Thailand has yet to draft a specific law devoted to water issues. At the time of writing, the Thai government is considering a new Draft Water Code (the Draft).[70] It is on this Draft that this study will now focus.[71] The legislation identified above will also be referred to as appropriate.

Like the comparable Laotian and Cambodian laws, the Thai Draft Water Code makes no reference to the Mekong Agreement and clearly declares that water is the property of the state.[72] Section 8 states that any persons have the right to make 'reasonable use' of water resources.[73] It is however unclear how to pursue such use, as everything

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Plan (1972-1976), which promoted a water development or basin approach rather than individual irrigation projects.

[68] His Majesty the King of Thailand has referred to this concept for more than 30 years, it was first used in the Eighth National Economic and Social Development Plan (1997-2001) as well. During this Plan, a number of new governmental agencies have been established to deal with environmental issues; for example, the National Environmental Board or the National Commission for Sustainable Development. See Office of Environmental Policy and Planning, 'Implementing Sustainable Development in Thailand' in ADB, *Sustainable Development: Asian and Pacific Perspectives* (1999), 207-213; UNEP, *Sustainable Development of Natural Resources: A Study of the Concepts and Applications of His Majesty the King of Thailand* (1988); and P. Maiklad, et.al., *His Majesty the King and Water Resources Development* (1987).

[69] It is a strategy that aims to reduce the state's vulnerability to the effects resulting from rapid globalisation by striking a balance among all aspects of developments, for example, agriculture, education, politics, legal financial, and environmental activities. See Summary of the Ninth Plan.

[70] The Thai government started a project to draft this Code in 1993. However, the first draft attracted a lot of criticism and was not adopted by the government. After Thailand signed the Mekong Agreement and also the loan agreement with the Asian Development Bank (for the reform of Thai agricultural structure), the government decided to review this first draft and completed a second draft in 2001. It was drafted by The National Research Council (unpublished work, a copy on file with the author (in Thai)).

[71] On another aspect of this Draft, see the paper by the present writer, 'Involvement of Non-State Actors in the Development of Water Law in Thailand: A Role that is Ignored?', paper given at a seminar on 'States, Non-State Actors and the Allocation of Water Rights', at Queen Mary, University of London, 8 November 2002, publication forthcoming.

[72] The terms 'A State's Sources of Water' or 'A State's Water Resources' are used throughout the instrument, which clearly implies that the objects and purposes of this Code are to assert the absolute national right of the state over water resources. This explains why the role of non-state actors is quite limited as they are allowed only to participate in meetings arranged when the government need to be informed of all the water needs likely to be caused by imminent droughts. See Sections 32 and 35 of the Code.

[73] Section 8 states that 'Persons who, whether or not having lands adjacent to public sources of water, have rights to reasonable use of the water and should not cause damage to other people who also wish to do so…'

depends on the further decisions[74] of the relevant government agencies,[75] which have absolute rights in acquiring, developing, managing, conserving, protecting and allocating water.[76] To make sense of this, the National Water Resources Committee is responsible for establishing further rules and regulations under this instrument. Its decisions and any rules established by it will, it is hoped, better explain how the principle of equitable and reasonable use will be elaborated and implemented.

The Draft Water Code contains only one provision relating to the prevention of water pollution. Section 59 asserts an obligation not to cause water pollution or to render the quality of water toxic to human health. Such 'pollution' includes actions relating pouring, dropping or discharging any objects into water or on lands that have a direct impacts on the sources of public water. However, it should be noted that this provision will, to a certain extent, overlap with other existing legislation that has already been enacted,[77] in particularly, the 1992 Enhancement and Conservation of National Environment Quality Act which is the key law in this field since it provides a specific mechanism for the control of water pollution.[78]

It remains unclear whether the need for maintenance of the water flow is recognised in this Draft Water Code. The only reference to be found to such an obligation is perhaps in Part 6 where conservation and development of water resources is emphasised. However, the relevant provision is quite complicated and would be difficult to put into practice, as the area where the water flow must be maintained needs to be declared a 'protected area'.[79] This designation, however, can only be

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[74] Certain guidelines and policies concerning the use and development of water resources are expected to be adopted in the future as required by Section 11.

[75] These include the National Water Resources Committee; the River Basin Committee; and the Regional Water Resources Sub-Committee, see Sections 10-19; 20-25; and 26-28 respectively.

[76] Sections 34-46.

[77] It is well accepted among Thai lawyers that the Thai law on water resources is very diffused because there are so many relevant instruments. For example, the 1992 Conservation and Protection of Wildlife Act, Section 38, requires conservation of water and waterways for the welfare of wildlife. Water pollution caused by accumulation of hazardous substances is prohibited by virtue of the Hazardous Substances Act. A broad obligation not to damage the quality of water is found in both the 1964 Protected Forest Act and the 1967 Mining Act. For details, see the paper written by the present writer, *supra*, n. 71.

[78] Section 36 of this law establishes specific water quality standards for: (a) river, canal, swamp, marsh, lake, reservoir, and other public inland water sources according to their use classifications in each river basin or water catchment; (b) coastal and estuarine water areas; and (c) groundwater quality standards. Therefore, the position concerning whether Thai people should abide by the Draft Water Code or the above law and in time of conflict which one prevails, is confusing.

[79] Section 54.

made following a recommendation of the National Water Resources Committee, and all the appropriate procedures must be pursued in accordance with the Enhancement and Conservation of National Environmental Quality Act. These procedures are very complicated and appear to make maintenance of water a very difficult issue to pursue.

Nonetheless, other existing Thai laws provide some mechanisms that could be applied to obtain the required results. In the 1961 National Park Act,[80] Section 16 consitutues an obligation not to modify waterways, as this can cause floods or droughts. The same requirement is adopted in the 1992 Conservation and Protection of Wildlife Act, but this instrument goes further in order to conserve waterways for purposes of protecting the welfare of wildlife.[81] A similar approach is found in Section 43 of the Enhancement and Conservation of National Environmental Quality Act, which aims to protect the unique ecological composition of watershed areas by prohibiting modification of these areas.

As far as protection of the environment and the ecological balance of watercourses is concerned, the Draft Water Code makes no clear reference to this issue. Declaration of a 'protected area' is the only available protective mechanism that could be invoked for this purpose.[82] Nonetheless, this issue has already been addressed in the Enhancement and Conservation of National Environment Quality Act. Section 43 of this Act authorises the responsible Minister, on the advice of the National Environment Board, to declare an 'environmental protected area', if it is a watershed area, or has unique natural ecosystems, or is naturally composed of fragile ecosystems. To this end, such land use and acts or activities as may harm or adversely affect the state of the ecosystems of such an area must be prevented.[83]

Considering the contents of this Draft Water Code, it seems that this instrument avoids establishing rules and regulations on water resources and transfers the responsibility for this to the National Water Resources Committee. The extent of application of the principles of reasonable and equitable use and the prevention of water pollution therefore remain uncertain as it is only the National Water Resources

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[80] Text in *Thai Government Gazette* of 3rd October 2504 B.E. (1961).
[81] Section 38, text in 109, *Thai Government Gazette*, No. 15 of 19 February 2535 B.E. (1992).
[82] Section 54 of the Draft Water Code.

Committee and other agencies concerned that could decide these matters. Moreover, the issue of the maintenance of the water flow seems to have been overlooked and the related issue of the protection of the environment and the ecological balance of watercourses is dealt with by other sources of legislation. It is, therefore, difficult to conclude that Thailand has fully and effectively implemented the principles of the Mekong Agreement.

2.4 Vietnam

After the civil war between the Northern and the Southern Vietnamese governments ended in 1975,[84] Vietnam began actively to develop its economy in order to become an industrialised country. A large number of western companies have invested a lot of money there during the last ten years because of its competitive labour costs. Its economy has developed into a more market-based economy within which the export industry is promoted.[85] As a result, environmental issues have become amongst the most controversial topics there, because Vietnam still suffers from a lack of effective environmental regulations.[86]

More pressure has been placed on Vietnam since it became a party to such important environmental agreements as, the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the 1992 Climate Change Convention, and the 1992 Biodiversity Convention. The Vietnamese government has thus been developing its relevant domestic law.[87] Lately, some environmental

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[83] Section 44 of the Enhancement and Conservation of National Environment Quality Act.

[84] For the history of Vietnam, see also D. J. Duncanson, *Government and Revolution in Vietnam* (1968), R. B. Smith, *An International History of the Vietnam War* (1983), P. B. Davidson, *Vietnam at War: the History 1946-1975*, (1991), M. B. Young, *The Vietnam Wars 1945-1990* (1991); and M. Than, *Vietnam's Dilemmas and Options* (1993). See also some interesting studies on Vietnam carried out by staff of the MRC, such as L.H. Ti, 'Experience of Flood Control Planning and Management for Social-Economic Development in the Mekong Delta', a paper prepared for a workshop on Flood Control in the Mekong Delta, 8-10 May 1995, unpublished; and N.D. Lien, 'Causes of Flooding in the Mekong Delta and Possible Upstream Regulation Effects', a paper presented at the same workshop, unpublished.

[85] Boer, B., *et.al. International Environmental Law in the Asia Pacific* (1998), 209.

[86] *Ibid.*, 208.

[87] For criticism of the obstacles inhibiting sustainable development and a list of Vietnamese laws since 1992, see Department of Science, Education and Environment, 'Sustainable Development in Vietnam:

legislation has been promulgated, including the 1993 Environmental Protection Law;[88] the 1995 Vietnamese Criteria for Environment (compiled by the Ministry of Science Technology and Environment (MOSTE));[89] the Government Resolutions concerning the Promotion of Wildlife Protection;[90] the Vietnam National Plan on Biological Diversity;[91] and its Mineral Law.[92] However, that most relevant to water resources is the Water Law adopted in 1998.[93]

The Preamble of the Vietnamese Water Law recognises the special importance of water resources, viz. that water can affect not only human life and the environment. but also the existence and sustainability of any development in the country. It calls also for the co-operation between all state and non-state actors to increase responsibility for the protection, exploitation, use, and prevention of harmful effects on water. Article 2 spells out the objective of this law, aiming to set out further rules on four different areas, viz. 'use and exploitation; management; protection and combat; and overcome harmful effects of water' *(sic)*.[94]

Interestingly, this legislation has a different approach from the corresponding laws of Laos, Cambodia or Thailand. Article 1 declares that ownership of water resources rests with the people of Vietnam (not the state). This issue is crucial as it emphasises the right of the Vietnamese people to use the water as well as their responsibility to protect it as their own property. In addition, any action challenging the right of the people to use the water may lead to adversarial action in a court of law. Article 62(2) confirms this conclusion in recognising that Vietnamese people may prosecute the state's agencies if they disagree with decisions made by them concerning water

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Achievements and Obstacles' in *Sustainable Development: Asian and Pacific Perspectives* (1999), 215-230.

[88] The text is available at www.mekonglawcenter.org.

[89] The text is available at www.mekonglawcenter.org. For some analysis of this instrument, see T.V. Truong, *Water Quality Management in Vietnam*, a paper presented to the seminar on Integrated River Basin Development and Management held in Thailand, 13-16 May 1997, unpublished.

[90] These include, for example, Resolution 18-HDBT dated 17 January 1992 regarding the list of rare and precious species of wild fauna and flora and the regulation concerning management and protection, viz. Instruction 130-TTg, dated 27 March 1993 of the Prime Minister concerning managing and protecting rare and precious species.

[91] Decision of the Prime Minister No. 845-TTg of 22 December 1995.

[92] This legislation was adopted in 1996, for text, see www.mmaj.go.jp/mmaj_e/asianlaw/vietnam.html.

[93] *Vietnamese Official Gazette* No. 21 (31 July 1998).

[94] Article 2.

issues.[95] This provision makes the Vietnamese Water Law particularly interesting in terms of affirming the basic rights and responsibilities of Vietnamese people in using and protecting their water resources. It illustrates the more equal relationship between state and non-state actors in this matter in Vietnam than under the laws of Cambodia, Laos and Thailand.

That said, nevertheless, water is still managed by the state. The national policy on water provides guidelines for its use and exploitation; management; protection and combating; and overcoming any harmful effects to water.[96] An integrated approach is the key factor of this law. Activities to be operated under this law must conform with other existing related laws and policies, such as the concept of the river basin, the protection of forestry, the interests of the country as a national defence, the protection of history and culture, and of the beauty of the country's landscapes and the condition of its environment, in order to avoid overlap and confusion.[97]

The most interesting part of this legislation is its chapter on international relations in water resources in which Vietnam recognises the importance of its obligations towards the international watercourse conventions that it has signed. This chapter refers to: the justice, reasonableness, mutual benefit gained, and sustainable development in using the water of international water sources;[98] and also the need to respect the rights and interests of other riparian countries;[99] all the obligations concerning both use and protection of the environment related to international water sources;[100] and finally the organisational mechanism established in international conventions signed by Vietnam. As this Chapter does not refer to the Mekong Agreement, it is in this part that Vietnam indicates its commitment to this Agreement by means of recognition of 'international conventions' that it has signed. The dispute settlement procedures adopted in international convention, in this case under the Mekong Agreement, are also affirmed.[101] This part of the legislation implies

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[95] Article 62(2).
[96] Article 4(1).
[97] Article 5.
[98] Reference to this concept is in fact made throughout this legislation, see the Preamble, Articles 1, 5(4) and 53(2), for example.
[99] Article 53(3).
[100] Article 54(2).
[101] Article 56(2).

commitment to effort on the part of Vietnam towards effectively implementing the commitments it has undertaken in the Mekong Agreement.

As for the concept of sustainable development, this is reaffirmed in the Preamble. This law also transforms this concept into a legal obligation at a grassroots level: Article 1 declares the right of people to use the resources and places a responsibility upon them to protect them. It is the duty of every party, whether organisations or individuals, to prevent and combat any harmful effects caused by and to water.[102] This provision indicates a balance between the need to use water for social and economic development and the corresponding need to protect the environment, and it underlines the concept of sustainable development. This requirement clearly shows the active role to be played by the grassroots level in implementing the concept of sustainable development in Vietnam.

In addition, the exploitation and use of water resources must be based upon the concept of equitable or reasonable utilisation. Article 20 affirms this concept through its requirements that water must be used in a fashion that is both fair and reasonable and that priority should also be given to the quantity and quality of water used for living.[103]

Vietnam uses two mechanisms to ensure that the flow of water is effectively maintained. First, it uses the process of gaining permission for general water utilisation and exploitation. Only small-scale usage is exempt from this.[104] Second, bigger projects, particularly if they represent a diversion of water from one river basin to another, must be undertaken in conformity with the national strategy on water resources.[105] However, no specific requirement is included concerning the maintenance of water flow.

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[102] Article 1(2).
[103] This should also be compared to Article 10(2) of the 1997 UN Convention as they have the similar purpose as to resolve the conflict between equitable uses. The 1997 UN Convention however adopts a more complicate approach to achieve this aim. It requires the re-consideration of equitable use and obligation not to cause significant harm before such priority can be given. See Chapter 2 at Section 1.3 Equitable Utilisation.
[104] Article 24.
[105] Article 21.

The protection of the environment and of the biological diversity of watercourse is strongly emphasised in Article 36, which includes a general obligation to prevent causes of harmful effects to water. Such prevention also includes regulation of the use of seawater[106], used for salt and marine produce. Farmers concerned are required to 'not cause salinity or deterioration and depletion to sources of water and the agricultural land'.[107] Mechanisms to prevent floods,[108] droughts,[109] salinity, infiltration, rising and spillage of seawater[110] and acid rain[111] are additional to the main obligations since this instrument aims to ensure that the biological diversity of Vietnam will be effectively conserved and sustained.

With regard to the protection of the water itself, control of its quality is identified as the key mechanism.[112] The formulation of permissible standards is to be undertaken; there can then be the basis for water quality preservation. There is no indication of other possible mechanisms for preserving water quality, such as preventive actions; this suggests that this legislation is more concerned to control existing pollution than to prevent new pollution from occurring.

It is quite reasonable to conclude that the Vietnamese Water Law is the only legislation among the four instruments discussed above that clearly implements the legal principles and obligations adopted in the Mekong Agreement into its domestic rules of law.[113] The provision concerning the protection of the quality of water, lands and the environment from the use of seawater seems to be the most well developed mechanism as it tackles the cause of salinity in an integrated manner. Such a comprehensive application of this law therefore emphasises the fact that freshwater, seawater, land and the environment are inter-related and need to be dealt with in an

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[106] This is because salt production and farming of aquatic and marine products are the important business in this country, but they at the same time cause environmental problems to the areas. This applies only to the extent to which seawater is used in the territory of Vietnam. Compare this with Article 3(5) of the Rhine Convention that has broader application of the obligation to protect and restore the marine environment of the North Sea.

[107] Article 27(2).

[108] Articles 36-42

[109] Article 43.

[110] Article 44.

[111] Article 45.

[112] Article 13.

[113] This also includes an obligation to exchange of information as indicated in Article 55(2).

integrated manner. This arrangement is very interesting and might be a useful model for other countries that aim to combat similar environmental problems.

3. Conundrums in the Region

The above analysis has shown the current stages of development in Cambodia, Lao, Thailand and Vietnam in implementing the principles of the Mekong Agreement into their domestic laws. It is important to further consider other existing problems in this region that obstruct the effective implementation of the Mekong Agreement. Among them, only three issues have been chosen to be discussed here, as they are the most important, and apparently affect the prosperity of the region.

3.1 Harmonisation of Law and Legislation

In considering the extent to which the legislations of the four Parties are harmonised, five aspects are focused on, viz. the concept of sustainable development; the concept of equitable utilisation; the maintenance of water flow; the protection of the environment and ecological balance; and the prevention and cessation of harmful effects on the water. This is because these five topics are the key principles of the Mekong Agreement.

It becomes clear that Cambodia, Lao, and Vietnam have in essence already promulgated the necessary domestic laws on water resources. Although these do not specifically refer to the Mekong Agreement as the rationale for the formulation of these laws, they do refer to the concept of sustainable development and other important principles adopted therein. With reference to the concept of sustainable development, Article 1 of the 1996 Environmental Protection and Natural Resources Management Act (Kram) of Cambodia; Article 1 of the 1996 Water and Water Resources Law of Laos; Articles 1, 4, 5, and 53 of the 1998 Vietnamese Law on Water Resources present irrefutable examples of acceptance of this concept. It is only the Draft Water Code of Thailand that remains unclear concerning whether or not water should be used and developed in a way in which the environment is also

protected. This Draft makes no mention of this concept. However, Thailand's Ninth National Economic and Social Development Plan (2002-2006) requires the development of natural resources, including water, to take place in a fashion conducive to achieving the sustainable development of the country. It will, therefore, be interesting to observe in the future the extent to which the National Water Resources Committee will be able to promote the sustainable development of water when the water law itself does not recognise this 'principle'. The absence of a reference the concept of sustainable development may cause some difficulties when putting the water law into practice.

The laws of the four Parties are inconsistent in addressing the principle governing the use of water. The concept of equitable use is not clearly adopted as such. They refer rather to the use of water being conducted 'reasonably' and 'fairly' as evidenced in the laws of Laos,[114] Thailand,[115] and Vietnam.[116] Their laws do not elaborate further on the meaning to be attributed to reasonable use; those of Cambodia make no reference at all to this principle.

As for prevention and/or cessation of water pollution and harmful effects, the four Parties adopt varying approaches. Cambodian law very much relies on the EIA mechanism for the protection of its environment.[117] Laos interestingly lays the responsibility for this matter on the grassroots level, including responsibilities for those activities, which promote the protection of forests and lands in areas where heads of water are to be found.[118] Individuals, organisations and juristic entities are all required to participate in such activities. Thailand's approach in this matter is not comprehensive. The Draft Water Code does not refer to the prevention and cessation of water pollution as such, but asserts an obligation not to cause water pollution or to make the quality of water toxic to human health.[119] Vietnamese law applies the

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[114] Article 44 of the Water and Water Resources Law of Laos particularly emphasises the need to use international water reasonably and fairly.
[115] Section 8.
[116] Article 20 of the Vietnamese Law on Water Resources at least reflects the need to use water reasonably and fairly.
[117] Articles 6 and 7.
[118] Article 29.
[119] See also the regulations adopted in the 1992 Enhancement and Conservation of National Environment Quality Act that is the key legislation on the protection of the environment of Thailand.

permissible environmental standards as the leading measures to control water pollution and to assist in the protection of sources of water.[120]

With regards to protection of the environment of watercourses and the maintenance of water flow, it is apparent that not every Party has developed its legislation in the direction indicated in the Mekong Agreement. Only the laws of Laos and Vietnam seem fairly advanced on these matters. The former requires protection of the conditions of the environment and other related resources, such as lands and forests that may affect the flow and condition of water.[121] The law of Laos also recognises the importance of the water flow, particularly that of the Mekong River. To protect this effectively, it requires regulation of the diversion, separation and modification of the water flow; there is no exception, even for small-scale diversions or modifications.[122] Concerning the latter, Vietnamese law offers a comprehensive mechanism on the issues of water flow and the protection of the environment and ecological balance of water. As already stated above, the regulations and rigid obligations laid upon a water user who wishes to use seawater clearly demonstrate this.

It can now be said that the substantive harmonisation achieved in the laws of the four Parties is found in their several references to the concept of sustainable development and the protection and cessation of water pollution. The harmonisation of their respective provisions regarding the concept of sustainable development reflects the fact that the sustainable development concept has become an integral part of the water law of each of the four Parties, making them aware of the need to take into account at every step the possible environmental impacts of using and developing water resources. The concept's influence can even be found in the laws of the less developed countries such as Cambodia and Laos. Such degree of integration makes environmental issues ever more important.

Secondly, increasing awareness of environmental problems encourages states concerned to go further in adopting other appropriate provisions which also promote

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[120] Article 13-15.
[121] Article 29.
[122] Article 27.

the sustainability of other related resources. The adoption in the law of Laos of a requirement to protect forests and lands in the areas where water is flowing, and the regulation of use of seawater in Vietnamese law, support the existence of this more comprehensive approach, influenced as it is by the concept of sustainable development. It is this development that reflects the function of the above concept in bridging two or more subjects so effectively. The Mekong law confirms that water and other related resources are interrelated. The use of water should therefore recognise this fact and aim not only to regulate the use and protection of water but also take into account that use of it may affect the quantity and quality of the water and vice versa.

On the one hand, it can be said that there is a strong harmonisation of law and principles amongst the four countries so far as protection of water from pollution is concerned. The four countries have clearly adopted environmental obligations to ensure that water pollution is controlled but only Cambodia and Laos have adopted preventive measures to prevent new pollution from taking place. However, these do not go so far as to apply in terms, a 'precautionary approach'.

On the other hand, harmonisation of law regarding the maintenance of water flow and the protection of the environment and ecological balance of watercourses is weak. Interestingly, only Laos and Vietnam have adopted specific provisions concerning these; Cambodian law makes no mention of them. Thailand, however, has other pre-existing legislation suitable for addressing these issues. However, it remains doubtful how effectively in practice Thailand will implement related provisions of other laws to protect the water flow, biological diversity and environment of watercourses in general, and the Mekong River in particular, given that the new Draft does not obviously refer to any of the relevant established rules.

3.2 Improving International Compliance[123]

Inability to fully implement the obligation to maintain water flow and to protect the environment, related resources (particularly biodiversity) and ecological balance of the watercourse raises the question of international compliance. This is because the above obligations (as adopted in Articles 3 and 6 of the Mekong Agreement) are the only commitments that certain Mekong Parties have failed to implement in their domestic laws. The question then arises as to what action needs to be undertaken to facilitate and encourage the Parties to comply with their commitments and obligations in this respect.

As seen in many developed regimes, improved compliance requires action on three significant areas: (a) proper functions undertaken by an international institution (such as performing monitoring and supervisory functions); (b) responsibility of the Parties (to comply and report the progress periodically); and (c) non-compliance measures (such as sanctions).[124] Which of these is missing from the Mekong Agreement? What further actions are required to facilitate improvement of compliance?

It is generally accepted that an international watercourse institution is the key body for enhancement of international compliance[125] - international compliance that Werksman considers that can be ranged from a 'soft managerial approach' to 'enforcement approach'.[126] Such a body can seek increased participation from the Parties by exercising its role to foster the implementation of the agreement and

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[123] For literature in this area, see, for example, G. Handl, 'Compliance Control Mechanism and International Environmental Obligations' 5 *Tulane JIL* (1995), 29; J. Cameron, J. Werksman and P. Roderick, eds., *Improving Compliance with International Environmental Law* (1996); A. Chayes and A. Chayes, *The New Sovereignty: Compliance with International Regulatory Agreements* (1995); and M. Fitzmaurice and C. Redgwell, 'Environmental Non-Compliance Procedures and International Law', 31 *Netherlands YBIL* (2000), 35-65.

[124] See the Rhine regime in which Article 11(4) of the 1999 Rhine Convention requires the Parties to give explanation and reasons for non-compliance. They must also request consultation with the Rhine Commission. The Rhine Commission will later decide on the measures needed to be undertaken to assist those Parties. A more strict practice is adopted in the Israel-Jordan-Palestine Liberation Organisation Declaration on Co-operation on Water-Related Matters. Section 7 of this instrument clearly authorises sanctions for non-compliance.

[125] See Section 3 of Chapter 3.

[126] Werksman, J., 'Compliance and the Kyoto Protocol: Building a Backbone into a 'Flexible' Regime', 9 *YBIEL* (1998), 48 at 56.

enforcement of the obligations that the Parties have under it.[127] This is a two-way (interactive) relationship between the organisation and the Parties. Thus, the functions of the organisation ideally should be drafted in a manner that allows this two-way relationship to operate effectively. The common forms of this approach include, for example, approval of the legitimate function of the organisation to monitor and receive information or to settle any disputes regarding the implementation of the agreement.[128] The Parties, on the other hand, are committed to allowing inspection. The Parties may be required to prepare annual or periodic reports on to what extent they have implemented their obligations under the relevant agreements. Some sanctions may be introduced for punishment of non-compliance.

In the case of the Mekong, it is quite clear that the MRC is neither required to exercise its rights in this regard; nor was it established or equipped to enforce the obligations that the four Parties have under the Agreement. It is entitled to facilitate the Parties on many matters[129] but none of these relates to assessment and evaluation of the extent to which or how effectively the Parties have implemented their commitments under the Agreement. Still less does it possess the power to impose sanctions if it uncovers any acts of non-compliance.

At the same time, the Mekong Agreement also omits any reference to the commitments that its four Parties have in this respect, though it includes preparing annual reports and/or submitting information[130] concerning development relevant to their commitment as indicated in the Mekong Agreement.[131] This indicates that this regime lacks the two-way relationship needed between the MRC and its Parties. Also, the MRC do not have a proper mechanism for conducting compliance assessment:

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[127] Sands, P. 'Compliance with International Environmental Obligations: Existing International Legal Arrangement' in J. Cameron, J. Werksman and P. Roderick, eds., *Improving Compliance with Internatioanl Environmental Law* (1996), 63.

[128] For relationship between these subject-areas, see M. Fitzmaurice and C. Redgwell, 'Environmental Non-Compliance Procedures and International Law', 31 *Netherlands YBIL* (2000), 35 at 43-65.

[129] For example, to decide the development policies or conduct researches for the four Parties. See Section 3 of Chapter 3 for further details.

[130] The only obligation to exchange of information is found in the additional Procedures for Data and Information Exchange and Sharing under which data are required to be shared. This information would include, for example, data on water resources; topography; and agriculture. However, this provision does not aim to require the Parties to exchange of information concerning the progress of the implementation of the Mekong Agreement; these are two different topics. See Section 2.1.2 in Chapter 3 for further details.

there are no inspections and monitoring mechanisms. This explains perhaps why the obligations under the Mekong Agreement have yet to be fully implemented.[132] A dearth of measures for improving the level of compliance may be one reason why this is the case, though this impedes Mekong co-operation from developing as far as it has under other regimes like those of the Danube, the Rhine, the Chad, or Lake Victoria.

If the degree of compliance under the Mekong regime is to be improved, certain new mechanisms are required. These could be instituted through amendment of the Agreement but this might be difficult. Firstly, this would take too long to negotiate, as it would require agreement of all the four Parties.[133] It is far from clear how it would be possible to convince all four. Should the MRC assume this role, or should it be left to the Parties themselves to reach a consensus? It is quite clear that the MRC would not be in a position to execute such a role.

Alternatively, the Parties may conclude a separate and binding instrument like the Procedures for Data and Information Exchange and Sharing or the Preliminary Procedures for Notification, Prior Consultation and Agreement, in order to promulgate measures for improving compliance. Thus it would be treated as another binding instrument and avoid the need to amend the Mekong Agreement. Appropriate measures such as monitoring the progress of implementation; establishing an obligation to report activities concerning the implementation undertaken by the Parties; and incentives and benefits rewarding the most effective implementation could be incorporated. Measures to combat non-compliance, such as sanctions, could also be included.

The Parties could perhaps adopt a soft law instrument, such as a guideline to enable improvement of compliance with the Mekong Agreement, which would not be legally binding *per se*. Though it would indicate the most likely direction towards which the Parties would be willing to move. Such a 'direction' could develop in the future into a legally binding obligation (e.g. through subsequent amendment of the Mekong

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[131] Compare this also to other successful regimes such as CITES, the Rhine, the Danube or that for Lake Victoria.
[132] In practice, it is believed that the MRC and other Parties must be informed of the extent to which each of them implements its obligations.
[133] Article 37.

Agreement) if the Parties came to appreciate its usefulness and effectiveness, and this would then contribute to the development of international compliance in this region.[134]

3.3 Relocation of the Mekong River Commission Secretariat

It should be noted that Article 29 of the Mekong Agreement offers the option of relocating the permanent office of the Secretariat. If the riparian States wish to do this, they must conclude a separate headquarters agreement. This clause was implemented for the first time in 1998 when the question of the venue of the headquarters of the MRC was raised soon after the Mekong Agreement was concluded. A conclusion was reached at the second meeting of the Council when Thailand and Vietnam each withdrew their applications to be nominated as the venue of the MRC's headquarters.[135] Only two countries, Cambodia and Laos, offered their capital cities for the location of the Mekong Secretariat.

The four States eventually agreed in 1998 to move the headquarters of the Secretariat between Cambodia and Laos, alternating every five years.[136] Previously, it had been situated in Bangkok for more than forty years since 1957. An Agreement on the Establishment of the Headquarters of the Mekong River Commission in Cambodia was concluded between the Government of Cambodia and the Mekong River Commission on 20th February 1998[137] and at the end of this five year period it will be moved to Laos. This is controversial since it is questionable whether such a rotation is beneficial for the operation of the MRC and the riparian States. Firstly, it is inevitable that constant moving the Secretariat will disrupt the ongoing projects of the MRC, not only because of the unnecessary administrative upheaval and transfer of books, paperwork and officials, but also the changes in official languages, and the disturbance to the mentality of the staff. Secondly, this will consequently not only

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[134] Kiss, A., 'Commentary and Conclusion' in D. Shelton, *Commitment and Compliance* (2000), 229.
[135] *Minute of the Second Meeting of the Council, MRC*, 30th – 31st January 1996, 5. The reasons for the withdrawal were however never disclosed.
[136] *The 1996 MRC Annual Report* (1996), 3.
[137] The 1998 Agreement on Headquarters of the Mekong River Commission, concluded on 20th February 1998. Text is on file with the present writer and also available at the MRC Secretariat.

delay the completion of projects and affect their quality, but that very delay is surely likely to undermine the confidence of, and adversely affect any potential funding, by the prospective donors. Lastly, the execution of each rotation absorbs a large sum of money and effort. A considerable amount has to be spent on the re-decoration of the building, transportation and other related works, e.g. packing all the documents and training new staff, etc. Therefore, relocation may well result in doubling the budget whilst hindering the work of the MRC, which seems a waste of money, time and effort.[138] In June 2003, the next relocation was announced by the MRC, that the Secretariat will be moving to Vientiane, Laos by June 2004.[139]

4. Conclusion

The fundamental problems of this region are not those relating to whether or not the four Parties will effectively implement the concept of sustainable development but rather those involved in giving full effect to the principles of the Mekong Agreement. While all four Parties clearly integrate the concept of sustainable development into their domestic water laws, none of these refers to the Mekong Agreement and not all principles of this instrument are adopted in their domestic laws. This situation reflects the fact that the four Parties agree that sustainable development is an important concept and must be integrated into their local laws. However, they seem reluctant to accord the same importance to the principles of equitable utilisation, the maintenance of water flow; and the protection of the environment and ecological balance of watercourses. Only the principle of water pollution control is adopted in all four Parties' legislation.

This situation reveals two significant issues. First, it reflects the Mekong Agreement's lack of a practical enforcement measure. The MRC established by this instrument has no mandate to oversee or monitor the implementation of or, in some cases, violation of the Mekong Agreement. It has no function allowing it to act or give advice on the

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[138] This should be compared to the relocation of the EC Parliament between Strasbourg and Brussels, which is also controversial.
[139] *Mekong Press Release* No. 7 of 2003.

failure to give effect to the Agreement. This may be one of the reasons why non-compliance continues.

Second, the Mekong Agreement lacks appropriate measures to promote compliance with international obligations. It is clear that this instrument makes no mention of the need to monitor the progress of or give advice to the Parties in relation to the implementation of the Mekong Agreement. Again, the MRC would be the most appropriate body to perform this duty. However, it has no mandate to identify any dereliction in compliance with the Mekong Agreement. Its broad and centralised functions do not serve this purpose, as the MRC no longer has a role in approving and disapproving development projects.

It is therefore imperative that the functions of the MRC be reviewed. Some of its present tasks need to be shifted, becoming the responsibility of the Parties. For example, the Parties should be required to ensure that development projects initiated by them conform with the agreed principles indicated in the Mekong Agreement. The MRC would not only control activities by verifying their documents and giving approvals, rather it would be the responsibility of the Parties to pursue this task. This would leave the MRC free to perform the necessary supervisory functions by giving advice and monitoring the progress of implementation of the principles and settling disputes arising from the Mekong Agreement. These measures would better promote accountability and trust between the Parties, as all of them are already committed to abide by the agreed principles. In this regard, the obligation to share data and exchange information under the Procedures that the four Parties signed in 2002 should reassure them, and all of the relevant documents should become transparent and accessible. In the long term, this would mean that more advice and incentives would be available from the MRC than is currently the case when it is so deeply involved in executive tasks.

The constant relocation of the MRC for political reasons is also a controversial issue that adversely affects the implementation of the Mekong Agreement, particularly during the last few years, since it raises doubts as to the value of implementation given the costs, financial and otherwise, of relocation. This perceived over-

expenditure on needless relocation delays the completion of the whole Mekong project and affects potential grants from donors. It is clear that the funding from the donors has indeed dropped, from 12,285,000 US$ in 1996 to 8,000,000 US$ in 1997,[140] since the decision to relocate the Secretariat was made. This incident, to a certain extent, reflects the dissatisfaction of the donors with this process, hence in the drop in funding from them. One question for the short term future is to what extent the funding will again drop when the Secretariat moves to Laos in 2004 and to what extent this would affect the ability of the MRC to improve compliance with its international obligations.

[140] *The MRC Annual Report* (1996-1997) on the topic of annual budget.

CHAPTER 5: CONCLUSION

The objective of this study has been to demonstrate that the concept of sustainable development is undoubtedly influential. It gives rise to the development of principles of international law as well as those of international watercourses law. The integration of environmental into developmental considerations, the holistic approach adopted in the Mekong Agreement and the way in which the MRC performs are clearly outcomes of the above concept.

As demonstrated in Chapter 1, the concept of sustainable development has been playing a significant role in international law for quite some time. A separate opinion of Judge Weeramantry in the Gabčíkovo case suggested that the ongoing development of this concept has proceeded a long way beyond the 1972 Stockholm Conference, not only in the Western world but also in the Muslim and Buddhist worlds. The universal recognition of this concept was secured when the international community included it in the Rio Declaration adopted at UNCED in 1992. The impact of the concept of sustainable development and its elements has become greater ever since. A large number of international agreements now endorse both this concept and the inherent elements of sustainable development. This change in circumstances reflects a new trend in the international community: the majority of states now accept that they have a responsibility to take into account the need to implement the concept of sustainable development and its main elements as employed by the Rio Declaration[1] though its precise content remains uncertain.

The influential role of the concept of sustainable development also gives rise to the question concerning whether or not international law now requires development to be sustainable. This study agrees with Boyle and Freestone that international law has not yet gone that far.[2] Although the ICJ implied in its judgement on the Gabčíkovo case that states should take into account elements of both environmental and developmental concerns and look afresh at the effects on the environment caused by development projects, the Court was reluctant to state that there is a general obligation

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[1] Boyle A.E. and D. Freestone, *International Law and Sustainable Development* (1999), 16-17.
[2] See G. Handl, 'Environmental Security and Global Change: The Challenge to International Law', 1 *YBIEL* (1990), 25; and Boyle and Freestone, *International Law...*, 16.

to do so.[3] If that were the case, the Court should have made clear 'the criteria for measuring it' as suggested by Birnie and Boyle.[4] In this case, the Court did not establish rules or standards for considering the sustainability of development projects and instead left the decision to be made by the states concerned as to what was sustainable and what was not in the circumstances. The Court urged them to find a satisfactory solution through negotiation.[5]

Nonetheless, the ICJ clearly confirmed the normative force of the concept of sustainable development, and that it has now become a part of international law. This study agrees with Lowe who regards the way in which the Court referred to this concept as a legal concept that offers guidance directing the conduct of the states and other actors (such as the international tribunals) within the international legal system.[6] It is not yet a principle of customary international law as such. Thus, states are now guided by this concept to conduct development projects in a manner that promotes sustainable development.

The inherent elements of sustainable development also have similar status and effect in international law and the international legal system. Some of them have become principles of customary international law; some have not. The effects of each element may be different, but all of them seem to have become more influential and tend increasingly to be incorporated into international agreements and the international legal system. Particularly, they have been recently referred to in the decision-making process of international tribunals. The ICJ and the Appellate Body of the WTO have already shown that they are influenced by these new rules and by the new standards set by the concept of sustainable development and its elements. This situation reflects the fact that such tribunals are aware of these developing concepts and of the need to implement the principles of the Rio Declaration in order to promote achievement of sustainable development.

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[3] *Ibid.*
[4] Birnie, P.W. and A.E. Boyle, *International Law and the Environment* (2002), 85.
[5] Paragraph 140 of the judgement, 37 *ILM* (1997) , 162.
[6] Lowe, V., 'Sustainable Development and Unsustainable Arguments' in Boyle and Freestone, *International Law*..., 34.

This study further examines the effects of the concept of sustainable development on the law governing the use of international watercourses. After analysing the 1997 UN Convention, it observes that the Convention was adopted by both watercourse states and non-watercourse states that were interested in the subject, and this can be said that the 1997 UN Convention reflects the views of the international community. If it were to enter into force, it may raise questions concerning whether these principles adopted therein are indeed of value as reflecting general principles of international law and thus bind non-parties as well as parties?[7] This issue may well be pursued further in the future. Although the Convention is not yet in force, its influence is noticeable. McCaffrey notes that the Convention at least can be 'a point of departure'.[8] The adoption of the 2000 Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC),[9] which reproduces most of the provisions of the 1997 UN Convention, seems to confirm the accuracy of his observation.

In addition, the 1997 UN Convention shows that there have been attempts to reflect the concept of sustainable development and its elements in international watercourses law. The most obvious evidence is perhaps found in Articles 5 and 23. Article 5 contains two important elements of sustainable development, viz. sustainable use and integration of environmental and developmental concerns. They were incorporated in order to modify the normal effect of the application of the principle of equitable use and to ensure that equitable use of international watercourses is directed towards the achievement of sustainable development.

Article 23 applies a holistic approach, which allows the application of 'generally accepted international rules and standards' of international law in the protection and preservation of the marine environment for the purpose of the achievement of sustainable development. It is this approach that Sands regards as paving the way for norms and concepts to be applied '*within* particular subject-matter areas, as well as the application of norms *across* the different subject-matter areas of international

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[7] McCaffrey, S., *The Law of International Watercourses* (2001), 316.
[8] *Ibid.*, 317.
[9] 40 *ILM* (2001), 321.

law'.[10] It is one of the most important effects that the concept of sustainable development has contributed to international watercourses law.

In addition, the concept of sustainable development raises other related issues concerning use of international watercourses. As discussed in Chapter 2, issues such as protection of the ecosystem;[11] protection and preservation of biodiversity;[12] and protection and preservation of marine environment[13] are also raised and included in the 1997 UN Convention. This is done in order to reflect the holistic approach since sustainability of international watercourses does not only mean the availability and good quality of water, but includes maintenance of related resources. These provisions have provided the key to development of this area of law since the adoption of the 1966 Helsinki Rules.

As far as the concept of sustainable development is concerned, it can be, however, noted that the 1997 Convention has not incorporated other important elements of sustainable development, such as the precautionary principle or intergenerational equity. This situation shows that the Convention is in a difficult position concerning the giving of full effect to the concept of sustainable development and the principles of the Rio Declaration. Only sustainable use and integration of environmental concerns into the developmental ones seem to be acceptable to watercourse states. The limited number of states which have ratified this Convention also shows that watercourse states prefer to reserve their rights to use water or to focus on other principles that they consider more appropriate. Establishment of a general principle of law requiring watercourse states to develop this resource sustainably is therefore unlikely at this stage.

This study then examines the influences of the concept of sustainable development on the Mekong River Basin and considers whether or not it provokes similar effects upon the law of this region. Obviously, the Parties to the Mekong Agreement took an approach that is different from those adopted in the 1997 UN Convention. The

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[10] Sands, P., 'Sustainable Development: Treaty, Custom, and the Cross-fertilisation of International Law' in Boyle and Freestone, *International Law*..., 60.
[11] Article 20 of the 1997 UN Convention.
[12] Article 22.
[13] Article 23.

concept of sustainable development was adopted as the key objective of this instrument. As a result, there have been significant developments in the law and legal principles of this region as well as in the way in which the joint river commission, the MRC, performs.

The most obvious effect on the law and legal principles of the Mekong regime can be discerned from the way in which the basic principles of the Mekong Agreement are targeted. The Parties to this Agreement agree to co-operate in all fields of sustainable development; the utilisation, management and conservation of the water and related resources of the Mekong River.[14] They also agree to protect the environment and the ecological balance, and to avoid, minimise and mitigate harmful effects to the environment, water quality and water quantity, as well as agreeing to use the water in a reasonable and equitable manner.[15] The maintenance of a minimum water flow is also guaranteed in order to ensure that the natural functions of water can continue and to contribute towards the conservation of the biological diversity of this river basin.[16] It is quite clear that not only water resources but also other related resources, including the environment, biodiversity, fisheries and the ecological balance, are all dealt with in this Agreement. The broad scope of its instrument is the result of its aiming at achievement of the sustainable development of the whole basin. This scope is obviously broader than that adopted in the 1997 UN Convention.

The way in which the principle of equitable utilisation is applied is of particular interest. This is because the Mekong Parties integrate environmental concerns into the application of the above principle through a unique mechanism. They do so through addition of two factors: the Rules for Water Utilisation and Inter-basin Diversion, and Provisions A and B of Article 5. The MRC is instructed to conduct consultations to ascertain whether or not development projects proposed by any Party are justified by referring to these two factors. If not, the MRC can reject a particular project either during consultation or in awarding its final approval.[17] This mechanism evidences the integration of environmental concerns into the decision-making process of the MRC.

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[14] Article 1 of the Mekong Agreement.
[15] Articles 3, 5, 6 and 7.
[16] Article 6.

The obligation to maintain a minimum flow, as required in Article 6 of the Mekong Agreement, also indicates inter-relationship and integration of environment and development. This obligation is regarded as one of its most progressive provisions aimed at achievement of sustainable development, since it demonstrates that environmental and developmental considerations can and must work hand in hand. To make this obligation work effectively, the Mekong Agreement integrates the need to take into account the minimum level of water into the Rules for Water Utilisation and Inter-basin Diversion as a factor in consideration of equitable nature of the use. This mechanism is important, as *it makes the maintenance of the water flow an integral requirement of equitable use.* The MRC would consider these factors together during consultation and in awarding final approval. This is another innovative mechanism of the Mekong Agreement, introduced to ensure that consideration of the environment is integrated into the consideration of development projects.

It is now clear that the Mekong Parties use the joint river commission as a governing body for regulating all activities and development that may take place in this region. It is the only body that can decide whether or not a particular project can be undertaken in the Mekong River Basin. It does so by considering development projects proposed by the Parties in the context of the basic principles and all the relevant factors established by the Rules for Water Utilisation and Inter-basin Diversion. This mechanism allows environmental consideration to be taken into account during the decision-making process of development projects. At the final stage, the MRC will consider whether or not such a project should be allowed to proceed.[18] It is a way of making use of the joint river commission that this study deems practical, and therefore worthy of adoption in other watercourse regimes as well.

This study further examines the domestic laws of the four Mekong Parties, namely Cambodia, Laos, Thailand and Vietnam, to ascertain the extent to which they have

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[17] Article 5.

[18] Taking Article 5 as an example, if any of the Parties wishes to conduct any equitable use in the dry season, it needs to consider all relevant factors, viz. the Rules for Water Utilisation and Inter-Basin Diversion, and to conduct a prior consultation that aims to conclude specific agreements. During the process of consultation, the MRC will make a final decision. It is here that the MRC holds full authority to investigate and double-check whether or not the projects aim to achieve the sustainable development of the Mekong River Basin. If not, the MRC may raise any issues, including environmental issues, with the Parties concerned to, for example, reconsider the possible environmental impacts, or it may reject the projects in question.

implemented the Mekong Agreement and observed the objective of achieving the sustainable development of the Mekong River Basin. This study reveals that the concept of sustainable development plays an important role in the laws of these countries. This concept is referred to even in the legislation of Cambodia and Laos, the least developed Parties. However, they are not yet to give full effect to the important principles of the Mekong Agreement. Only Laos, Thailand. and Vietnam recognise the principle of equitable use but all of them adopt that requiring the protection of water against pollution.[19] This divergence of view shows that though these countries are concerned to promote the sustainable development of the Mekong River Basin, they still reserve their right to adopt other legal principles in the use of their own domestic water resources. This point is very significant. It shows that even though the concept of sustainable development is now greatly appreciated at regional level and referred to throughout the Mekong Agreement, its effects are yet to be fully realised in the domestic water law of these countries.

This thesis has sought to demonstrate the difficulties of implementing the emerging concept of sustainable development in developing watercourse regimes such as that governing the Mekong. It has now become clear that the establishment of a firm and effective 'common management' and a 'powerful joint river commission' is the key to the implementation of this concept. However, what is still lacking is a provision enabling the MRC to perform supervisory functions which should have been adopted earlier to authorise it both to give advice and to monitor the progress of enforcement of and compliance with the principles of the Mekong Agreement. When it is compared with other regimes such as the Danube River Commission, the Rhine Commission, the Committee of Water Ministers of SADC, the Chad Basin, and the Finnish-Swedish Frontier River Commission, this can be seen to underline the weakness of the MRC.[20] It is one of the factors that prevent the full implementation of the concept of sustainable development and the enforcement of the principles of the Mekong Agreement in the domestic laws of the Mekong parties.

The issue of constant relocation of the MRC Secretariat should also be reconsidered. The next relocation has already been announced in June 2003, thus the Secretariat will

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[19] All of the four countries recognised the obligation to prevent water pollution. See Chapter 4.
[20] For further details on this issue, see Chapter 4.

be moving to Vientiane in Lao PRD by June 2004.[21] It is expected that this will cause delays and disruptions to ongoing work under the auspices of the MRC. There may, once again, be a drop in funding from prospective donors, as occurred in 1998 when the MRC Secretariat moved to Cambodia. This is because donors are wary of the unnecessary costs incurred in this process, which can affect their confidence in the whole Mekong co-operation experience.[22] This study concludes that the four Mekong Parties should reconsider this policy, in particular, whether the relocation of the Secretariat every five years brings benefits to the whole region which are greater than basing it in one permanent location. Each relocation costs time, effort and a large sum of money; this is unlikely, it is submitted, to benefit the Mekong project as a whole in the longer term.

As far as the full co-operation of the six riparian states is concerned, some observers consider that the failure to convince China and Myanmar that they should become parties to the Mekong Agreement is the major obstacle impeding achievement of sustainable development of this regime. This view may be partly true because the two countries are upper riparian states; and having them as Parties would definitely ensure that the Mekong River Basin is developed as a whole and utilised in a sustainable manner.[23] However, in practice, it is difficult to convince China, which is one of the biggest and most powerful countries in the world that it will benefit by participating in the Mekong co-operative project. This is because it would limit the extent to which China could use the water of the Mekong River. The MRC and the Mekong Parties nonetheless have invited China to participate in 'Dialogue Meetings' which are intended to establish at least a commitment to promote exchange of data regarding water utilisation among them. China did agree to participate in these meetings and has recently signed an agreement to exchange data with the MRC concerning water utilisation in 2002.[24] This bilateral agreement is the latest development of co-operation between the four lower riparian countries and China.

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[21] 7:2003, *Mekong Press Release.*
[22] See Chapter 4.
[23] However, it is important to note that China contributes 16% whereas Myanmar supplies only 2% of the whole water flow contributions on the Mekong River Basin. These figures are deemed insignificant compared with those of the other four lower riparian countries. See Map 1 attached in Chapter 3.
[24] 2:2002 *Mekong News.*

The case of Myanmar is different. It is a closed country and has not shown a strong interest in fully joining the Mekong regime. Myanmar also has, however, accepted the invitation of the MRC to attend meetings as an observer.[25] Nonetheless, Myanmar and the Yunnan province of China (not China as a whole) are more interested in economic co-operation with the four lower riparian countries. They have joined the Greater Mekong Subregion (GMS) project which is supported by ADB.[26] This initiative is quite successful as it gathers all Mekong States into discussion of economic development in order to promote closer co-operation between all six countries, and this reflects shared concern that there is a need to achieve sustainable development of the 'whole' Mekong River Basin.

Whether Mekong co-operation will achieve further success, only time will tell. Although the Mekong Agreement is not yet fully implemented, it is hoped that the trend set by it will be followed. The Mekong Agreement is a valuable model that could be used in other watercourse regimes, particularly in developing ones. It is not only water and other related resources, which are to be developed sustainably, but

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[25] Article 23 also indicates that observers can be invited to attend the meeting. The JC activated this provision by inviting observers from both China and from Myanmar to take part in a formal dialogue in 1995. 2:1995*Mekong News*, 3. However, before the 1995 Mekong Agreement was concluded, China and Myanmar were invited to participate in the meetings of the IMC. This co-operation became more active and successful after the Mekong Agreement was concluded in 1995. A special 'Exploratory Meeting', was then initiated and such meetings have been held during the last five years as a forum of the MRC, so that the MRC and all six riparian countries can discuss and exchange views on every aspect. A second 'Exploratory Meeting' followed in March 1995 in order to finalise and prepare the procedures for the more substantial 'Dialogue Meeting'. Some major conclusions arrived at at the former included an agreement among the six countries to convene the 'Dialogue Meeting' once or twice a year, and that the participants should be at Director-General level.

The first 'Dialogue Meeting' took place in 1996. The concepts of trust, partnership and the integration of the Great Mekong Family, as well as the need to exchange information among them, were emphasised. The representative from Thailand proposed the imperative requirement to improve the environment for the benefit of the future generations, whilst that from Vietnam appreciated the closer co-operation of the two upper countries. Myanmar highlighted the target of achieving sustainable development and fairness in this sub-region in addition to the approach proposed by China concerning the promoting gradual steps in co-operative activities among the six countries in six areas. These include, hydrology, navigation and transport, tourism and recreation, energy and hydropower, human resources development, environment and ecological balance, and water resources development. For the development of this activity, see The MRC, *Proceedings of the First Exploratory Meeting*, 22nd November 1995, 1; The MRC, *Proceedings of the Second Exploratory Meeting*, 19th March 1996, 2; and the agreement between China and the MRC in exchange of data mentioned earlier.

[26] This project aims to promote economic development amongst the six countries in several sectors including transport; energy; environment and natural resource management; human resource development; trade and investment; and tourism. See ADB, *Economic Co-operation in the Greater Mekong Subregion* (1993); ADB, *Subregional Economic Co-operation* (1994), ADB, *Sustainable Momentum: Economic Co-operation in the Greater Mekong Subregion* (1997); and B. Stensholt, *Developing the Mekong Subregion* (1997) and more references in Chapter 3.

also other activities undertaken in the region must be conducted in a sustainable manner. The increase in environmental consideration and the increasing number of environmental programmes, such as ISO 14000;[27] and environmental impact assessment;[28] reflect the rise of environmental awareness, now promoted in this region. This orientation towards sustainable development grows stronger and seems to undermine the perception that developing countries are not fully committed to preserving the global environment. The Mekong regime has certainly proved that, at the very least, the developing countries of this region are concerned about its environment and committed to maintaining the sustainability of the world's resources, just as firmly as are developed countries.

Whilst the development of the regional law of the Mekong regime suggests a promising future for the implementation of the concept of sustainable development, international watercourses law seems to be struggling to ensure that sustainable development of international watercourses will be effectively maintained. This situation is significant in so far as the development of international and regional law is concerned; it is quite rare that regional law is more developed than international law in the same field (except EU in many areas). The limited reference to the concept of sustainable development and its elements in the 1997 UN Convention and the failure of this instrument to enter into force demonstrates the reluctance of watercourse states and the international community to commit themselves to this concept.

If sustainable development of international watercourses is to be fully realised, the challenge that international watercourses law now faces is to devise the means effectively to implement the above concept and make it more acceptable to the majority of watercourse states. This study may not be able to provide a perfect response to this question as it concerns the whole process of developing rules and principles, and more importantly, that of negotiation. It would require further study to do this. Nonetheless, this present study has already revealed the experience of the Mekong regime, viz. that the employment of a 'common or joint management' model and the establishment of 'a competent joint river commission' are the key mechanisms used in this region to give effect to the concept of sustainable

[27] See Chapter 3.
[28] See Chapter 3.

development. The centralised role of the MRC in managing the basin is another important means used to regulate and control all development projects aiming at achieving the above goal. If any project does not promote the sustainability of the region, i.e. it does not take into account environmental considerations, the MRC can reject it. This role *transforms* the decision-making activities of the joint river commission into becoming *the means of promoting sustainable development* of the region.

In addition, international watercourses law also faces further challenges arising from rapid changes that go well beyond the basic issue of water rights. Problems such as the right to clean water (e.g. should it be treated as part of human rights or as a commodity?);[29] the role and participation of non-state actors in water management and water disputes;[30] political awareness of water governance issues;[31] and the need to maintain water flow, are obviously awaiting discussion. The rules and principles of international watercourses law that have evolved since the emergence of the 1966 Helsinki Rules and the conclusion of the 1997 UN Convention (which is not yet in force) seem inadequate to deal with these issues. The revision of the ILA's Helsinki Rules[32] that is currently underway already raises some hope for the introduction of more up-to-date principles, and more practical mechanisms, allowing international watercourses law to deal with these new issues with the objective of achieving sustainable development. At whatever date the ILA delivers the revised Helsinki Rules, it would be interesting, in the future, to revisit the development of this area of

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[29] This issue was raised in the Millennium Declaration in which 'access to safe drinking water' is ensured and the WSSD is aimed to speed up the implementation of access to water. See the Millennium Declaration adopted in 2000 in New York, and the Political Declaration adopted at the WSSD. IUCN also supports this approach as seen at the 7th International Conference on Environmental Law in 2003 in Sao Paulo, see a paper presented by Head of Environmental Law Centre, J. Scanlon, *et.al.*, 'Water as a Human Right?', available online at http://www.iucn.org/themes/law/pdfdocuments/WW-Rev%202%20-%202nd%20 June. pdf. The Third World Water Forum also recognised this issue. See also the General Comment No. 15 prepared by the UN Committee on Economic, Social and Cultural Rights, E/C.12/2002/11 (2002) in which the human right to water was defined in Articles 11 and 12, and Section 27 (1)(b) of South Africa's Constitution and it confirms the right of people to access to water, see XVI, *Constitutions of the Countries of the World*, G.H. Flanz, ed., text prepared by M. Rwelamira, issued July (1997). Article 27 (1) (b) reads: 'everyone has the right to have access to... sufficient food and water...'.

[30] Particularly the involvement of international organisations and private entities.

[31] This issue was raised in the Bonn Conference on Freshwater and the WSSD in Johannesburg. See the Bonn Keys, the outcome of the Bonn Conference and the Implementation Plan of the WSSD.

[32] The ILA aims to update 'the current law and indicate emerging developments' of international watercourses law. At the time of writing, the ILA entitled this draft as 'The Revised International Law Association Rules on Equitable and Sustainable Use In the Management of the Waters', see the preliminary seventh draft as of March 2002 in *Report of the ILA's Water Resources Committee* (2002).

law. The goal for the achievement of sustainable development has already been set out. Further integration of this goal into international watercourses law is thus vital as, whilst this study has demonstrated that the concept of sustainable development has been broadly welcomed and implemented at a regional level, at an international level much still remains to be done.

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