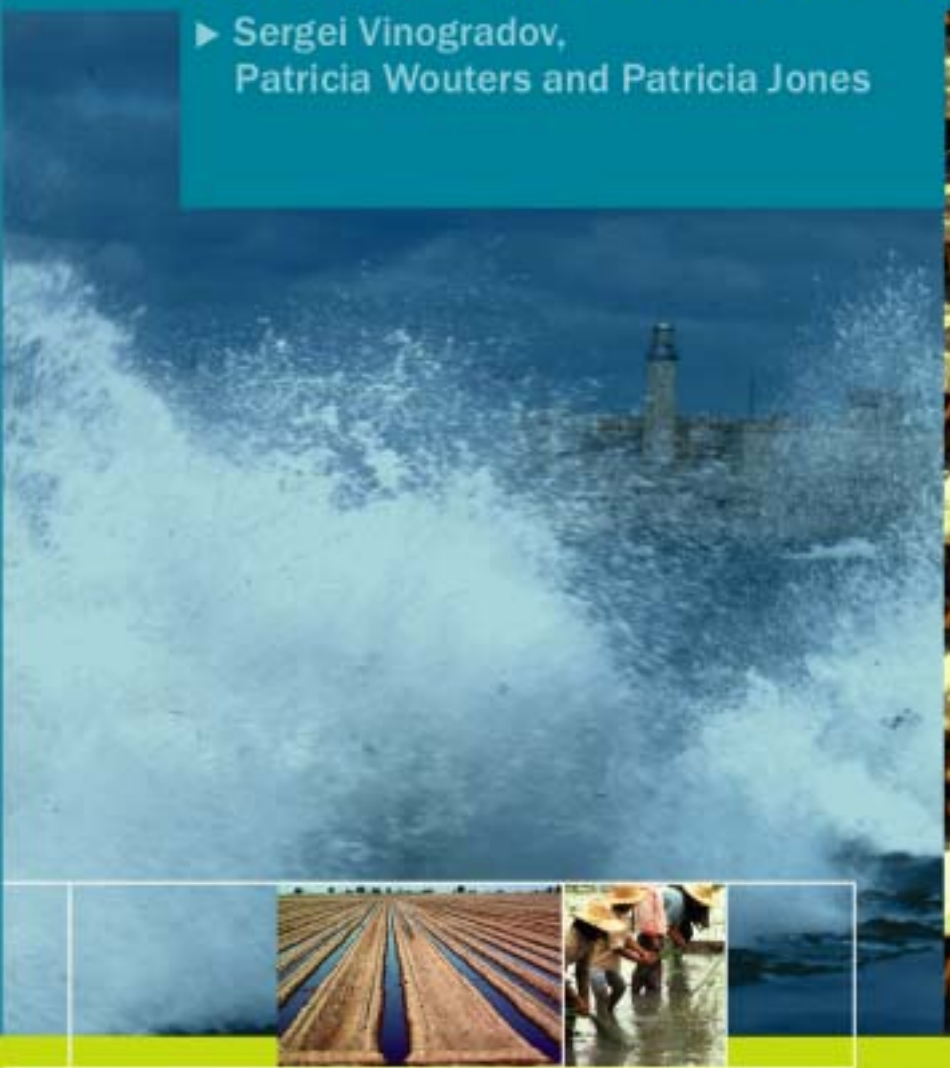
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Transforming Potential Conflict into Cooperation Potential: The Role of International Water Law

▶ Sergei Vinogradov,
Patricia Wouters and Patricia Jones





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TRANSFORMING POTENTIAL CONFLICT INTO COOPERATION POTENTIAL:

The Role of International Water Law

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SC-2003/WS/67

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CONTENTS

Summary		1
Part One: Introduction		**2**
1.	Introduction	2
2.	The Conceptual Approach: The "PCCP Cycle"	2
3.	The PCCP Cycle in Practice: The Lake Lanoux Case	4
3.1.	Phase I: The Legal Context	4
3.2.	Phase II: From Conflict to Cooperation	5
3.3.	Phase III: The New Agreement	7
3.4.	Phase IV: Implementation	7
4.	Lessons Learned and Issues for Consideration	7
Part Two: The Role of International Water Law in Dispute Prevention and Resolution		**9**
1.	International Law: What It Is and How It Works	9
2.	Sources of International Law	9
3.	Law of Treaties	11
4.	International Water Law	12
5.	Customary Rules of International Water Law	12
6.	Judicial Decisions	13
7.	Treaties	14
8.	The 1997 UN International Watercourses Convention	15
8.1.	Scope	16
8.2.	Substantive Rules	17
8.3.	Procedural Rules	19
8.4.	Institutional Mechanisms	20
8.5.	Dispute Settlement	20
9.	Summary	21
Part Three: Transforming Conflict into Agreement: Means and Mechanisms		**22**
1.	Water Conflicts: An Overview	22
1.1.	Conflict Between Existing Uses	22
1.2.	Conflict Between Existing and New Uses (Planned Measures)	24
1.3.	Conflict Over Future Uses	24
1.4.	Conflict as a Result of Emergency Situations	25
2.	"Water Conflicts" and "Water Disputes": Legal Definition	25
3.	Transforming Conflict into Cooperation: Mechanisms	26
3.1	Negotiation	27
3.2.	Good Offices and Mediation	28
3.3.	Inquiry and Fact-finding	29
3.4.	Conciliation	30
3.5.	Institutional Mechanisms	31
3.6.	Arbitration	31
3.6.1.	Overview	31
3.6.2.	The Permanent Court of Arbitration	32
3.7.	Adjudication	33
3.7.1.	Overview	33
3.7.2.	The International Court of Justice	34
4.	Case Studies	35
4.1.	The River Oder Case	35

4.2. The River Meuse Case 37
4.3. The Danube Case 39
5. Conclusions 43

Part Four: Designing and Implementing the Agreement 45
1. Introduction 45
2. Drafting "Good" Agreements 45
3. Scope 46
3.1. Overview 46
3.2. Treaty Practice 47
3.3. Summary 49
4. Substantive Rules 50
4.1 Overview 50
4.2. Treaty Practice 51
4.3. Summary 53
5. Procedural Rules 54
5.1. Overview 54
5.2. Treaty Practice 54
5.3. Summary 56
6. Institutional Mechanisms 57
6.1. Overview 57
6.2. Treaty Practice 58
6.3. Summary 61
7. Dispute Avoidance and Resolution 62
7.1. Overview 62
7.2. Treaty Practice 63
7.3. Summary 65
8. Implementation and Compliance 66
8.1. Overview 66
8.2. New Approach to Ensuring Implementation: Compliance Control 67
8.3. Elements of Compliance Control Systems 68
8.4. Summary 69
9. Conclusion 70

Part Five: Lessons Learned and Checklist of Issues 72
1. Overview 72
2. Lessons Learned 72
3. PCCP Checklist 73
4. Conclusions 75

Annex I: Relevant Factors Matrix 76
Notes on the KaR Research Project 77
Transboundary Water Resources Management 77

Annex II: The 1997 UN Watercourses Convention 79

Selected Bibliography 101

LIST OF ABBREVIATIONS

BWT	Canadian–US Boundary Waters Treaty
COP	Conference of the parties
CTS	Consolidated Treaty Series
ICJ	International Court of Justice
IDI	L'Institut de Droit International
IJC	International Joint Commission (Canada–USA)
ILA	International Law Association
ILC	United Nations International Law Commission
ILM	International Legal Materials
ILR	International Law Reports
IWC	International Watercourses
LNTS	League of Nations Treaty Series
MOP	Meeting of the parties
NRJ	Natural Resources Journal
PCA	Permanent Court of Arbitration
PCCP	Potential Conflict–Cooperation Potential
PCIJ	Permanent Court of International Justice
RIAA	United Nations Reports of International Arbitral Awards
SADC	Southern African Development Community
UN	United Nations
UN GA	United Nations General Assembly
UNTS	United Nations Treaty Series
UN ECE	United Nations Economic Commission for Europe

THE ROLE OF INTERNATIONAL WATER LAW

International river basins cover more than half of the land's surface. With close to 300 major watercourses shared by two or more states and an ever-increasing demand on the world's diminishing water resources, there may be some justification in the assertion by certain commentators that "water wars" are imminent. The UN forecasts that more than half of the world's population will suffer direct consequences of water scarcity if the current development patterns continue. The situation is particularly critical in developing countries, leading the world's governments to commit themselves to "halve by 2015, the proportion of people without access to safe drinking water and basic sanitation," and also to "develop integrated water resources management and water efficiency plans by 2005" (UN Summit on Development, Johannesburg, 2002). Commendable as these plans may be, what solutions will states find in their competition over shared water resources? This is particularly crucial for states that depend on water supplies that cross their national borders.

This study discusses the relevance and role of international water law in the promotion of cooperation over shared transboundary watercourses. With its focus on actual case studies and through examination of contemporary state practice and detailed analysis of the 1997 UN Watercourses Convention, this work aims to provide water resource experts from all disciplines with an overview of the rules of international law that govern interstate relations over water.

PART ONE: INTRODUCTION

1. INTRODUCTION

International river basins cover more than half of the land's surface. With nearly 300 major watercourses shared by two or more states and ever-increasing demand on the world's diminishing water resources, there may be some justification in the assertion by certain commentators that "water wars" are imminent in the near future. The UN forecasts that more than half of the world's population will suffer the direct consequences of water scarcity if current development patterns continue (UNEP, 2002). The situation is particularly critical in developing countries, which has provoked collective action on the part of national governments, leading them to commit to "halve by 2015, the proportion of people without access to safe drinking water and basic sanitation," and also to "develop integrated water resources management and water efficiency plans by 2005" (UN, 2002). Commendable as these plans may be, what solutions will states find in their competition over shared water resources? This is especially critical for states that depend on water supplies that cross their national borders.

This study discusses the relevance and role of international water law in the promotion of cooperation over shared transboundary watercourses. It is aimed at water resource professionals and seeks to make more accessible the rules and mechanisms of international law that govern interstate relations over water.

2. THE CONCEPTUAL APPROACH: THE "PCCP CYCLE"

In line with the central theme of the UNESCO WWAP project, this legal report focuses on the *PCCP cycle*: how *potential conflicts* over water are transformed into *cooperation potential*. From a legal perspective, the PCCP cycle has four identifiable phases, which are connected and reiterative:

- *Phase I*. The legal context (the rules of international law that apply to the conflict and its resolution).
- *Phase II*. From conflict to cooperation (the means used to transform the conflict into a cooperative arrangement).
- *Phase III*. The agreement (the new legal framework).
- *Phase IV*. Implementation (how the agreement is implemented and how changing circumstances and potential new conflicts are being dealt with).

Each of these phases is examined through the perspective of international water law, with a particular emphasis on actual state practice. Part One of this report lays the foundation for this work and concludes with an analysis of the Lake Lanoux dispute as a model case study for the PCCP cycle. Part Two provides an overview of the fundamental principles and rules of international law, in general, and those related to international freshwaters, in particular. This sets the stage for understanding Phase I (the legal context) of the PCCP cycle. Part Three identifies the principal causes of water disputes and reviews mechanisms used by states to resolve them, demonstrating how states employ available means of dispute resolution in order to transform conflict into cooperation: Phase II (Transforming Conflict into Cooperation). Part Four looks at the key elements of a "good" watercourse agreement, one for example that promotes dispute avoidance and provides a flexible regime for managing shared transboundary water resources. Finally, part Five provides a summary of

lessons learned, and offers a checklist of best practices for states to use in their management of international water resources.

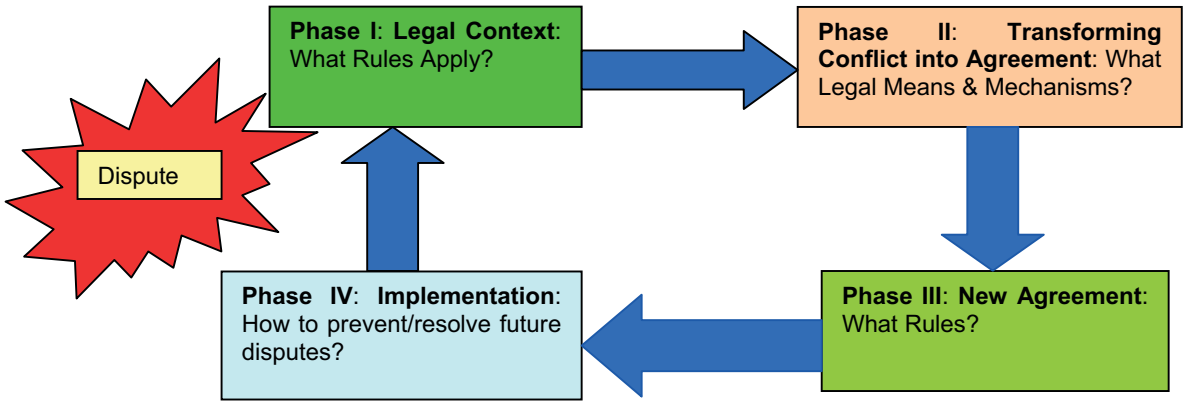


Figure 1. The PCCP cycle: legal approach

How and why do "conflicts" over international waters arise? The most common scenario is where a new or increased use by one or more states results in the available water resources being inadequate to meet the needs of all users in a quantitative or qualitative sense. This leads to a conflict of uses, which may develop into an international dispute. Conflicts over water may also result from national political and economic policies, such as an attempt to achieve food security, or may be part of a broader political conflict. Disputes over water may vary greatly in terms of their legal context, their spatial or temporal dimensions, number of states involved, and so forth. Given such a range of possibilities for water-related disputes between independent and sovereign nation states, how can international law provide meaningful solutions? Fortunately, there does exist an identifiable body of legal rules that govern international relations over water, and these will be examined in this report.

The body of rules developed by international law offers a range of means and mechanisms to states for dispute avoidance and dispute settlement. Central to the specific rules that have evolved in the area of international water law are those norms contained in the most important universal legal instrument dealing with international waters: the 1997 UN Convention on the Non-Navigational Uses of International Watercourses (1997 IWC Convention). This document will be referred to throughout this study as the principal and only universal treaty in this area of international relations.

International law offers a range of diplomatic means (negotiations, consultation, good offices, mediation, fact-finding, inquiry, conciliation, the use of joint bodies and institutions) and legal means (arbitration and adjudication) to resolve international disputes. Generally, water conflicts are settled through negotiations with an agreement as the final outcome. In fact, most transboundary water resources are subject to a treaty regime of some form, with several hundred international agreements governing the use of most of the world's shared waters (FAO Index UN FAO, Systematic Index of International Water Resources Treaties, Declarations, Acts and Cases by Basin, Vol. II, Legislative Study No. 34 (1984)).

The agreement may be watercourse-specific (e.g. the 1961 Columbia River Treaty), a boundary agreement (e.g. the 1909 Canada–United States Boundary Waters Treaty), an umbrella agreement regulating all regional waters (e.g. the 1992 Helsinki Convention on Transboundary Watercourses), or an instrument for dispute

resolution of the "friendly relations between neighboring states." In each of these documents, international lawyers will be most interested in the following key issues:

- the material terms of the agreement (rights and duties)
- the duration of the agreement (term)
- performance of a treaty by its parties (implementation)
- flexibility and adaptability of the treaty regime (how, or if, the agreement may be modified in the event of changed or unforeseen circumstances).

In some cases the legal rules for each of these elements may be ascertained from rules that are external to the treaty in question. Of particular relevance to the PCCP cycle is how disputes are resolved within the legal regimes that govern the particular transboundary waters under consideration. The PCCP process is cyclical: while an agreement (treaty) may form the basis for the initial watercourse regime, issues of implementation related to that agreement – such as changed circumstances – may lead to a conflict. Thus conflict can arise out of cooperative arrangements. However, conflict can also be avoided or resolved through cooperation, for example through the mechanisms provided for in the agreement or by those means available in general international water law. These legal rules and processes can provide the means with which to transform the conflict into cooperation, which will most often be formalized through a new or revised agreement. The PCCP cycle seen through this legal perspective is illustrated in Figure 2.

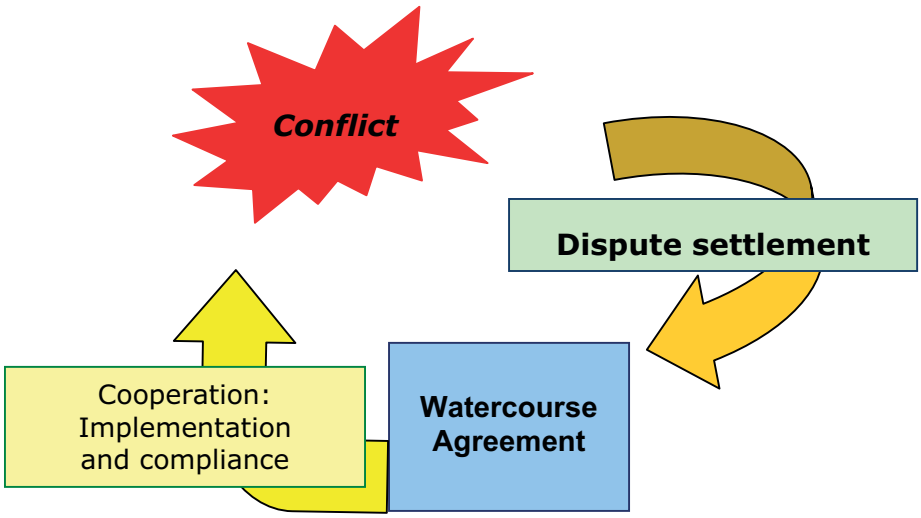


Figure 2. Transforming conflict into cooperation: legal mechanisms and processes

3. THE PCCP CYCLE IN PRACTICE: THE LAKE LANOUX CASE

The dispute between France and Spain over Lake Lanoux provides a model example of how the PCCP cycle works in practice.

3.1. Phase I: The Legal Context

The Lake Lanoux dispute arose from the French Government's decision to permit Électricité de France to develop a hydroelectric project that diverted water from Lake Lanoux into the Ariège river. Lake Lanoux, approximately 2,200 meters above sea level in the southern Pyrenees in French territory, drains into the Font-Vivre stream, one of the headwaters of the Carol river, also in France. The Carol flows 25 kilometers

until it reaches and crosses the Spanish–French border and becomes a tributary of the Segre. The Carol waters were traditionally used for irrigation, particularly in Spain. The Ariège river, on the other hand, is a tributary of the Gargone, which flows to the Atlantic entirely through French territory. Spain opposed the French project, which initially provided for no return of water to the Carol river and offered only monetary compensation by France. The French offer to modify the project by returning to the Carol the same amount of water that it extracted for the reservoir, was also rejected by Spain.

The boundary waters delimitation treaties have governed the Lake Lanoux regime for 150 years, although French–Spanish agreements concerning utilization of boundary waters date back to 1750. The 1866 Treaty of Bayonne and Additional Act, the primary agreements, contained provisions regarding the "control and enjoyment of waters of common use between the two countries." The Additional Act contained the following important provisions:

- It recognized the sovereignty and national jurisdiction of each party over "all standing or flowing waters" within their respective territories.
- It recognized existing uses "necessary to satisfy *actual need.*"
- Each party had a right to develop the transboundary water resources, provided that compensation was paid, *unless* harm was caused. Each party was permitted to authorize works of public utility provided that it paid compensation.
- Remaining waters were allocated proportionally on the basis of irrigable lands not already served.
- Prior notification had to be given to the competent local authorities when a planned measure "might change the course or volume" of water resources, "so that if they might threaten the rights of riparian owners of the adjoining sovereignty a claim may be lodged . . . and thus the interests on both sides will be safeguarded" (Art. 12).
- An international commission of engineers was created with a right to ascertain and allocate waters necessary for present uses, to remove abuses, and, to identify available waters and area of irrigable land in each party's territory.
- The commission was to propose measures and "precautions" needed to implement regulations and to "avoid, as far as possible, all strife among the respective riparian owners" (Art. 18).

Another important bilateral instrument between Spain and France – the Treaty of Friendship, Conciliation and Judicial or Arbitral Settlement – provided for disputes of any kind to be resolved by conciliation, arbitration, or before the Permanent Court of International Justice (PCIJ). Before a dispute could be submitted for settlement by arbitration or adjudication, it had to be presented to a permanent international commission or a permanent conciliation commission. The commission had to evaluate the questions involved in the dispute, collect information, endeavor to bring the parties to agreement, and report within six months of the submittal, unless the parties otherwise agreed. If the conciliation failed, the parties could agree to submit the dispute to arbitration or to the PCIJ/ICJ.

3.2. Phase II: From Conflict to Cooperation

In 1917, long before the dispute arose, the French and Spanish governments had exchanged diplomatic correspondence about the French use of the waters of Lake Lanoux. However, final agreement to convene a special international commission to deal with the water-related issues was not reached before the Second World War. Negotiations on the matter recommenced in 1949 at the meeting of the International Commission of the Pyrenees, which had been created by France and Spain in 1875.

Following negotiations, France and Spain agreed to convene a special Mixed Commission of Engineers. In 1950, when France granted Électricité de France a concession to divert the waters of Lake Lanoux, Spain proposed that a special commission review the scheme. The Mixed Commission of Engineers met in August 1955 but without any result. The issue was raised in the International Commission for the Pyrenees in November 1955, where France presented the work plan for the scheme along with guarantees for Spanish riparians. No agreement was reached and the International Commission accepted the French proposal to establish a special mixed commission with the task of drawing up a joint proposal for the use of the Lake's waters; this first met in December 1955. The French proposal included: technical guarantees for ensuring that the quantity of water supplied to the Carol equaled the amount that would have been naturally available in the system; the setting up of a mixed commission to control the works; Spanish on-site inspection; and a guarantee of an annual minimum of 20 million cubic meters of water irrespective of whether the amount is naturally available. After Spain rejected this proposal, the parties agreed to a meeting of the Special Mixed Commission in March 1956. Spain presented a counter-proposal that did not require diversion of the Carol. No agreement was reached and the Special Mixed Commission terminated its work and reported to the two governments. At the March 1956 meeting of the International Commission of the Pyrenees, France notified Spain that it would resume the project, and commenced construction on the works. On November 19 1956, the parties entered into a special agreement – a *compromis* – whereby they agreed to submit their dispute to arbitration.

The issue at heart of the arbitration was whether the implementation of the French project without a prior agreement with Spain violated the Treaty of Bayonne and the Additional Act. Spain argued that the proposed project was unlawful because, in particular, by altering natural conditions it would affect the entire system of waters of the basin and would destroy the "community" established by the Additional Act in favor of a unilateral control by one party. Spain also insisted that the Act of Bayonne required the prior agreement of the two governments before any development proceeded. France, in turn, argued that the treaties did not bar development, but rather established rules for modification as the need arose, that the prior consent of one state is not required by any of the agreements, and that the scheme safeguarded the rights and interests of Spain and did not compromise its independence. France also maintained that the scheme affected only 25 percent of the waters of the Carol – those that flow from Lake Lanoux – and that this same amount would be returned under the proposed development scheme, meaning that neither the flow nor the course would be changed in Spain.

The Arbitral Tribunal, in its decision of November 16 1957, ruled in favor of France, finding that the proposed project did not breach the applicable Treaties or any rule of international law, and determined that the scheme was not subject to the prior consent of Spain. In comments unrelated to the central legal issues of the case (*obiter dicta)* the Tribunal reasoned that:

> The conflicting interests aroused by the industrial use of international rivers must be reconciled by mutual concessions embodied in a comprehensive agreement. States have a duty to seek to enter into such agreements. The "interests" safeguarded in the Treaties between France and Spain included interests beyond specific legal rights. A state wishing to do that which will affect an international watercourse cannot decide whether another state's interests will be affected; the other state is the sole judge of that and has the right to information on the proposals. Consultations and negotiations between the two states must be genuine, must comply with the rules of good faith and must not be mere formalities. The rules of reason and good

> faith are applicable to procedural rights and duties relative to the sharing of the use of international rivers; and the subjecting by one state of such rivers to a form of development which causes the withdrawal of some supplies from its basin, are not irreconcilable with the interests of the another state.

On the question of prior consent, the Tribunal noted that for a restriction on state sovereignty to be limited to such an extent that exercising jurisdiction was possible only upon agreement with another state is found only rarely in international relations and must be proved by clear and convincing evidence. Requiring prior consent to all planned measures would enshrine a right of veto, which is not permitted in international law. International practice "prefers to resort to less extreme solutions by confining itself to obliging the states to seek, by preliminary negotiations, terms for an agreement, without subordinating the exercise of their competencies to the conclusion of such an agreement." The Tribunal found no evidence in the treaty law, international practice, custom, or general principles of law that "states may utilize the hydraulic power of international watercourses only on condition of a prior agreement." The obligation to give notice does not include the obligation to obtain agreement. In the Tribunal's view, France had met its international obligations because the project provided for the full restoration of the waters in the channel of the Carol and guaranteed an annual minimum flow that might even exceed the natural flow and could alter the timing of the restoration of the waters to better meet Spanish agricultural needs. In essence, the French proposal left Spanish riparians better off.

3.3. Phase III: The New Agreement

The Tribunal's decision paved way to a new bilateral treaty, the Agreement Relating to Lake Lanoux, which was signed in 1958 and incorporated relevant provisions of the 1866 Treaty of Bayonne, the French proposal to the Mixed Commission of December 2 1955, and the 1957 arbitral decision. The Electricité de France was obliged to provide a minimum of 20 million cubic meters of water annually to the Carol river channel above the Spanish border.

A six-member commission was established to ensure that the scheme was implemented in accordance with the Agreement. The Commission was charged with overseeing the construction and operation of the project. In the event that Électricité de France was unable to deliver the amount of water agreed, France had to take all necessary measures to address the situation, including making reparation. The agreement refers disputes to the existing mechanisms under the Spain–France Treaty of Friendship.

3.4. Phase IV: Implementation

The international commission established by the 1958 Agreement has met annually since its inception. The agreement was amended in 1970. The new regime has been successful, allowing downstream agriculture to benefit and permitting resolution of a water quality problem. The test of any treaty is its ability to deal with changes to the regime: what response to changed circumstances, unforeseen problems, conflicts of use? These issues will be addressed in more detail in Part Four of this study.

4. LESSONS LEARNED AND ISSUES FOR CONSIDERATION

The Lake Lanoux case provides practical insight into how the rules and mechanisms of international law are employed when dispute over transboundary waters arises. The first step involves assessing the legal context. Are there rules that govern the

interstate relations? If so, what is the normative content of these rules? In the Lake Lanoux case there were a series of treaties that governed both the lawfulness of proposed new uses on the watercourse and the resolution of disputes. The treaty regime also provided for the creation of institutional bodies to deal with the dispute as it evolved. When the diplomatic means of resolving the dispute were unsuccessful, the parties sought settlement through binding arbitration. This led to a conclusion of the dispute and the foundation for a new international agreement, which was finalized in a treaty. That legal arrangement has proven to be a successful vehicle with which to manage the watercourse up to the present date.

The Lake Lanoux case highlighted the *substantive* and *procedural* obligations of the two riparian states in their development of an international river. It demonstrates also a range of diplomatic and legal mechanisms that the two states employed in order to achieve a mutually acceptable solution. However, each watercourse dispute is different and the way in which this particular dispute was resolved is but one example. It must be considered in its context. In the Lake Lanoux dispute, the PCCP cycle was facilitated by:

- the legal framework in place (series of treaties)
- the relatively good neighborly relations between the parties
- the creation of joint commissions to address the problems
- agreement to submit the matter to arbitration
- the fact that the project in question was determined not to cause any significant adverse impact on the quantity or quality of water flowing into Spain.

Unfortunately, these enabling factors may not be present in other water conflicts between watercourse states. Quite often relations between the parties to water disputes are tense or openly hostile, the legal basis for regulating transboundary waters may be either lacking or insufficient, and a planned or existing use of a shared water resource may cause serious adverse impacts in another state, depriving it of its "equitable and reasonable use." In such a case international law, including various mechanisms for conflict resolution, is traditionally appealed to by states to facilitate seeking and securing a mutually acceptable solution. International law, while admittedly not a panacea for all water conflicts, provides a set of rules, instruments, and mechanisms capable of transforming conflicts into cooperation. What these legal instruments and mechanisms are, and how they might be utilized will be discussed in the following parts.

PART TWO: THE ROLE OF INTERNATIONAL WATER LAW IN DISPUTE PREVENTION AND RESOLUTION

1. INTERNATIONAL LAW: WHAT IT IS AND HOW IT WORKS

International law is sometimes defined as a system of principles and rules of general application governing the conduct and relations of states. Over the last fifty years, international law has evolved to include international organizations and certain legal persons as "subjects" within its scope. What distinguishes international law from domestic law is that the former is both created and enforced by states (at the international level) primarily in order to regulate state–state relations in various areas, while the domain of national law concerns matters that occur within a state's borders and are left to the sovereignty of that particular state. International law operates as a separate system of law, with its own distinct rules and mechanisms.

The consequences for a state that violates a rule of international law are dealt with under the rules of *state responsibility*. There are two criteria to be met to qualify a state's conduct as wrongful. First, it must be an action or omission attributable to the state (i.e. committed by the state apparatus: organs, officials, etc.). Second, this conduct must constitute a breach of a rule of international law. Thus, the alleged violation must be determined to be: (i) committed by a state, and, (ii) break an identifiable rule of international law. The remedies available to the state(s) whose rights have been violated include, *inter alia*, an order for cessation of the wrongful conduct, guarantees by the state in breach of non-repetition of the wrongful acts, satisfaction (apology, exemplary damages), restitution, and compensation. Thus, where one state has denied another state its *equitable and reasonable utilization* of a transboundary watercourse, the former will be liable to remedy the wrongful conduct.

An important objective of international law is to ensure the peaceful relations of states and to prevent and resolve interstate conflicts and controversies. The pacific settlement of disputes has been enshrined in the United Nations Charter as one of the main goals of the United Nations, which was created following the Second World War. The principal UN organs – the General Assembly, the Security Council, and the International Court of Justice (ICJ) in particular – are each entrusted with various dispute avoidance/ settlement duties and functions, powers that they use regularly to "maintain the peace."

2. SOURCES OF INTERNATIONAL LAW

International law incorporates the rules that have emerged and developed as a result of many centuries of interstate relations and practice. The rules that legally bind states may be found in international treaties, international customary law, and, general principles of law: the so-called "sources" of international law. International treaties and international custom are the primary sources of law. The decisions of international courts and arbitral tribunals, and legal doctrine (the teachings of the "most highly qualified publicists" of various nations) are also used to determine the applicable rules of law, as "*subsidiary*" sources.

Until relatively recently the rules of customary – or unwritten – law was the most prevalent source of international law and played a central role in defining the lawfulness of a state's international activity. International custom is a legal rule that has evolved from the practice of states, usually in the absence of formal agreements (although agreements may contain rules of customary law). To become a binding rule of customary law, there must be a demonstrable general, and widespread practice,

which shows that states consider this rule as the one that governs their activities in a particular area. The evidence of customary law (state practice) can be found in the form of agreements, statutes and decrees, diplomatic correspondence, statements of states' representatives in international organizations and conferences, and so forth.

Many rules of international law (e.g., freedom of the high seas, diplomatic immunities and privileges) have their roots in international custom. They may exist as both treaty norms (for those states that participate in a specific international agreement containing these rules) and customary rules (for those states that do not). As will be seen, the basic principles of international water law – including, *inter alia*, the principle of *equitable and reasonable utilization* – initially emerged and developed as rules of customary law. However, international custom by its very nature is imprecise and thus open to conflicting interpretations. Additionally, customary law may not be able to address the increasingly sophisticated and complex issues that now face states. Thus, over the last half-century there has been a prominent move to "codify" (write down) and "progressively develop" the rules of customary international law. As a result, today, international treaties have replaced customary law as the most important source of international legal rights and obligations. Given their particular significance, especially in the area of water law, treaties will be discussed in some detail in this part of the study.

The "sources" of international law

Statute of the International Court of Justice
Article 38 (1). "The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply:

a) international conventions, whether general or particular, establishing rules expressly recognised by contesting states;
b) international custom, as evidence of a general practice accepted as law;
c) the general principles of law recognised by civilised nations;
d) . . . judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law."

In the rare instances where rules of customary law or treaty law are lacking or inadequate, the source of international law may be *general principles* of law, used to determine respective rights and obligations of states. These are derived from the domestic practice of the majority of legal systems around the world and generally include rules that are accepted by all, such as the prohibition of slavery, the principle of good faith, the rules relating to estoppel and proportionality, to name a few. The general principles of law are identified through inference, analogy, and inductive reasoning from existing international or domestic (national) law.

As a subsidiary source of international law, international judicial decisions and the writings of jurists may contribute to the determination of the existence of the legal rules and their content. Although judges and lawyers do not create law *per se*, their analysis of state practice can offer evidence of customary law. In international law, the decisions of international courts and tribunals are binding only for the parties in the particular dispute and only in respect of that particular case. Unlike the common law tradition of legal "precedents," international tribunals are not obliged to follow previous decisions of any other tribunal or court. However, practice demonstrates that these earlier decisions are almost always taken into consideration where similar cases are decided.

Non-legally binding instruments (often referred to as "soft law") – such as declarations, resolutions, and recommendations adopted by the UN General Assembly and various international organizations and conferences – also contribute to the formation of international law, but indirectly. Even if not binding by their legal nature, resolutions and recommendations may have a "normative" (e.g. law-making) value. On the one hand, these acts can often serve as evidence of customary international

law, reflecting the views of states supporting them. On the other hand, such acts, by introducing certain rules of states' behavior, may act as a catalyst for the creation of emerging rules of customary or treaty law.

3. LAW OF TREATIES

Treaties have now replaced customary law as the primary source of international law. International treaties are considered to have many advantages over customary law. They provide a more clear manifestation of the legal undertakings made by states; their norms are more precise and easily accessible. They are able also to deal with questions of a highly technical nature (such as freshwater quality and quantity standards, norms of water abstraction, permissible levels of discharges and emissions, and so on).

Although a treaty may be known by different names – convention, agreement, protocol, charter, accord, and statute among others – its legal nature is always the same: these instruments are binding on the state parties and establish their respective rights and obligations, together with the "rules of the game" that govern their relations. As a general rule, a treaty applies only to those states that have expressed their consent to be bound by it. Depending on the number of parties involved treaties may be *bilateral* (two state parties), *multilateral* (more than two state parties) with limited participation (open for signature by a restricted number of countries), and universal (open for participation by all states).

Multilateral treaties, which are often called international conventions, are normally adopted by specially convened international conferences, usually under the auspices of the United Nations General Assembly or of specialized UN agencies. Among the most important are conventions that "codify" customary international law in particular fields of interstate relations or activities: the law of the sea, diplomatic and consular relations, and the law of the non-navigational uses of international watercourses, to name but a few.

The *1969 Vienna Convention on the Law of Treaties* codified and progressively developed the international law relating to treaties, namely the customary and other rules governing conclusion, implementation, interpretation, and termination of international agreements. Treaties are concluded, or become legally binding, only after a series of specific actions by the states that are party to them. The actions are designed to signify clearly the consent or agreement of states to be bound by their legal undertakings. The act of giving consent can be demonstrated by signing and, in the case of important treaties, through their subsequent ratification by states. In modern practice the ratification process is important and usually necessary since the constitutional law of most countries requires an elected representative body to formally approve the agreement before it becomes legally binding. States may also "accept" or "accede" to a treaty. Evidence of the approval (ratification, acceptance, accession) is contained in the formal communication of the state to the official depositary that administers the treaty. The date of signature and the date of the deposit of the "instrument of ratification" are legally significant. They signify the moment when the state's legal obligation is effective, provided that the treaty has entered into force.

The principle *pacta sunt servanda* – found both in customary law and the UN Charter – is a fundamental rule of international law that requires states to abide by the agreements they make. International agreements are binding and must be performed in good faith.

All disputes concerning the implementation, interpretation, or breach of an agreement must be resolved peacefully through a range of dispute settlement mechanisms available to states, both diplomatic (negotiation, mediation, fact-finding

and inquiry, conciliation, etc.) and legal (adjudication and arbitration), each of which will be analyzed in Part Three of this study.

4. INTERNATIONAL WATER LAW

International water law (also known as international watercourse law, international law of water resources) is a term used to identify those legal rules that regulate the use of water resources shared by two or more countries. The primary role of international water law is to determine a state's entitlement to the benefits of the watercourse (substantive rules) and to establish certain requirements for states' behavior while developing the resource (procedural rules).

The development of international water law is inseparable from the development of international law in general. Such fundamental principles and basic concepts as the sovereign equality of states, non-interference in matters of exclusive national jurisdiction, responsibility for the breach of state's international obligations, and peaceful settlement of international disputes equally apply in the area governed by international water law.

At the same time, this relatively independent branch of international law has developed its own principles and norms specifically tailored to regulate states' conduct in a rather distinct field: the utilization of transboundary water resources. The basic rules are: the right to use waters of the transboundary watercourse located in the territory of the state ("equitable and reasonable utilization"), and a correlative duty to ensure similar rights are enjoyed by co-basin states.

The law governing international watercourses has evolved through both custom (practice of states) and international treaties, and has been influenced by other "sources" of law: general principles of law, judicial decisions, and resolutions and recommendations of international organizations. The range of sources for international water law is too great to be comprehensively covered in this study, and thus, only the most important will be dealt with here.

5. CUSTOMARY RULES OF INTERNATIONAL WATER LAW

International customary law is the primary source of two fundamental obligations on states in terms of transboundary water resources: to use them in an "*equitable and reasonable*" manner, and to *avoid causing significant harm* to other riparian states. There have been several attempts to put these and other customary rules "on paper." The first such effort was made as early as 1911 by the Institute of International Law (IDI), an authoritative professional organization of international lawyers, in its Declaration of Madrid. Entitled "International Regulation regarding the Use of International Watercourses for Purposes other than Navigation," the Declaration proposed certain rules to be observed by riparian states while using a common watercourse. Fifty years later the IDI returned to the question of the non-navigational uses of international watercourses and adopted two resolutions: "On the Use of International Non-Maritime Waters" (Salzburg, September 11 1961) and "On the Pollution of Rivers and Lakes and International Law" (Athens, September 12 1979). The main emphasis of all three documents was on the equality of the riparian states' rights to utilize transboundary waters, subject to certain limitations imposed by international law.

A more sustained and detailed attempt to develop in a systematic way "a code of conduct" concerning transboundary water resources was made by the International Law Association (ILA), a professional non-governmental organization created in 1873 for the purpose of "study, elucidation and advancement of international law." In 1966, the ILA adopted the Helsinki Rules on the Uses of the Waters of International Rivers, a

comprehensive set of rules that codified and progressively developed the law governing utilization of the waters of international drainage basins. The ILA Helsinki Rules could be considered as a "statement of the existing rules of international law" at the time they were adopted. The most important among these was the cornerstone principle, according to which each international river basin state was entitled to an equitable and reasonable share in the uses of the waters of an international drainage basin (Article IV).

ILA Helsinki Rules

Article IV: "Each basin State is entitled, within its territory, to a *reasonable and equitable share in the beneficial use* of the water of an international drainage basin."

Since 1966, the ILA has adopted a number of resolutions that provide supplementary rules dealing with specific issues of transboundary water resources: flood control, international groundwaters, and regulation of flow, pollution, administration, and so forth, most of which are contained in their Campione Consolidation (ILA, 1999). Although the ILA resolutions are not legally binding they are widely acknowledged by many states and numerous international water resource experts to be an authoritative statement of the international law governing transboundary water resources.

6. JUDICIAL DECISIONS

International judicial decisions played a particularly important role in the evolution and clarification of the customary rules of international water law. On a number of occasions international tribunals were asked to settle disputes over transboundary waters between riparian countries. The most important judicial decisions by the World Court include:

RIVER ODER

In the 1920s the Permanent Court of International Justice (PCIJ), a predecessor of the International Court of Justice (ICJ), was called upon to resolve a dispute concerning navigational rights on the tributaries of the River Oder, which had been "internationalized" for the purpose of navigation after the First World War under the Treaty of Versailles. Although the Court was not asked to deal with the non-navigational uses, it introduced in its decision a relatively new notion – the *community of interest of riparian states* – which since has influenced the evolution of international water law.

RIVER MEUSE

In the 1930s, the PCIJ was again involved in resolving a water dispute, this time between the Netherlands and Belgium over the diversion of water from their transboundary Meuse river. The impact of the Court's decision on the evolution of water law was somewhat limited since it focused primarily on the questions of application and interpretation of the existing bilateral agreement, which established the regime governing diversions of water from the river. However, it is significant that the two countries agreed to submit their dispute to international adjudication.

RIVER DANUBE

The most recent, and probably the most important, dispute over water brought before the ICJ is the Gabčíkovo–Nagymaros case (also known as the Danube river case), involving Hungary and Czechoslovakia (at a later stage, Slovakia, as a successor state). The dispute arose over the implementation of the bilateral treaty concluded in 1977 with a goal of constructing a series of dams and barrages on a stretch of the

river crossing the territories of the two states, Hungary and Czechoslovakia. The project was conceived as a joint venture, with equal participation in terms of investment and sharing of future benefits, for the purposes of hydropower generation, and improving navigation and flood and ice control on the Danube river. The range of legal issues that the Court had to address was unprecedentedly broad: from the validity of international treaties, succession of states and international responsibility to environmental protection, and the law of international watercourses. In essence, the Court decided that both parties had acted unlawfully: Hungary by abandoning work on the project and unilaterally terminating the bilateral agreement, Slovakia by responding to Hungary's actions through diverting for its use and benefit between 80 and 90 percent of the waters from the part of the river that constituted the boundary between the two countries. The Court also upheld the legal validity of the 1977 treaty, which allowed the parties to adjust the project in order to address environmental concerns, and ruled that its purported termination by Hungary was ineffective. The joint operational regime of the entire project would have to be reinstalled, and the parties, unless they agreed otherwise, would have to compensate each other for the harm caused by their unlawful acts.

A number of *international arbitral decisions*, such as the Lake Lanoux case, have also contributed to the evolution of international law in this field. Others include, for example, the Helmand river delta dispute between Persia and Afghanistan over the delimitation of the boundary and the use of the river's waters, the San Juan river dispute between Costa Rica and Nicaragua, and the Zarumilla river dispute between Ecuador and Peru over the delimitation of their respective common boundaries.

National judicial decisions, although not a *source* of international law as such, can serve as models for the resolution of international disputes or be used to identify applicable general principles of law. This is especially true when considering decisions of the supreme courts that were called on to settle water controversies between different constituent units (states, länder) in federal states. The US Supreme Court, in particular, has greatly influenced the articulation of some of the fundamental rules of water law. The Court unequivocally endorsed the approach to water allocation based on the equality of rights of upper and lower riparian states: the former are not entitled to claim exclusive rights to use water only because it originates within their territory while the latter have no entitlement to undiminished stream flows. In resolving interstate conflicts over water sharing, the Supreme Court developed and applied the doctrine of "equitable apportionment," which eventually evolved into the international legal principle of "equitable and reasonable utilization."

7. TREATIES

International treaties are the primary instruments of cooperation in the field of water resource utilization as well as the most important source of international water law. More than 3,600 international agreements, bilateral and multilateral, that deal with water-related issues are known. The first general treaty dealing with international watercourses – the 1923 Geneva Convention relating to the Development of Hydraulic Power affecting more than one state – failed to achieve its objectives. It was ratified by only ten countries, none of whom had common borders.

However, there are a large number of multilateral – regional and basin-wide – agreements, the most significant being the *1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses* (1997 UN IWC Convention). Among the other important water treaties are:

- The 1969 Treaty on the River Plata (23 April 1969).

- The 1992 UN Economic Commission for Europe Convention on the Protection and Use of Transboundary Watercourses and International Lakes, concluded in Helsinki (1992 UN ECE Helsinki Convention).
- The 1992 Agreement on Cooperation in the Area of Joint Management, Utilization and Protection of Interstate Water Resources [in Central Asia] (1992 Central Asian Water Agreement).
- The 1994 Convention on Cooperation for the Protection and Sustainable Use of the Danube River (1994 Danube Convention).
- The 1995 Agreement on Cooperation for the Sustainable Development of the Mekong River Basin (1995 Mekong Agreement).
- The 1998 Convention on the Protection of the Rhine (1998 Rhine Convention).
- The 1995 Protocol on Shared Watercourse Systems in the Southern African Development Community (1995 SADC Protocol), to be superseded by the 2000 Revised Protocol on the Shared Watercourses in the Southern African Development Community (2000 SADC Revised Protocol).

Multilateral agreements usually establish a general legal and institutional basis for cooperation for either a particular region (Europe, Southern Africa, Central Asia), a river basin (Danube, Rhine), or a part of one (Mekong). They may have a form of a "framework" treaty (1992 Helsinki Convention), sometimes supplemented by additional instruments (such as the 1999 London Protocol on Water and Health to the 1992 Helsinki Convention). Or they may contain both general commitments and more specific rules and standards.

Examples of *bilateral* water-related treaties are numerous. Among the earliest was the 1909 Boundary Waters Treaty concluded between the United States and Canada (Great Britain), which created an International Joint Commission: one of the most successful models of bilateral cooperation. Many bilateral treaties, the primary purpose of which is to delineate international boundaries, also deal with the waters that are crossed by or constitute an international boundary (one example is the 1973 agreement between Czechoslovakia and the USSR on the regime of state frontiers and cooperation in frontier questions). Some bilateral agreements may also have a framework character, establishing certain general legal rights and obligations, and creating institutional mechanisms of cooperation for all transboundary waters (for example, the 1956 treaty between Hungary and Austria concerning the regulation of water economy questions in the frontier region, or the most recent agreement of May 24 2002 between Russia and Belarus on cooperation in the field of protection and rational use of transboundary water bodies). Finally, bilateral agreements are often concluded to regulate different activities on specific watercourses (such as the series of agreements between France and Switzerland concerning Lake Leman) or to implement certain joint projects (such as the 1977 treaty between Hungary and Czechoslovakia concerning construction of a system of locks on the Danube).

Thus, water treaties may be bilateral or multilateral; they may have a framework character governing all transboundary waters, or deal with a specific IWC or part of it; they may regulate a particular use, be project specific or be concerned with watercourse protection and pollution control.

8. THE 1997 UN INTERNATIONAL WATERCOURSES CONVENTION

Given the multitude and the variety of international agreements dealing with water resources, it may be surprising that the only global treaty in this area, the 1997 UN Convention on the Non-Navigational Uses of International Watercourses (1997 IWC Convention), was adopted fairly recently. The initial attempt to draft a treaty of

universal application to international freshwaters dates back to 1970, when the UN General Assembly asked its International Law Commission (ILC) to prepare a set of rules governing the non-navigational uses of IWC. The Commission, which consists of thirty-four international lawyers serving in their individual capacity and representing the major legal systems of the world, is a special UN organ entrusted with the codification and progressive development of international law. In 1994, the ILC adopted Draft Articles on the law of the non-navigational uses of international watercourses, following close to thirty years of work on the topic. This project went forward to the UN General Assembly and its Sixth (Legal) Committee, which provided the forum for negotiating and eventually adopting the 1997 IWC Convention.

1997 IWC Convention: controversial issues

- the effect of the Convention on existing and future agreements
- the relationship between "equitable and reasonable utilisation" and the "no harm" rule
- dispute settlement.

That the effort to codify the international law of water resources was a challenging task is evidenced by the time it has taken to come to agreement and by the differences in legal positions that had to be reconciled. Until the very last deliberations of the UN Working Group of the Whole in April 1997, it was uncertain whether or not states could reach agreement and adopt a universal convention. Seemingly irreconcilable views that had divided upstream and downstream countries in the past on the nature and extent of a state's right to use transboundary water resources resurfaced during the debate. The three central issues that dominated the UN debate included: a) the status of existing treaties and the effect of the convention on future agreements; b) the relationship between the "no harm" rule and the principle of "equitable and reasonable utilization," including environmental considerations; and, c) the provisions on dispute settlement.

Notwithstanding the serious disagreements that for some time threatened the negotiations, the text was finally agreed on by the majority of state representatives in the Sixth Committee and adopted by the UN General Assembly on May 21 1997. In favor were 104 states, with three against (Burundi, China, and Turkey), and twenty-six abstaining. To date, twelve countries have ratified the 1997 IWC Convention, and eight additional states have signed but not yet ratified it. To enter into force it needs to be ratified or approved by thirty-five states. Regardless of when and whether the Convention enters into force, it is clear that it will play a very important role in all relations involving watercourse states.

1997 IWC Convention

Ratified by: Finland, Hungary, Iraq, Jordan, Lebanon, Namibia, Netherlands, Norway, Qatar, South Africa, Sweden, and the Syrian Arab Republic.

Signed by: Cote d'Ivoire, Germany, Luxembourg, Paraguay, Portugal, Tunisia, Venezuela, and Yemen. (*September 2002)*

So as to better understand the significance of the 1997 IWC Convention and its potential role in preventing and resolving water conflicts, it may be worthwhile to give a snapshot of the conventional provisions with some in-depth discussion of the most important rules**.**

8.1. Scope

The 1997 IWC Convention applies to uses of IWC for purposes other than navigation, and to measures of protection, preservation, and management related to those uses. "Preservation" includes conservation, but does not extend to living resources unless these are affected by other uses. Navigation is covered only to the extent that it affects other uses or is affected by them. The term "international watercourse" is

UN IWC Convention

Article 2. Use of Terms: "Watercourse" means a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus."

defined as a system of surface and connected groundwaters located in more than one state. The 1997 IWC Convention does not govern the use of "confined" transboundary groundwater (also called "confined aquifers"): groundwater that is not related to an IWC. Although the International Law Commission had appended a draft resolution to the 1994 Draft Articles that formed the working document for the 1997 IWC Convention, the UN Working Group of the Whole did not accept this proposal. Thus, the international law that governs shared groundwater is uncertain. This is a serious shortcoming of the Convention, since a large portion of the world's freshwater is contained in shared aquifers. However, states were not prepared to accept that the rules that governed shared surface water should apply also to shared confined aquifers. (See Annex II: "Scope Defined in International Agreements.")

8.2. Substantive Rules

This term normally defines those customary or treaty rules that deal with the creation, definition, and regulation of rights and duties. The issue of "entitlement" is the fundamental issue. Entitlement is a legal right to use the waters of a shared watercourse located in the territory of a watercourse state. It deals with the question "*who* has a right to use *what* water." Ideally, a transboundary watercourse agreement should identify the entitlement of a state and apportion the beneficial uses of the resource among the watercourse states. In the absence of such an agreement, customary international law provides that each riparian or watercourse state has the right to an equitable and reasonable use of a transboundary watercourse located in its territory. Transboundary watercourse agreements may refer to the customary rule "equitable and reasonable utilization," or may provide for a quantified allocation such as a right to a specific amount of water (as was done under the 1996 Farakka Barrage Treaty between India and Bangladesh), or allocate rights to use waters of specific parts of an IWC system (1960 Indus Waters Treaty).

1997 IWC Convention

Article 5. Equitable and reasonable utilization and Participation*:*

"Watercourse states shall in their respective territories utilize 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 utilization thereof and benefits therefrom taking into account the interests of the watercourse states concerned, consistent with adequate protection of the watercourse."

Equitable and reasonable utilization is considered to be a statement of customary international law evolved from the practice of sharing IWCs, taken in part from the jurisprudence of federal states. This rule encompasses both a watercourse state's right to a share of the beneficial uses and benefits of an IWC, and the correlative obligation not to deprive other watercourse states of their right to an equitable utilization. It implies attaining an *optimal utilization*, securing the maximum possible benefits for all watercourse states and achieving the greatest possible satisfaction of all their needs, while minimizing the detriment to, or unmet needs of, each. "Equitable" utilization does not necessarily mean an equal portion of the resource or equal share of uses and benefits. The application of equitable and reasonable

Legal entitlement:

Who has a right to use *what* water?

1997 IWC Convention

Article 6. Factors relevant to equitable and reasonable utilization

"The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable use, *all relevant factors are to be considered together and a conclusion reached on the basis of the whole*."

utilization in a particular watercourse will not prohibit a use that causes damage unless it exceeds the limits of the using state's equitable share of the watercourse. An expert opinion is instructive of the difficulties encountered in applying the rule: "it could be argued that the rule is more a guideline – possibly due to a complex area in which engineers and economists play so large a role." (Lipper, 1967).

The primary substantive rules of the 1997 IWC Convention are found in Part II: General Principles. They include the governing rule of "equitable and reasonable utilization" (Article 5), and the obligation to take all measures necessary not to cause significant harm (Article 7). How states are to determine what is equitable and reasonable is explained in Article 6, which provides a non-exhaustive list of factors to be considered in the determination of an "equitable and reasonable use" (ILC Report, 1994). These factors cover two broad categories: (i) scientific (hydrographic, hydrological, climatic, ecological, factors of a natural character; effects of use on other watercourse states, existing and potential uses, conservation measures, and availability of alternatives), and (ii) economic (social and economic needs, population dependent on watercourse). An indication of how these factors are to be utilized is found in Article 6(3), which directs that "the weight to be given each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is an equitable and reasonable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole." Interestingly, this provision was added during the final stages of the multilateral negotiation in New York and comes directly from the ILA's Helsinki Rules. For more detail on the ILC's approach to this provision, see its Commentary to the provision contained in its 1994 Draft, which, although of no legal force, is an important tool for understanding the meaning of the provision. Similarly, the work of the ILC, including the reports of the Special Rapporteurs, offers important insights into the rule and demonstrates some of the controversies over the evolution of the rule.

The challenges with applying equitable and reasonable utilization in practice will be examined more closely in Part Four of this study. As a practical first step, however, the ILC suggests that a watercourse state should first attempt to determine its legal entitlement to the beneficial uses of an IWC in its territory:

> This process of assessment is to be performed, in the first instance at least, by each watercourse state, in order to assure compliance with the rule of equitable and reasonable utilization laid down in Article 5. . . . This provision means that, in order to assure that their conduct is in conformity with the obligations of equitable utilization contained in Article 5, watercourse states must take into account, in an ongoing manner, all factors that are relevant to ensuring that the equal and correlative rights of other watercourse states are respected."
>
> (ILC Report, 1994, p. 100.)

The primary rule of "equitable and reasonable use" requires consideration of "all relevant factors" as they may arise in the context of new or increased uses. Thus, factors such as vital human needs, in-stream flow requirements, pollution harm, sustainable development requirements and so forth, are all part of the calculus. The Convention imposes on the states parties an obligation to "protect and preserve the

1997 IWC Convention

Article 20. Protection and preservation of ecosystems

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

ecosystems" (Article 20) of international watercourses and to "prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse states or to their environment, including harm to human health or safety, to the use of the waters for any beneficial purpose or to the living resources of the watercourse" (Article 21). The operationalization of the principle of equitable and reasonable utilization in each particular case requires that these environmental factors be considered – the extent to which such elements will be controlling will depend on the circumstances of each particular case. (See Annex III: Relevant Factors Matrix.)

8.3. Procedural Rules

1997 IWC Convention

Article 8. General obligation to cooperate:

"Watercourse states *shall cooperate* on the basis of sovereign equality territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse."

The duty to cooperate embodied in the 1997 IWC Convention serves as a bridge between its substantive and procedural rules. To properly realize the rule of equitable and reasonable utilization, certain mechanisms of cooperation are necessary, including the prior notification of planned measures, the exchange of information, consultations, and in certain instances negotiations.

What rules must watercourse states follow when they plan new works on international waters? In Part III "Planned Measures," the Convention sets forth a number of procedural rules to be followed by states when they seek to undertake new works. In the first instance, states must on a regular basis exchange readily available data and information on the condition of the watercourse, in particular that of a hydrological, meteorological, hydrogeological, and ecological nature and related to the water quality, as well as related forecasts (Article 9(1)). In the event of a planned measure, states are required to "exchange information and consult each other and, if necessary, negotiate on the possible effects of planned measures on the condition of an international watercourse" (Article 11).

For planned measures involving works that could significantly affect other states, the procedural requirements are more stringent. Part III contains detailed procedures aimed at determining whether or not a proposed measure should go forward. The notified watercourse state has a fixed period within which to reply, informing of its opinion with respect to the proposed measure. Where no response is received, and the notifying state is confident that its planned measure complies with the rule of equitable and reasonable utilization, it can proceed. Where the notified state objects to the planned measure, consultations are required, with a view to seeking a solution that is equitable and reasonable. However, no state has a veto right over the development activities of another watercourse state. Neither can planned measures be

1997 IWC Convention

Article 12. Notification concerning planned measures with possible adverse effects

Before a watercourse state implements or permits the implementation of planned measures which may have a significant adverse effect [on other watercourse states], it shall provide those states with timely notification thereof. Such notification shall be accompanied by available technical data and information, including the results of any environmental impact assessment, in order to enable the notified states to evaluate the possible effects of the planned measures.

implemented without meeting notification and, if necessary, consultation requirements established by the procedural rules.

8.4. Institutional Mechanisms

Under the UN IWC Convention, states are encouraged to create institutional mechanisms, but not obligated to do so. This is consistent with the aims of a framework agreement, although states were divided on how explicit this provision should be. In international practice, states appear willing to embrace a range of institutional mechanisms, from the Meeting of the Parties (MOP, in the 1992 Helsinki Convention), to the establishment of joint commissions (IJC in the 1909 Canada–United States Boundary Waters Treaty), to the establishment of specialized dispute settlement tribunals (e.g. the Tribunal set up in the 1995 SADC regime). These are discussed in more detail in Part Four of this study. Suffice it to emphasize at this point the very important role of institutional mechanisms in the PCCP cycle, as evidenced in the majority of state practice involving transboundary waters.

1997 IWC Convention

Article 24. Management

"Watercourse states shall, at the request of any of them, enter into consultations concerning the management of an international watercourse, which may include the establishment of a joint management mechanism."

8.5. Dispute Settlement

Despite significant controversy over whether or not it was appropriate for a framework convention to contain dispute settlement provisions, Article 33 – the compromise formula eventually adopted – offers a range of dispute resolution mechanisms. States are free to select the means through which to settle their differences, including negotiation, good offices, mediation, conciliation, joint watercourse institutions, and so forth. However, if these attempts fail, any state to the dispute can unilaterally invoke the compulsory fact-finding procedure provided for under Article 33.

In its final form, Article 33 reflects a certain compromise between the two views. Nonetheless a number of states found it necessary to clarify their positions regarding the provision during the UN plenary session that adopted the Resolution. Some states, notably China, India, Israel, and Rwanda did not support Article 33 because in their view it went too far in establishing mandatory dispute settlement. China and India

1997 IWC Convention

Article 33. Settlement of Disputes

1. In the event of a dispute between two or more Parties concerning the interpretation or application of the present Convention, the Parties concerned shall, in the absence of an applicable agreement between them, seek a settlement of the dispute by peaceful means in accordance with the following provisions.
2. If the Parties concerned cannot reach agreement by negotiation requested by one of them, they may jointly seek the good offices of, or request mediation or conciliation by, a third party, or make use, as appropriate, of any joint watercourse institutions that may have been established by them or agree to submit the dispute to arbitration or to the International Court of Justice.
3. . . . If after six months from the time of the request for negotiations . . . the Parties concerned have not been able to settle their dispute through negotiation or any other means . . . the dispute shall be submitted, at the request of any of the parties to the dispute, to *impartial fact-finding.* . . .
4. A Fact-finding Commission shall be established, composed of one member nominated by each party concerned and in addition a member not having the nationality of any of the parties concerned chosen by the nominated members who shall serve as Chairman.

voted against the Resolution primarily owing to their dissatisfaction with its dispute settlement provisions. Turkey took the position that it was unsuitable for a framework instrument to contain any provisions relating to dispute resolution. On the other hand, some states, such as Pakistan, Switzerland, and Syria, were unhappy with Article 33 because in their view it was not strong enough. The extent of disagreement of states demonstrates the importance they attribute to the process associated with water-related disputes.

The so-called "fact-finding" mechanism resembles conciliation, since the Fact-finding Commission's task includes providing "*such recommendation as it deems appropriate for an equitable solution of the dispute*." The major difference between fact-finding and the other means of dispute settlement under the convention is that the fact-finding procedure can be invoked by any of the parties, while recourse to mediation, conciliation, arbitration, or adjudication requires the consent of all the parties concerned.

Arbitration and adjudication are also optional and need the agreement of all parties to the dispute. An annex to the convention sets out the procedure for arbitration, which generally follows an established pattern. The panel is composed of three members, two nominated by the parties and a chair selected by the nominated arbitrators. Where there is more than one "party in the same interest," the parties nominate an arbitrator jointly. Applicable law is the convention and "international law." The panel may recommend "essential interim measures of protection." Proceedings are confidential, and the parties share the costs equally. The tribunal has a right to consent to intervention by parties with a legal interest in the dispute. The panel must give its decision, stating the reasons, and any dissenting opinions, within five months of being fully constituted, or within a maximum of ten months. The decision is final and binding unless the parties agreed in advance to an appeal procedure.

Despite the fact that the convention's fact-finding mechanism has not yet been tested, it appears well suited to the particularities of water-related disputes, as demonstrated by the substantial domestic practice in the United States and India, which each have a long history of resolving interstate controversies over water (Sherk, 2000).

1997 IWC Convention

Article 33. Settlement of Disputes

8. The Commission shall adopt its report by a majority vote, unless it is a single-member Commission, and shall submit that report to the parties concerned, setting forth its findings and the reasons therefor and *such recommendation as it deems appropriate for an equitable solution of the dispute*, which the Parties concerned shall consider in good faith.

9. SUMMARY

This part has presented a general overview of international water law. International water law is a part of international law and along with its general principles provides more specific rules, which have their origins in both international custom and treaty law. The most important international water-related treaty is the 1997 UN International Watercourses Convention. Its main elements were examined under the headings of "scope," "substantive rules," "procedural rules," "institutional mechanisms" and "dispute settlement," as the background for the more detailed analysis of state practice that follows in Parts Three and Four. Part Three examines how water conflicts are transformed into cooperative frameworks, with an emphasis on actual case studies. Part Four sets forth the issues related to the design and implementation of watercourse agreements, as a catalyst for conflict prevention and instruments of cooperation.

PART THREE: TRANSFORMING CONFLICT INTO AGREEMENT: MEANS AND MECHANISMS

1. WATER CONFLICTS: AN OVERVIEW

In order to ensure a better understanding of the dynamics and legal intricacies of the PCCP cycle, this part of the study will first address the concept of "conflict" in international law. The primary focus here will be on the issue of "water conflicts," their principal causes and exigencies. The discussion will provide an insight into how various diplomatic and legal techniques of conflict resolution have been used in the past, and will thus inform the process of determination and selection of the optimal conflict resolution mechanisms to be employed in possible future arrangements.

Despite the fact that the only recorded war with water as its principal cause happened some 4,500 years ago, disputes over international waters are both common and current. The most recent examples include the increasing tension over shared water resources between Pakistan and India, and between Israel and Lebanon. The dispute between Pakistan and India regarding Jammu and Kashmir has been aggravated by the controversy over the Indian Baghliar hydroelectric project on the Chenab river, one of the rivers of the Indus Basin. Pakistan wants the matter to be referred to the "neutral expert" provided for in the Indus Waters Treaty. Some Indian legislators argued in favor of abrogating this treaty altogether.

Israel has been threatening military action against Lebanon over the latter's use of the Wazzani, a tributary to the Jordan river. Israel strongly opposes Lebanon's pumping of an additional 4 million cubic meters, for a total of about 10 million cubic meters per year, to supply drinking water to its border villages. It is noteworthy that in both cases the parties to the dispute invoke the rules of international law in support of their respective positions.

Singapore and Malaysia for years now have been locked in dispute over the two water agreements concluded at the time of separation: the 1961 Tebrau and Scudai Water Agreement, and the 1962 Johor River Water Agreement, which allow Singapore to draw up to 330 million gallons a day (mgd). Both countries have been embroiled in a controversy concerning the price Malaysia receives from Singapore for raw water and pays for treated water. In August 2002, Niger and Benin agreed to bring to the International Court of Justice (ICJ) their territorial dispute involving a boundary river.

Disputes over water may have various causes. Usually, problems arise where there is insufficient water to meet existing or new needs. A "conflict-of-uses" situation often arises where the quantity or quality of the water is such that competing demands of watercourse states clash with each other.

The most typical scenarios of "conflict-of-uses" are described below.

1.1. Conflict Between Existing Uses

Different scenarios may lead to such a conflict. The most typical is when an aggregate demand on water by different users and uses of a shared watercourse exceeds the total volume of available water. In some extreme cases this can result in a situation where not only are some users, usually downstream, prevented from enjoying their fair share of the beneficial uses but also the water resource itself (a river or an aquifer) is threatened by over-exploitation. In the Aral Sea basin, the removal of water for irrigation from its two main rivers – Amu-Darya and Syr-Darya – reduced the annual water inflow into the Sea from approximately 69 km^3 in the 1960s to about 5 km^3 in the late 1980s. Unsurprisingly, the population in the low reaches of the two rivers in Uzbekistan and Kazakhstan, as well as the Sea itself, suffered the most.

A conflict between existing uses may arise from a significant seasonal demand variance. This is the main cause of ongoing controversy in the Syr-Darya river basin between Kyrgyzstan, an upstream country, and its two downstream neighbors, Uzbekistan and Kazakhstan. The current system of transboundary water resources management, which gives priority to irrigated agriculture downstream, was inherited from the former Soviet Union. This was possible because the centralized Soviet planning system compensated upstream countries for releasing impounded water for agriculture by providing fuel and energy supplies. Hydropower generation played a subordinate role. Since independence, this system has been replaced by an ad hoc water distribution and water/energy exchange mechanism, whereby the upstream states are to be compensated by their downstream neighbors for limitations on hydropower generation in winter to maximize the volumes of water available for irrigation in the summer. However, this mechanism (provided for under the 1998 Agreement on Use of the Water and Energy Resources of the Syr-Darya River Basin) has failed to achieve unreservedly its stated objectives. On a number of occasions Kyrgyzstan was compelled to release water in order to produce hydropower during winter seasons, thus not only reducing the amount of water available for irrigation but also causing floods in the downstream regions.

A conflict of uses often results from the discharge of pollutants, which can also be considered as one of the in principle allowable uses of a watercourse that affects other users and uses. Changes in natural conditions, such as a drought leading to a diminished flow of water, may also bring existing uses into conflict.

In this respect a question may arise as to *what uses are allowed*? Allowable uses, as defined by the UN International Law Commission, are all uses "in the broadest sense." It is generally accepted that unless states agree otherwise, *no use has an inherent priority over another*, which also applies to navigation. However, there are examples when watercourse agreements establish prioritized lists of protected uses, as was done in the 1909 Canadian–US Boundary Waters Treaty (BWT). It is noteworthy that the 1909 Treaty sets the "ordinary use for domestic and sanitary purposes" outside the treaty regime, meaning that such uses are allowed first call on the water without the consent of the International Joint Commission.

Increasingly international water law, in the first instance the 1997 IWC Convention, singles out "*vital human needs*" as a special category of uses that should be given a sort of priority over other uses. The 2000 SADC Revised Protocol refers to "domestic use," defining it as the use of water for drinking, washing, cooking, bathing, sanitation, and stock watering purposes. Priority is accorded to those uses needed to meet *vital human needs*. This can be justified on both ethical and economic grounds. First, it is recognized that such uses consume a relatively insignificant amount of water, when considered in the context of the basin overall. Second, vital human needs have to be met in order to sustain and preserve human life itself, which should give them automatic priority *vis-à-vis* other competing uses.

> Water for *vital human needs* is "drinking water sufficient to sustain human life and water required for the production of food in order to prevent starvation." *(Statement of Understanding pertaining to the text of Article 10, 1997 UN IWC Convention)*

A different kind of conflict may arise in a situation where the total sum of existing uses exceeds the bearing capacity of a watercourse: a conflict between human consumption and the environment. *Ecological* use, as a special sort of water "use," is gradually being recognized in international law as having a certain priority over other demands on water: "no river, no water." Provisions requiring the preservation of "minimum stream flows" can be found in some recently adopted international treaties (1995 Mekong Agreement, 1998 Convention on the Portuguese–Spanish River Basins). In Central Asia, along with the five basin states, the Aral Sea,

including the deltas of the inflowing rivers, has been designated as a "water user," entitled to a certain share of limited water resources of the region.

The maintenance of a minimum stream flow protects the ecological, chemical, and physical integrity of an international water resource. This is not incompatible with, and is subject to, the primary international water law rule of "equitable and reasonable utilization." The beneficial uses of in-stream flows include: maintenance of fisheries and other aquatic life; drinking water; and maintenance of estuaries and of river channel integrity. The quantity of water in a transboundary resource is causally related to other beneficial uses, if any of the above beneficial uses is affected by a diminution of the flow.

To sum up, in all cases when a conflict of uses arises, adjustments or accommodations may be required under the rule of equitable and reasonable utilization to preserve each state's right to an equitable share of the beneficial uses of the transboundary watercourse. This is usually achieved through special agreements between riparian states.

1.2. Conflict Between Existing and New Uses (Planned Measures)

This is another typical situation where existing uses are threatened either by their increase by one or more watercourse states or by new proposed activities, the so-called planned measures, defined broadly to include "new projects or programs of a major or minor nature, as well as changes in existing uses of an international watercourse." Such new activities may and often do interfere with existing uses. Again, the conflict of uses must be resolved on the basis of equity.

Existing uses do not enjoy automatic protection; international water law does not recognize the right of "prior appropriation" or any "vested" or "historic rights" with respect to transboundary water resources. Present uses by one watercourse state may even become inequitable if, in the light of changing circumstances, their continuation prevents another watercourse state (or states) from equitably sharing the benefits of the water resource utilization. An existing use is legally protected only so long as "the factors justifying its continued existence are not outweighed by factors showing desirability of its modification or termination" (ILA commentaries to the 1966 Helsinki Rules).

1.3. Conflict Over Future Uses

Should water resources for possible future needs of a co-riparian be set aside? This frequently asked question must be answered in the negative: a state may not "reserve" water for future use. Possible future uses should be distinguished from *planned measures***.** The latter are certain works that will occur if permissible; the former are uncertain and not concrete proposals. In fact, a conflict may arise if a state that currently has no immediate need to utilize a transboundary water resource insists on preserving its "share" of the water for the future, where other beneficial uses are adversely affected as a result.

International practice does not accept a "reservation" of water for uncertain future needs, even if a state has a right to an equitable share of the water resource. To do so would preclude other states from beneficially using the "reserved" waters not currently required by the first state. In situations where water resources are scarce and in great demand, this could be wasteful and unjust. Thus, the mere possibility of a future claim cannot prevent the continuance of an existing use. On the other hand, the fact that a riparian state does not presently use its "share" of water resources does not prejudice its right to claim it in the future. Otherwise, the first user would be granted a vested right in all the waters it is currently using.

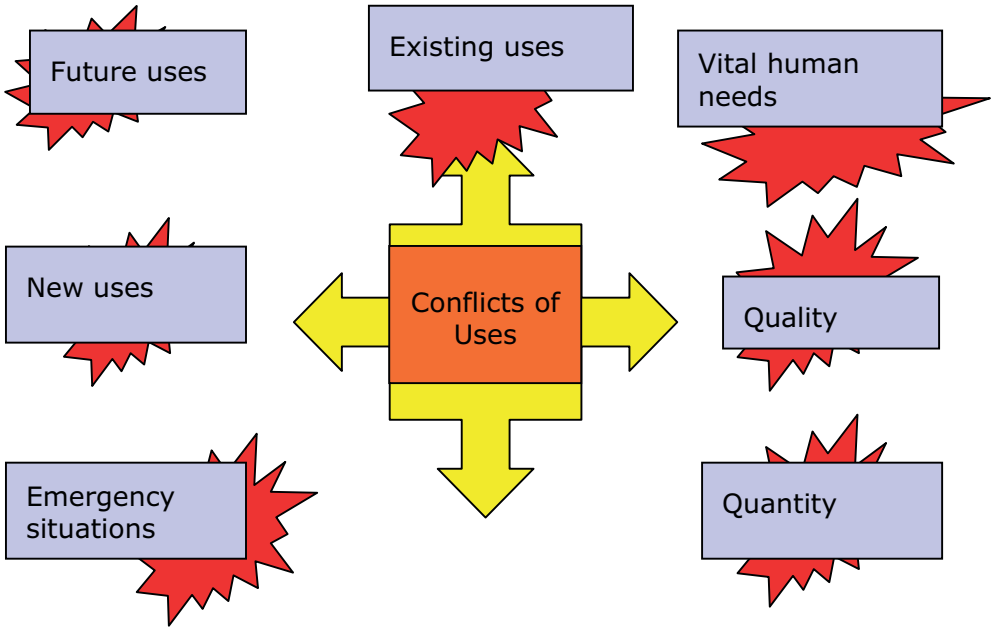


Figure 4. Water conflicts of use

1.4. Conflict as a Result of Emergency Situations

Emergency-related conflicts may arise as a result of industrial accidents or natural disasters (such as floods) if they are related to human activities. One such example is the Baia Mare gold mine tailings dam collapse in Romania, which caused the spillage of 100,000 cubic meters of cyanide containing waste into the Lapus–Tisza–Danube rivers system and affected downstream countries, first of all Hungary and Serbia. Disasters may be caused by the release of excessive amounts of water from upstream reservoirs, especially when combined with natural floods. Recently, floods have been caused downstream in the Syr-Darya river basin by significant discharges of water for hydropower production from the upstream reservoirs. States in general have a duty to cooperate in dealing with water-related emergencies. They must notify each other if there are reasons to believe that an emergency may cause harm to other riparian states. However, there is no international customary legal obligation that would require a state to prevent or mitigate natural conditions on its territory, which contribute to naturally occurring hazards, such as flooding.

2. "WATER CONFLICTS" AND "WATER DISPUTES": LEGAL DEFINITION

The PCCP project has adopted the term "conflict" as an all-embracing notion covering the entire spectrum of possible situations where the interests of states may collide: from minor differences in opinion to the other extreme of situations of tension and hostility that may threaten international peace and security. While not entirely averse to the notion of "conflict" as a generic conceptual underpinning of the discourse involving all relevant disciplines, international law traditionally uses the word "dispute" as a term of art. It should be noted, however, that these two terms are inextricably linked. Law dictionaries typically define the term "dispute" as a "conflict or controversy; a conflict of claims or rights" (e.g. Black's Law Dictionary, 4th ed., 1951).

Although this study does not purport to provide the ultimate definition of the term "water dispute," certain comments may be appropriate in order to establish a

context for further discussion. First of all, properly defining the term "dispute" is not simply a matter of semantics but may have serious legal implications. In some cases the existence of the dispute must be established prior to the activation of certain means of peaceful settlement, such as international adjudication. However, even among international lawyers there remains some disagreement over the precise meaning of this term.

International treaty practice is not consistent in its use of terms and thus is not very helpful. One international agreement refers to the "questions or matters of difference" (1909 BWT), another to "differences or disputes" (1995 Mekong Agreement), a third distinguishes between "questions," "differences" and "disputes" (1960 Indus Waters Treaty) without defining them. The World Court's opinion on what constitutes an international dispute may be of some help. In the PCIJ decision in the Mavrommatis Palestine Concessions case the term "dispute" was defined as "a disagreement on a point of law or fact, a conflict of legal views or of interest between the parties." Yet, even this definition is far from precise and can be interpreted broadly enough to include any kind of interstate controversy. It has been argued that in order to be resolved by reference to international law the dispute must be "justiciable." A mere conflict of interests between states, as distinct from a conflict over their respective rights, may make the dispute "non-justiciable."

Thus, the distinction is often drawn between legal disputes (primarily involving legal issues) and any other kind of dispute. This distinction may be of importance in cases involving international judicial procedure. In certain situations an international tribunal may be unable to resolve a dispute because such a dispute is not capable of being settled by the application of principles and rules of international law, or in other words be unsuitable for adjudication. This, however, does not mean that disputes (even "non-justiciable") cannot be resolved through other means of peaceful settlement, including involvement of a third party.

Second, it is important to recognize that not all conflicts or disputes involving water should be regarded as "water disputes." They can hardly include controversies where water is an *instrument* of conflict rather than its *object.* It is doubtful whether intentional or inadvertent destruction of water supply facilities, dykes, or other water infrastructure during an armed conflict will make this conflict "water related." The same can be said about territorial disputes regarding boundary rivers, so long as they do not involve questions of water utilization. Disputes over navigation are also of limited relevance, except in situations where other water uses either affect navigational uses or are affected by them.

Thus, for the purpose of this study the term "water dispute" will be limited to those conflicts involving the use of transboundary water resources, both surface and ground waters. However, it will be treated broadly enough to cover any conflict of views or of interests that takes the form of opposing claims between the states involved, "justiciable" as well as "non-justiciable" disputes, which can be resolved through all available means of dispute settlement.

3. TRANSFORMING CONFLICT INTO COOPERATION: MECHANISMS

Where a water dispute arises, the watercourse states are expected to resolve it in such a way as to achieve an equitable result. In order to do that, they have to go through a process of reconciling their opposing views and conflicting interests in order to find some middle ground. Ideally, the ultimate outcome of this process should be a mutually acceptable and long-term solution that will form the basis of future cooperation. Another option, less attractive than the first but still preferable to the

continuation of the conflict in perpetuity, is a temporary compromise helping to prevent the intensification of the controversy.

It has been suggested that three distinct phases in any water conflict could be identified: *conflict creation, conflict management*, and *conflict resolution.* In the first phase the focus should be on diagnosis, anticipation, and prevention, including problem architecture and fact-finding. The second phase requires the development of confidence and trust. The third phase involves consensus building and depolarizing of conflicting interests.

International practice has developed a range of mechanisms – both "diplomatic" and "legal" (judicial) – which states have used extensively to settle their controversies over different matters, including water. Article 33 of the UN Charter contains an extensive but not exhaustive list of dispute settlement techniques available to states. These include negotiation, inquiry, mediation, conciliation, arbitration, judicial settlement, and resort to regional agencies or arrangements. If a conflict arises, states must refrain from any action that may aggravate the situation so as to endanger the maintenance of international peace; they must cooperate with one another, and settle disputes on the basis of the sovereign equality and in accordance with the principle of free choice of means.

UN Charter

Article 33 contains an extensive but not exhaustive list of dispute settlement techniques available to states. These include negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, and resort to regional agencies or arrangements.

As will be seen later, the array of dispute settlement means is very broad, and it is up to the states themselves to decide which of these mechanisms they employ. The choice of the means of dispute settlement may depend upon many factors: the nature of the dispute (e.g. technical or legal or a bit of both, as is usually the case), the existence or lack of previous agreements between the parties, the history and character of their relations in general (friendly or hostile), even the cultural traditions of individual nations and regions. Some water controversies required the conflicting states to pass through a number of dispute settlement mechanisms, in escalating order, before a solution was reached, as in the Danube river case. The next part will review those mechanisms and provide a summary of how they work.

3.1 Negotiation

Negotiation is the means of dispute resolution most often employed by states when trying to resolve any international conflict, including those over transboundary water resources. Depending on the issues at stake and the number of states involved, *negotiation* can take different forms, from bilateral talks and diplomatic correspondence to an international conference. It can be used at all stages of the conflict. Diplomatic negotiations are sometimes preceded by the meetings of experts (such as the "Picnic Table Meetings" between Israeli and Jordanian water experts prior to formal negotiations). It has been suggested that where an impasse in negotiation exists, states may consider separating the question into component parts or agreeing to a procedure to solve the problem rather than a definitive settlement of the legal interest.

Negotiation was used at the outset and in ongoing attempts to finally resolve the Danube river dispute between Hungary and Slovakia. Israel and Jordan negotiated their peace treaty,

Negotiation

The Parties to the dispute in the *Gabčikovo-Nagymaros* case are actively involved in confidential negotiations following the ICJ orders to do so, and Slovakia's request to submit the dispute again to the ICJ. (*Communication from Information Officer, ICJ, May 30 2002*).

including its water-related provisions, in two parallel arenas: multilateral, which involved representatives of other interested states, and bilateral. Multilateral talks were not aimed at resolving the dispute but rather at enhancing the environment for the bilateral negotiations, although with mixed results (Jordan River Case Study, Part II).

Formal negotiations may sometimes be preceded by *consultations*, which usually involve the exchange of views and information. Consultation is normally an ad hoc procedure, but it also can be provided for in the watercourse agreement, either within an institutional mechanism or as a bilateral dispute prevention and resolution tool. Consultations are usually envisaged with regard to planned measures that may affect the interests of other watercourse states. "Prior consultations" allow the parties concerned to jointly discuss and evaluate the impact of the proposed activity on their uses of water. As a mechanism of conflict prevention, consultation creates an opportunity for project adjustment and accommodation before plans proceed. The 1997 IWC Convention contains more than a dozen provisions that recommend consultation.

The Nile River Basin Initiative can be considered as an ongoing multilateral consultation. Its components include the outputs of the series of meetings, the work of the panel of experts entrusted with advising on the elaboration of the Nile river basin cooperative framework, and a series of conferences held in each of the ten basin countries. The process brings together experts from the Nile river basin as well as international and external support agencies and helps the participants to exchange views and opinions on these countries' positions and plans concerning water resources of the basin. The purpose of this process is to foster basin-wide cooperation and to contribute to confidence building, with an ultimate goal of reaching a formal agreement on the sustainable and equitable utilization of the Nile waters.

Bilateral negotiation may not always be the most effective way of resolving disputes, especially where the parties are unequal. One party may deny that a dispute exists, advance unreasonable claims or drag its feet. Parties may have uneven bargaining powers or unequal legal and technical expertise in the matters involved. In such cases impartial third-party involvement may be the only viable solution. Negotiations are considered merely as the first step that states usually take in resolving their dispute. If they fail or if the parties are unable to enter into negotiations altogether, other means of dispute settlement are available to them, and all are based on the involvement of a neutral third party. It has been reported that in November 2002 Malaysia decided to stop negotiations with Singapore for a price review of water supplied to Singapore and is to seek legal recourse in resolving the controversy.

> "The go-between wears out a thousand sandals."
> *(Ancient Chinese proverb)*

3.2. Good Offices and Mediation

A third party offering good offices to the conflicting states acts a 'go-between' in order to persuade them to enter into negotiations. Neutral states, joint bodies, and international organizations, as well as individuals, can offer good offices. Once the negotiations have started, the functions of good offices are usually deemed to be completed.

The World Bank initially offered its good offices to India and Pakistan in their conflict over the Indus river waters. As will be seen later, its role gradually extended to a more dynamic and in many respects decisive involvement in the resolution of the dispute.

Mediation, as compared with good offices, is a step towards more active third-party participation in the negotiations. A mediator provides assistance to the disputing

Good Offices in the Indus River dispute

In 1951 President Black of the World Bank offered the Bank's "good offices for discussion of the Indus water dispute and negotiation of a settlement." Both parties had to accept three preliminary conditions:

- The Indus water resources are sufficient to meet all existing uses and future needs.
- The water resources should be cooperatively developed and used to promote economic development; the basin was to be viewed as a unit.
- The problem should be solved on a functional, not political plan, independent of past negotiations, claims, and political issues.

parties in finding a solution. The Israeli–Jordanian bilateral negotiations were combined with informal discussions where the American and Russian diplomats acted as "sponsors" and "facilitators," or in other words mediators. The facilitators made an effort not to impose their solutions and remain "honest brokers," from which one or both sides from time to time sought informal help.

In the Danube river dispute between Hungary and Slovakia, the Commission of the European Communities offered to mediate when the parties failed to resolve their disagreements on the future of the project through bilateral negotiations. The preliminary agreement of the conflicting states to mediation is not mandatory; but without their consent mediation will never be successful. It is not unusual for the mediator not only to facilitate the discussion but also to suggest the terms of settlement. The boundaries between good offices, mediation, and conciliation are sometimes blurred, and one procedure can often lead to another. The World Bank's role in the Indus river dispute is a good example of such escalating involvement. In that case the World Bank's participation increased to the point that it was actively involved in finding a solution by providing significant financial assistance to the parties on condition of their consent to the terms of settlement. The World Bank drafted and brokered the final agreement, which was signed by the heads of the two states and by the President of the World Bank with respect to certain provisions of consequence for the Bank. As has been reported, in December 2002, for the first time since the conclusion of the Indus Waters Treaty, Pakistan formally contacted the World Bank, seeking its help as a guarantor and broker of the treaty. The Bank was asked to intervene and assist in finding a solution to the ongoing dispute with India regarding the construction of the Baghliar Hydropower Project.

3.3. Inquiry and Fact-finding

Many international disputes arise from disagreements on questions of fact. *Inquiry and fact-finding* are procedures specifically designed to produce an impartial finding of disputed facts. The ILC study of legal issues concerning dispute prevention and resolution established that fact-finding, as a course of action, will frequently resolve a dispute before any binding process is necessary. Fact-finding, or inquiry, allows states to refer questions to panel of experts for impartial third-party investigation of factual or technical matters before diplomatic negotiations. Under the 1907 Hague Convention for the Pacific Settlement of International Disputes, a commission of inquiry can be established "to facilitate a solution . . . by means of impartial and conscientious investigation." But its role is limited to providing "a statement of facts," which should not have the character of an award.

"The theory that genuine *inquiries* (restricted to *fact-finding*) do not meet with the reluctance of states to allow interference with their sovereignty to the same extent as inquiries combined with elements of conciliation has not been confirmed by international practice during the last eighty years."
(K.-J. Partsch, in Malanczuk (7^{th} ed.) p. 278.)

Examining issues initially at the technical level often through joint institutions (made up of the representatives of basin states) is advantageous because experts in the field are reporting and making recommendations, minimizing the potential adverse impact of political factors and considerations. The Canada–US International Joint Commission has successfully used this approach on numerous occasions. When confronted by controversial issues of water utilization or pollution that require technical expertise, the two governments usually refer them to the IJC. The Commission's course of action is to appoint a technical advisory board of experts to collect the necessary data, study the problem, and recommend solutions. Thus, as early as in 1912, the IJC was asked to investigate and report on the scale of pollution of boundary waters causing harm to public health and to recommend means of remedying it. In the late 1980s, when a Canadian company's proposed mining project in the upper reaches of the Flathead river met serious objections from the downstream users in the United States, the IJC, at the request of the two governments, created a Study Board to assess the project and its possible implications. In that case the IJC based its decisions against the project on the technical assessment of its Study Board. One of the features of the fact-finding process under the IJC is that investigation is usually accompanied by public hearings, which allow the Commission to verify the technical board's findings prior to finalizing its own report and recommendations.

The Danube river dispute offers another example where the fact-finding procedure was used extensively to assist the disputing parties. Hungary and Slovakia agreed in 1992 to establish a fact-finding commission that included the Commission of the European Communities. The commission was asked to report on "Variant C" (a provisional solution proposed by Slovakia), convene an independent group of experts to report on emergency measures, establish and implement a temporary water management regime for the Danube, and agree the terms of the submission of the dispute to the International Court of Justice.

Agreement was reached to establish a tripartite group of experts. The group included one expert from each state and three experts from the Commission of European Communities. The group was requested to provide reliable and undisputed data on the most important effects of the water discharge and the remedial measures already undertaken, as well as to make recommendations for appropriate measures. Although the experts designated by the Commission recommended several measures, the parties could not agree on them. Negotiations continued and eventually the parties reached an agreement "Concerning Certain Temporary Technical Measures and Discharges in the Danube and Monsoni Branch of the Danube." Being unable to resolve their dispute finally through negotiations and mediation, they agreed to submit the case to the International Court of Justice.

The 1997 UN IWC Convention has no binding dispute resolution mechanisms (such as arbitration and adjudication, which are optional), but does include a compulsory fact-finding procedure, which can be invoked at the request of any state party to the convention, following failed negotiations (Article 33).

3.4. Conciliation

In *conciliation*, an impartial third party is requested by the conflicting states to help them resolve the dispute by examining the facts and suggesting the terms of a settlement likely to be acceptable to them. Thus conciliation may combine elements of mediation and inquiry. However conciliation is a more formal procedure, usually performed by a commission of the representatives of the parties to the dispute as well as independent nationals of other states. A sole conciliator may also carry out conciliation. The conciliator seeks to establish objectively the facts and applicable law in a dispute through independent investigation, which is followed by reporting of

findings and recommendations to the parties, who may accept the recommendations or chose another form of dispute settlement. There are a number of models of conciliation that states may adapt to their particular circumstances, including that proposed in the ILA 1966 Helsinki Rules. (Article XXXIII and Annex, 1966 Helsinki Rules. Annex, Model Rules for the Constitution of the Conciliation Commission for the Settlement of a Dispute). In fact, the fact-finding procedure contained in the 1997 UN IWC Convention is close to a conciliation process, since it provides for the rendering of a recommended solution to the dispute.

> *Conciliation* "is a process of formulating proposals of settlement after an investigation of the facts and an effort to reconcile opposing contentions, the parties to the dispute being left free to accept or reject the proposals formulated"
> *Judge Manley Hudson (1944)*

3.5. Institutional Mechanisms

Transboundary water controversies and disputes are often resolved under the auspices of various international organizations and bodies, such as river basin commissions established by multilateral or bilateral agreements. A number of such mechanisms have been created for individual river basins or watercourses. Thus, the Canada–US International Joint Commission (IJC) includes among its responsibilities reporting on the findings of joint studies and recommending decisions on the questions of differences referred to it by the two governments. Under the 1944 Mexico–US agreement related to the Colorado, Rio Grande, and Tijuana rivers, the parties established the International Boundary Waters Commission, which continues to resolve disputes over waters shared by the United States and Mexico through a series of decisions adopted as "Minutes," which are binding. Under the UNECE watercourse regime, the Meeting of the parties is one of the bodies responsible for ensuring implementation of the 1992 Helsinki Convention, which calls for the establishment of joint bodies to manage shared basins. These and other examples of state practice involving institutional mechanisms are discussed in more detail in Part Four.

3.6. Arbitration

3.6.1. Overview

Compared with all other means of dispute resolution involving impartial third party, *arbitration* and *adjudication* are regarded as "*legal*" – as compared with "*diplomatic*" – means of settlement. However, as will be seen from the further discussion, arbitration differs from adjudication in many respects, the former being a more flexible procedure where all the crucial issues of substance and process are left to the discretion of the parties.

Arbitration, like adjudication, requires the prior *consent* of each party to the dispute. This is usually done through a special agreement between the parties – *a compromis* – unless there exists an international (multilateral or bilateral) agreement in force binding on the parties to the dispute that provides for compulsory arbitration (as in the case of the 1998 Rhine Convention). Having agreed to submit their dispute to arbitration, the parties to the process have a considerable degree of choice concerning the seat and the composition of the arbitral panel, the procedure to be followed, the questions to be addressed by the tribunal, and so forth. Generally, each party appoints their respective arbitrator, and these two then select a third (agreed to by the parties) for the panel (sometimes called "an umpire"). The arbitral decisions are taken by majority vote, unless the parties have agreed to refer their dispute to a sole arbitrator. The decision, which can be kept confidential, is binding on the parties who, however, can agree on an appeal procedure prior to arbitration.

Apart from the well-known Lake Lanoux dispute between France and Spain, arbitration has been invoked on a number of occasions to resolve water controversies. In 1870, a tri-partite Commission was established to delineate the boundary between Afghanistan and Persia in the delta of the Helmand river and to allocate its waters for irrigation in the border regions. The dispute was resolved on the basis of the decision rendered by the British member of the Commission, Major-General Sir Frederick Goldsmid, who acted as a single arbitrator. Both parties accepted the decision, although thirty years later they had difficulties with its implementation. The second award, by Colonel Sir Henry McMahon, slightly changed the boundary and provided for more precise allocation of water between the two countries. Although both parties agreed with the boundary change, the ruling on water allocation was rejected by Persia as being inconsistent with the previous award by Goldsmid.

In 1888, US President Grover Cleveland acted as arbitrator in the boundary delimitation dispute between Costa Rica and Nicaragua concerning the San Juan river. In 1945, the Zarumilla river boundary dispute between Ecuador and Peru was resolved through arbitration by the Chancellery of Brazil. In 1965, the United States and Canada established an arbitral tribunal to dispose of claims by American nationals related to flood and erosion damage to their property, allegedly caused by the construction of a Canadian dam (Gut Dam) across the international section of the St Lawrence river.

It has been suggested that compulsory dispute resolution through arbitration creates an incentive for states to utilize diplomatic means, citing the process leading to the US–Mexico boundary waters agreement settled by negotiation, because of the compulsory obligation on the parties to go to arbitration (Laylin and Bianchi, 1959). Traditionally, binding settlement procedures are to be resorted to after all other means of dispute resolution have failed. Most of the present day watercourse agreements provide for arbitration as a means of dispute settlement, either as an optional mechanism (the 1992 Helsinki Convention or the 1998 Syr-Darya Agreement) or as a compulsory procedure for disputes that the parties have failed to resolve by other means (the 1909 Boundary Waters Treaty, the 1994 Danube Convention, or the 1998 Rhine Convention).

3.6.2. The Permanent Court of Arbitration

States appear increasingly interested in using the Permanent Court of Arbitration (PCA) as a vehicle for dispute resolution proceedings. The PCA is not a "court" *per se*, but rather a special mechanism, the primary purpose of which is to assist states in settling their international controversies. It was created in 1899 under the Hague Convention for the Pacific Settlement of International Disputes. Along with setting up arbitral tribunals it also offers services for fact-finding and inquiry commissions, good offices, mediation, and conciliation. Rules for good offices and mediation, inquiry, and arbitration were set out in more detail under the 1907 Hague Convention. The renewed interest in the PCA as a forum for dispute resolution can be seen in the pattern of recent ratification of the founding instruments.

The PCA is empowered to provide its services to all arbitration cases submitted to it by agreement of the parties to a dispute and is accessible at all times. It has recently updated its procedures to respond to current international practice. In addition, the PCA has developed model clauses for assisting states to draft dispute resolution clauses for international agreements. The PCA decided not to draft a model clause for fact-finding. The expert's report

Permanent Court of Arbitration

- established in 1899
- located in the Hague
- 92 Members
- 2001 Optional Rules for Environmental Disputes are non-mandatory

recommended a model clause closely following the procedure contained in Article 33 of the 1997 UN IWC Convention.

Trying to reinvent itself, the PCA adopted new rules for disputes relating to natural resources or the environment in 2001. The International Bureau began work on addressing the main gaps in prevention and settlement of environmental disputes in June 1996. The principal consideration in undertaking this task was the absence of a unified forum to which states, intergovernmental and non-governmental organizations, multinational corporations, and even private parties can have recourse to when they have agreed to seek resolution of disputes concerning environmental protection and conservation of natural resources.

The 2001 Optional Rules for Environmental Disputes are non-mandatory and designed to facilitate arbitration pertaining to disputes that involve public international law and the utilization of natural resources and environmental protection. The Rules establish procedures for the selection of arbiters, provisions for confidentiality, general procedure, evidence, and interim measures, define the role of experts, awards, applicable law, and interpretation and correction of the award. Parties may designate the law to be applied by the tribunal, including a request that the case be decided *ex aequo et bono*. The PCA will establish a list of experts in the field, nominated by the Members of the PCA, which the parties and the tribunal may draw upon. Parties and the tribunal are not limited, however, to the experts listed and may draw from external sources. In the absence of an agreed procedure, the 2001 Optional Rules for Environmental Disputes are sufficient to address controversies over resource utilization and transboundary damages, either as a guide to convene an ad hoc tribunal or under the aegis of the PCA, especially given the integration of expert and technical evidence, which will be the primary component of this type of dispute.

Although in the past the PCA has not been involved in settling water-related disputes, the situation is beginning to change. The International Bureau of the PCA acted as Registry in the arbitration between France and the Netherlands pursuant to the 1976 Convention on the Protection of the Rhine Against Pollution by Chlorides and the Additional Protocol of 1991. In 2001, arbitration proceedings commenced before a three-member arbitral tribunal chaired by Professor Skubiszevski. According to some recent reports Singapore and Malaysia are also considering taking their dispute over the Tebrau and Scudai Rivers Water Agreement and the Johor River Water Agreement to the PCA. It may be expected that the adoption of the new rules regarding resolution of environmental and resource-related disputes will further encourage conflicting states to resolve their controversies through arbitration or other peaceful mechanisms under the auspices of PCA.

3.7. Adjudication

3.7.1. Overview

The last option available to the parties to a watercourse dispute is to submit it to a standing judicial body: an international court. This method differs from other means of dispute settlement in that neither the composition of the court nor its rules and procedures depend upon the discretion of the conflicting states. International practice over the last three decades demonstrates an increasing popularity of international courts as a means of last resort. Along with the most prominent judicial body, the International Court of Justice (ICJ) in The Hague, there exist quite a number of special courts, such as the Law of the Sea Tribunal in Hamburg, as well as regional courts, like the European Court of Justice or the SADC Tribunal. Not only has their number grown, but the total number of disputes submitted before these courts has also significantly increased. This demonstrates a growing willingness by states to resolve their conflicts through binding judicial settlement. The Danube case is one example of

how watercourse states can take a matter before the ICJ. Its role is discussed in more detail below.

3.7.2. The International Court of Justice

The International Court of Justice was established in 1945 as the principal juridical organ of the United Nations. The ICJ, which is also called "the World Court," replaced the Permanent Court of International Justice.

The World Court

- Principal judicial organ of the UN
- Successor to the PCIJ
- 15 permanent Judges
- Freshwater related disputes:
  - River Oder case (1929)
  - River Meuse case (1937)
  - Danube case (1997)
  - Kasilili/Sedudu Island (boundary river) case Botswana/Namibia (1999)
  - River Niger boundary dispute Benin–Niger (pending)

Only states may be parties to disputes brought before the Court. Their consent to appear before the Court may be obtained in a number of ways. First, this can be done by a special agreement between the parties to a dispute. In the Danube river case, Hungary and Slovakia concluded such an agreement whereby they agreed to submit specific questions to the ICJ concerning their unresolved controversy. Second, if the disputing states are parties to an already existing international treaty that provides for compulsory adjudication by the Court, this could constitute the basis for consent to adjudicate, should other means of settlement have been exhausted. Under the 1994 Danube River Convention, all disputes concerning its interpretation and application and not resolved through negotiations must be submitted either to arbitration or to the ICJ. A third basis for consent may occur where the disputing states have, by unilateral declaration, accepted compulsory jurisdiction of the Court independently of each other (Article 36(2) Statute of the ICJ).

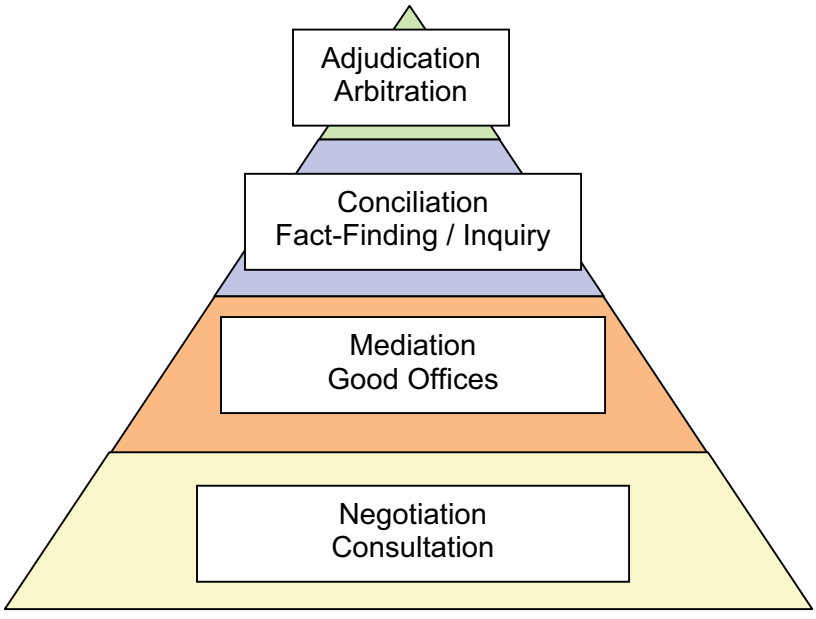


Figure 5. Dispute avoidance mechanisms

The Court has extensive practice in resolving boundary delimitation disputes, which involves the application of equitable principles and often concerns transboundary watercourses. Three out of four of the major "water" adjudications were heard by the World Court. The Statute of the ICJ allows for parties to a dispute

to agree to establish a special chamber to hear their case. The parties may agree to the number of judges and ad hoc members of the chamber. Special Chambers have been used to settle boundary and territory questions, analogous to cases involving an allocation or use conflict. The Chamber for Environmental Matters was established in July 1993 in order to deal "efficiently" with cases related to the protection of the environment and matters of environmental law. Parties may agree to submit the case to the Chamber rather than the full Court. Significantly, the parties to the Gabčikovo–Nagymaros case, which clearly pertains to a matter affecting the environment, chose to submit the dispute to the full plenary Court rather than to the (eight-member) Chamber. Parties may not wish to use the Chambers because most disputes related to the use of a transboundary watercourse will involve questions of sovereignty, treaty and customary law, and not exclusively environmental issues.

4. CASE STUDIES

Some well-known international water disputes will be examined in this section to show how water conflicts arise and what means and mechanisms of conflict resolution are employed by states to resolve them. There is one common feature in all the cases selected, which makes them in certain respect different from the adopted PCCP analytical framework. Unlike the PCCP model ("conflict–agreement–cooperation"), in all these cases it was the controversy over an already existing international treaty (its interpretation or performance) that led to the dispute. Thus, the establishment of some kind of cooperative framework preceded the dispute, which demonstrates again that agreement as such is not the end in itself and that its implementation may result in new conflicts. The disputes considered in this section include: the case relating to the Territorial Jurisdiction of the International Commission of the River Oder, the Diversion of Water from the Meuse, and the Gabčikovo–Nagymaros case.

4.1. The River Oder Case

The River Oder case concerned the interpretation of the scope of an international treaty, the 1919 Peace Treaty of Versailles. The Treaty, among many other matters, "internationalized" several navigable rivers of Europe (the Danube, the Moselle, the Rhine, the Elbe, the Oder) opening them for navigation by all nations.

The International Commission established under the Treaty of Versailles began work on defining the regime that would govern navigation on international rivers in March 1920. The dispute arose from a disagreement between Poland and other members of the International Oder Commission over the question of its territorial jurisdiction. The principal issue was whether navigable stretches of the Warthe (Warta) and the Netze (Noteć) rivers, both tributaries of the River Oder, should be opened for international navigation within Polish territory. These rivers constituted part of a river system "which naturally provides more than one state with access to the Sea." The tributaries were themselves transboundary rivers.

Contrary to the opinion of other members, Poland maintained that the Warthe and Netze rivers should be internationalized only up to the Polish border. In 1924, the Commission informed the governments about the failure to reach agreement. The British and the French governments referred the matter to the Advisory and Technical Committee for Communications and Transit of the League of Nations, which had the right to nominate a Committee of Inquiry. A majority of the Committee adopted a "suggestion for conciliation," which was communicated to the International Oder Commission. Poland rejected the attempt at conciliation. Following that, the International Oder Commission informed the governments that the project had ended. The Advisory and Technical Committee also advised the interested states that the



Source: Perry-Castañeda Library Map Collection - http://www.lib.utexas.edu/maps/index.html

conciliation procedure had closed without resolving the matter. The governments concerned empowered their respective delegates in the International Oder Commission to reach an agreement on submitting the matter to the Permanent Court of International Justice. A special agreement between Great Britain, Czechoslovakia, Denmark, France, Germany, Sweden, and Poland was signed on October 30 1928. The Court was asked to answer the following questions:

> Does the territorial jurisdiction of the International Commission established under the Treaty of Versailles extend to the Warthe and Netze in Polish territory?
> If so, what law governs the establishment of the upper limit of the territorial jurisdiction?

The six governments insisted that the *navigable* stretches of the Warthe and the Netze, even those lying in Polish territory, fell within the definition of "international" contained in Article 331. Poland claimed that the upper limit of the jurisdiction of the International Commission was the Polish border with Germany. In the view of Poland, the portions of the Warthe and Netze that formed the border with Germany, giving sea access to more than one state, were considered "international." Thus, the portions of the tributaries lying wholly within Polish territory, as they provide only Poland with access to the sea at that point, were not "international."

The Court determined that internationalization under the Treaty was

Article 331.

"The following rivers are declared international: the Elbe (Labe) from its confluence with the Vltava (Moldau) and the Vltava (Moldau) from Prague; the Oder (Odra) from its confluence with the Oppa; The Niemen (Russtrom-Memel-Niemen) from Grodno; the Danube from Ulm; and all navigable parts of these river systems which naturally provide more than one state with access to the sea."

subject to two conditions: navigability and natural access to the sea for more than one state. The Warthe and the Netze are partly navigable in Polish territory and provide sea access to more than one state. The Court resorted to the principles of international fluvial law, having found guidance in the Act of the Congress of Vienna of 1815. The Court concluded that the right of passage in an international river is a common legal right of all riparian states, which stems from the "community of interest" in a navigable river, should apply to the whole navigable course, and does not give special privilege to upstream states. The Court established that the territorial jurisdiction of the International Oder Commission extends to the Warthe and Netze in Polish territory, including the reaches of the rivers that are navigable as defined by Article 331 of the Treaty of Versailles.

In this case a new agreement was not required. An existing treaty was upheld and interpreted by the Court. As a general comment, it should be noted that prior to and particularly after the Second World War the freedom of transit on international waterways in Europe began to decline and was finally replaced by new regimes, governed by special agreements, which limited the right to navigate only to riparian states. Today the legal regime governing the Oder consists of a collection of bilateral and multilateral agreements, including, *inter alia*, the Convention on the International Commission for the Protection of the River Oder, and the 1992 Helsinki Convention.

4.2. The River Meuse Case

The Diversion of the Water from the Meuse case involved the Netherlands and Belgium and their use of the Meuse canal system. Both countries used the canal for local navigation, commercial navigation, coal mining, and irrigation. As the need for water increased in each state, the early agreements did not meet the new demands and the dispute arose.

The Meuse rises in France, crosses into Belgium and then criss-crosses back and forth the border between the Netherlands and Belgium, forming the boundary at some points, before discharging into the North Sea. The river was developed extensively by canals and served as a reservoir for other waterways in the Netherlands and Belgium.

The Netherlands, following the adoption of its constitution in 1815, constructed the Zuid-Willemsvaart Canal from Maestricht to Bois-le-Duc, fed by an intake from the Meuse at Maestricht. Belgium began a military campaign for independence from the Netherlands in 1830 (Romano, 2000). The hostilities, which lasted until 1839, caused a disruption in the flow to the intake, and another canal was constructed at Hocht. After the Netherlands and Belgium separated, the Hocht intake was situated entirely within Belgium. In 1845, the Netherlands and Belgium concluded a treaty for the construction of an extension of the Zuid-Willemsvaart, to be fed by the Maestricht intake and the Hocht intake on the Meuse, and from the Liège–Maestricht Canal. Belgium then began work to connect the system with the River Scheldt and to expand irrigation in the Campine District. Due to the porous nature of the soils there, extensive loss of water and flooding of Dutch territory resulted. Belgium's extractions also diminished the flow in the Zuid-Willemsvaart canal, causing the current to increase and obstructing navigation in the canal.

The Netherlands and Belgium jointly studied the problem for the next decade. The countries convened two Mixed Commissions to address the matter, but each was unsuccessful in finding a solution. The parties then entered into negotiations, which led to the signing of a treaty in 1861. However, this was not endorsed by the Netherlands Second Chamber. Later the parties were successful in concluding the treaty of May 12 1863, which was "to settle permanently and definitively the regime governing the diversion of water from the Meuse for the feeding of navigation and



irrigation channels." The treaty called for an increase in the water level in the canal, so that more water could pass without increasing the current. A new intake was constructed by agreement in the Netherlands and this permitted increased water extraction without harming navigation. Success in concluding the 1863 water treaty was facilitated through the adoption of two other agreements on unrelated matters (tolls on the Scheldt and commercial relations).

The treaty's technical solutions were soon outstripped by increased economic development on both sides, and in 1906 the Netherlands suggested that a joint commission be appointed to discuss the problems arising as a result. The commission reported to the parties in 1912, but the First World War prevented the parties from pursuing their negotiations.

In 1921, the Netherlands proposed to develop a canal and lock on the Meuse, located entirely in the Netherlands. Belgium reacted by initiating diplomatic correspondence over the matter. Negotiations between the two countries led to a comprehensive agreement that would allow the development of works in both countries. However, the Netherlands First Chamber rejected the signed treaty. Despite this, the Netherlands commenced its project and completed hydraulic works on the Meuse in 1931. Faced with this development, Belgium began construction of works on its side of the border, which provoked diplomatic inquiry from the Netherlands. With the dispute remained unresolved through diplomatic intervention, the Netherlands initiated proceedings before the World Court in August 1936.

Consent for the judicial action before the PCIJ was based upon the declarations by the Netherlands and Belgium recognizing the compulsory jurisdiction of the Court.

The dispute centered on the Belgian–Dutch Treaty of May 12 1863. The Netherlands asked the Court to rule that Belgium's construction and operation of hydraulic works was a breach of the existing treaty and to order that Belgium restore the system to its prior condition. Belgium presented a counterclaim requesting the Court to declare its hydraulic works legal under the treaty and to declare the Netherlands hydraulic works in the system to be a breach of it.

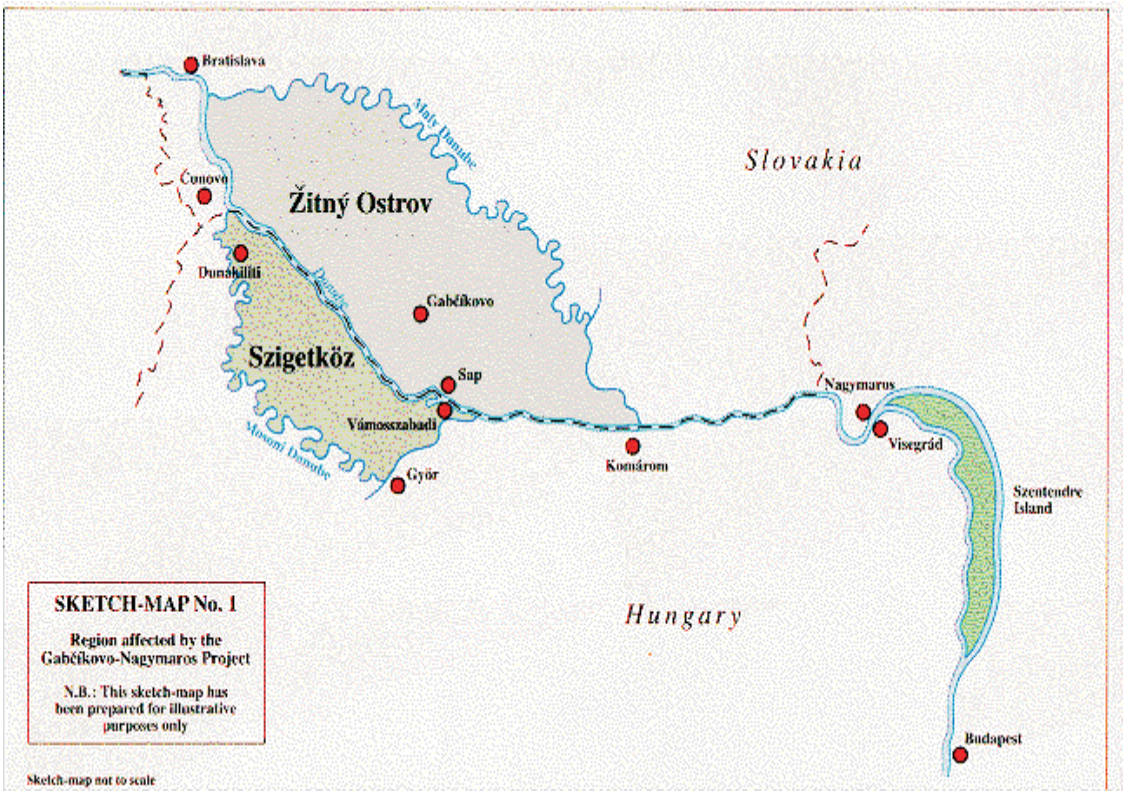
The Court noted that the written and oral proceedings made reference to the general principles of international law that governed international rivers. The Court determined that it was bound by the points raised in the claims of the parties to the interpretation of the 1863 treaty, and not by the general principles of law. It was asked in the proceedings to visit the site and view the works, which it did in May 1937. In its judgment of June 1937, the Court limited its decision to the issues of treaty interpretation. It concluded that the parties were equal in their right to develop works within their respective territories, constrained only by the terms of the treaty, namely the obligation to ensure that there was sufficient water in the river for navigation and to maintain the flow in the Zuid-Willemsvaart Canal as prescribed. Based on its interpretation of the facts, the Court found that neither party had violated the treaty.

In 1994, a new (and a very different) agreement on the River Meuse was concluded by France, the Netherlands, and the Walloon, Flemish, and Brussels-Capital regions of Belgium. The Agreement on the Protection of the River Meuse, signed along with the Agreement on the Protection of the River Scheldt, incorporates the main objectives of the 1992 Helsinki Convention. The primary purpose of the agreement is cooperation "in a neighborly spirit, keeping in mind . . . common interests as well as [parties'] special interests, in order to preserve and improve the quality of the Meuse." To promote cooperation, the agreement establishes the "International Commission for the Protection of the Meuse against Pollution." The Commission has a mandate to serve as a forum for the exchange of information on projects that are subject to impact assessment and that have a significant transboundary impact on the quality of the Meuse.

4.3. The Danube Case

The Danube (Gabčíkovo-Nagymaros) case involved issues of implementation and interpretation of a 1977 treaty, which provided for a joint development scheme on the Danube river agreed to by Hungary and Czechoslovakia (as it then was). When Hungary refused to move forward with the projects as agreed, Slovakia (successor state to Czechoslovakia) took action on its side of the border to implement the treaty. The actions by Hungary and Slovakia resulted in a dispute over their respective obligations under the 1977 treaty.

The Danube, the second-longest river in Europe, rises in Germany and flows some 2,860 kilometers to the Black Sea, touching or crossing the borders of nine countries in its course. The Danube also forms part of the border between Slovakia and Hungary. The case concerns a 200-kilometer stretch of the river between Bratislava, Slovakia, and Budapest, Hungary. The parties made several attempts to reach agreement to exploit the potential of this section of the Danube over twenty-five years, culminating in an agreement in 1977. The 1977 treaty provided for the joint investment and operation of a series of projects for hydroelectric production, improved navigation, and flood protection. The 1977 treaty required the parties to develop a Joint Contractual Plan outlining the objectives and the technical characteristics of the works. Two further protocols amending the construction schedule were agreed.



Due to intense criticism in Hungary of the environmental consequences of the project, the Hungarian Government first decided to suspend the treaty pending further study and then, on October 27 1989, abandoned work at Dunakiliti and Nagymaros. By this time Slovakia had completed a substantial part of the works assigned to it under the treaty regime.

The two parties were negotiating during this period to find a solution to the conflict, but without success. Czechoslovakia (as it then was) had conducted a series of studies for alternative solutions, since it had completed most of its obligations under the treaty and needed the joint regime to go ahead. In 1991 Czechoslovakia unilaterally decided to construct and begin operation of one of the alternatives, known as "Variant C," in order to prevent further damage and economic loss due to Hungary's suspension of work. New negotiations were begun, also without success. Hungary demanded that work on Variant C stop. Czechoslovakia demanded that Hungary submit a technical solution to the problem. Czechoslovakia notified the Danube Commission, a part of the river basin commissions established under the Treaty of Versailles, of the implementation of Variant C. Variant C would reduce the flow by 80–90 percent in that section of the Danube, including a part of the boundary waters.

The negotiations between the parties failed. On October 23 1992, Hungary initiated a case before the International Court of Justice. Without the express consent of the Czech and Slovak Federal Republic, the Court had no jurisdiction to hear the case. The Commission of the European Communities offered to mediate. During a meeting in London on October 28 1992, the parties agreed to establish a fact-finding commission, which included the Commission of the European Communities. The commission was asked to report on Variant C, convene an independent group of experts to report on emergency measures, establish and implement a temporary water management regime for the Danube, and reach agreement on the terms of submitting the dispute to the International Court of Justice.

Agreement was reached to establish a tripartite group of experts. The group included an expert designated by each party and three by the Commission of

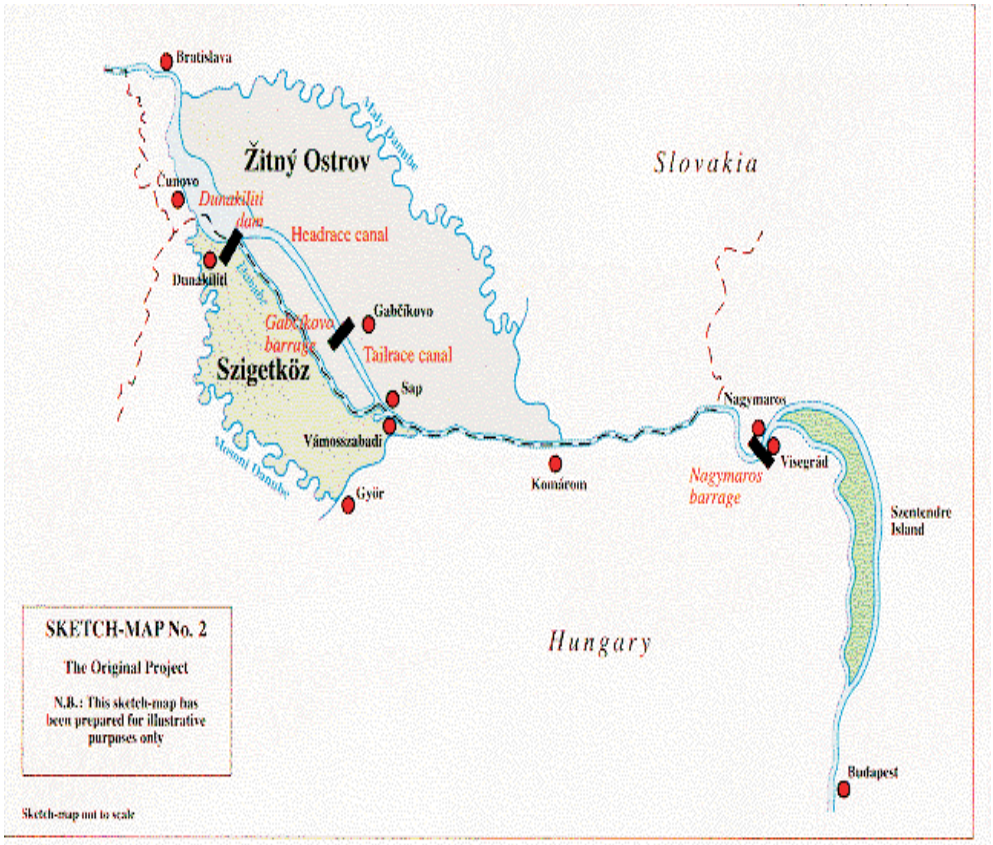
European Communities. The group was to "provide reliable and undisputed data on the most important effects of the current water discharge and the remedial measures already undertaken as well as to make recommendations for appropriate measures." In December 1992, the experts designated by the Commission of European Communities presented a number of recommended measures, which both states rejected. Negotiations continued, and in April 1993, the parties concluded an agreement "Concerning Certain Temporary Technical Measures and Discharges in the Danube and Monsoni Branch of the Danube," which established agreed discharge levels and required Hungary to construct an underwater weir to improve the water supply in the side arms of the river. The parties also agreed to submit the case to the International Court of Justice.

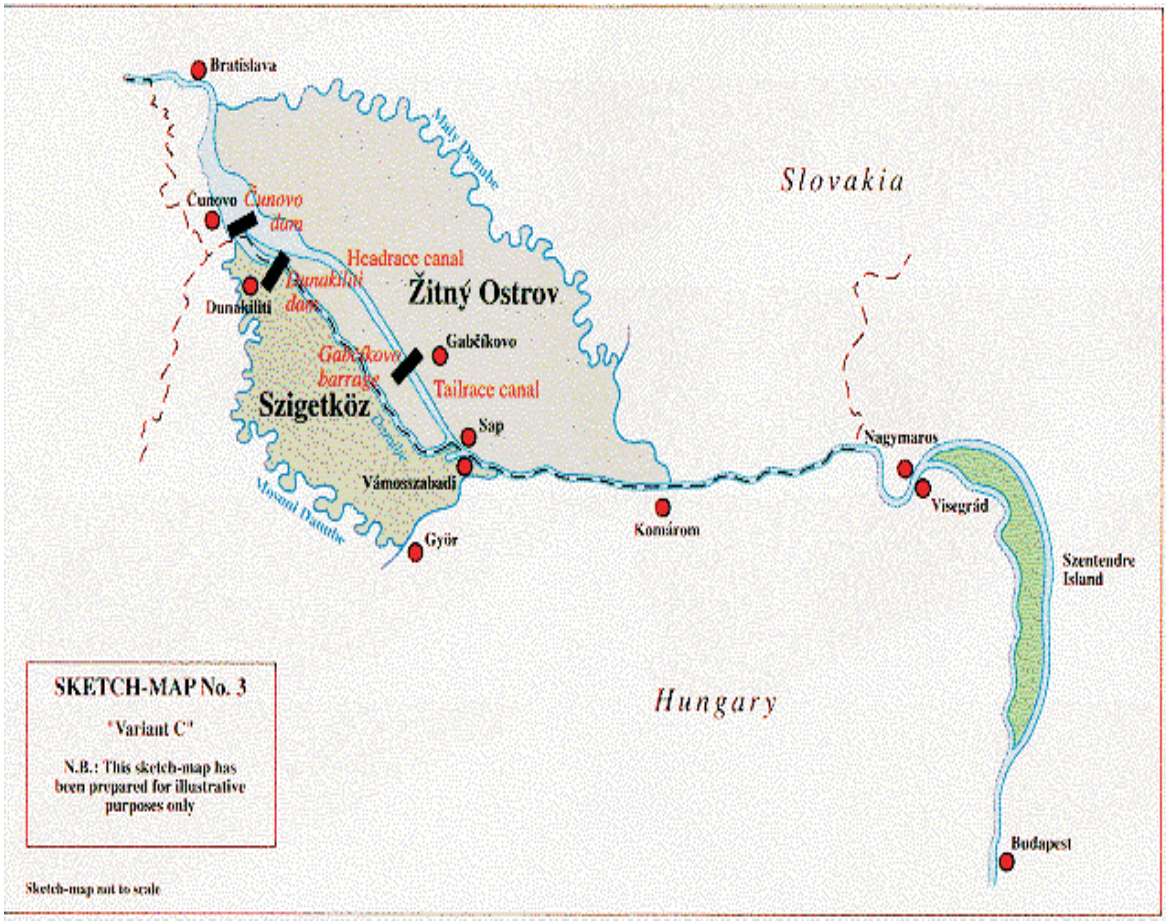
The parties asked the Court to rule on the basis of the 1977 treaty, treaty rules and general principles of international law. The questions before the ICJ were:

1. Whether Hungary was entitled to suspend and abandon works.
2. The legal effects of Hungary's unilateral notification of termination of the 1977 treaty.
3. Whether the Czech and Slovak Federal Republic were entitled to proceed and implement Variant C.

The Court applied the rules of customary international law (codified in the 1969 Vienna Convention on the Law of Treaties) to answer the question arising from the suspension and termination of the 1977 treaty and related instruments, and the law of state responsibility to determine the issue of alleged wrongful conduct related to both the suspension and termination of the 1977 treaty by Hungary and unilateral implementation of the project by Slovakia.

Slovakia argued that the 1977 treaty was in force and that Hungary had breached the treaty, which made it necessary for Slovakia to implement Variant C unilaterally as a countermeasure. Hungary asserted that its suspension of the works was lawful due to changed circumstances and "ecological necessity." Hungary claimed





that when the Slovak Government unilaterally implemented Variant C and irrevocably changed the conditions of the Danube, the object and purpose of the treaty were impossible to achieve, and as a result, Hungary's termination of the 1977 treaty was lawful. Both parties claimed damages.

The Court rejected the positions of both parties and found that each of them had acted unlawfully. The Court determined that the changes in political and economic systems in Hungary and Czechoslovakia and the new developments in environmental knowledge were not of a nature that could justify ending the treaty. The Court found that the 1977 treaty allowed the parties a means to adjust the Joint Contractual Plan to changing circumstances.

Hungary's suspension and termination of the treaty was found by the Court to be unlawful. The Court's reasoning for not finding the state of ecological necessity is important. The Court relied on the International Law Commission's Draft Articles on International Responsibility of states. A "state of necessity" may be invoked to excuse wrongful conduct only "when the act is the only means of safeguarding an essential interest against a grave and imminent peril." A grave danger to the ecological preservation of the territory of another state may constitute such a "necessity." The Court determined that an "ecological necessity" did not exist in this case because the evidence presented by Hungary and Slovakia pointed to uncertain harm that might result from the projects over the long term, but were not "imminent and grave."

Slovakia's implementation of Variant C, which had the effect of depriving Hungary of its share of the Danube, was found by the Court to be unlawful. The Court's reasoning was based in part on the law of state responsibility, which requires a countermeasure to be proportional to the unlawful act. As a result, the Court found that Slovakia had unilaterally deprived Hungary of its "equitable and reasonable share of the natural resources of the Danube." The Court found that the "community of interest," referred to in the River Oder case, extended also to the non-navigational

uses of international watercourses. In support, the Court cited the 1997 UN International Watercourses Convention, specifically its Article 5. The equality of the right of Hungary to share in the Danube and its resources was breached by Slovakia's implementation of Variant C.

The Court concluded that both Hungary and Slovakia had acted unlawfully, and that the parties were legally obligated to enter into negotiations to implement the purpose and obligations of the 1977 treaty given the existing circumstances, which include the operation of Variant C.

To date Hungary and Slovakia have been unable to reach agreement on how to give effect to the ICJ decision. After several rounds of negotiations that followed the Court's ruling they prepared a "Draft Framework Agreement" on the principles of its implementation. While Slovakia approved the draft agreement, the change of government in Hungary prevented the latter from doing the same. In September 1998 Slovakia requested the Court to render an additional judgment pursuant to their agreement of 1993. Currently, the dispute is still before the ICJ. While proceedings are pending, the parties continue to negotiate.

This dispute highlights several elements that may contribute to a conflict over the use of a transboundary resource. First, the 1977 treaty was negotiated over twenty-five years and provided for the development of a Joint Contractual Plan to implement its provisions over time. However, the parties were unable to reach agreement on the subsequent plans in the face of changes in governments of both countries. Significantly, the parties tried various means of conflict resolution, including diplomatic negotiations and mediation, in early failed attempts to resolve the matter. The failure to find a diplomatic solution led the parties to conclude a special agreement to bring the dispute to the International Court of Justice. Remarkably the parties did not opt to have the Court's Environmental Chamber, which had been established at the time, hear the matter, but chose instead to have the full Court. Following the Court's decision, the parties agreed to enter into negotiations to implement the judgment, but have been unable to resolve their differences.

5. CONCLUSIONS

International practice has developed an assortment of conflict resolution instruments and techniques, which have been used by states with various degrees of success. None of these instruments is unconditionally suitable for all cases and situations. Each has its advantages and flaws. In many instances diplomatic negotiations are seen as the primary option and the obvious starting point of conflict resolution. However, failure to enter into or resolve the matter through negotiations may make third-party resolution the only available option. The choice here is between formal binding dispute settlement mechanisms (arbitration and adjudication) and non-litigious methods. As the complexity of the conflict resolution means employed by parties to the dispute increases, the process becomes less dependent on their will and control. The level of confidentiality may also considerably diminish. Arbitration and adjudication are also regarded as more expensive and time-consuming than other methods of dispute settlement. On the other hand, they may be the only way out if all other means fail and if the only alternative is a stalemate that will only result in an unnecessary prolongation of international tension.

States are free to select their own mechanisms for dispute settlement, and practice demonstrates a willingness to use the range of available options. The attitude of different states towards different means of conflict resolution varies for reasons of cultural and historical traditions.

Whilst the PCCP Cycle has been played out in numerous scenarios, it is clear that a solid starting point is always the legal context within which the dispute must be

considered. What are the rules of law that apply? Are there mechanisms agreed by the parties that set out the roadway to settlement and eventual cooperation, such as consultations, negotiations, good offices, mediation, conciliation, fact-finding, arbitration, and adjudication? What means of dispute settlement shall be employed, at what time and on what conditions? Once the matter has been resolved, how will the parties nail down the new arrangement? The next part examines the watercourse agreement as a foundation for the promotion of meaningful and sustained cooperation.

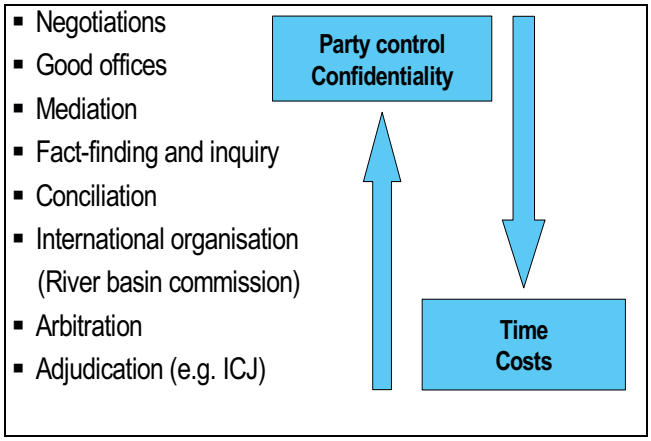


Figure 6. Means of peaceful settlement

PART FOUR: DESIGNING AND IMPLEMENTING THE AGREEMENT

1. INTRODUCTION

Once the water conflict has been dealt with through various means and procedures of dispute settlement – the "PCCP cycle" – the outcome, ideally, should have the form of an agreement (in a broad sense of this word) memorializing the compromise achieved by the watercourse states. The best way to fix the terms of such an accord and to ensure that it is properly carried out is to conclude a formal "treaty" containing the key elements of the agreement.

The first three parts of this study have set the basis for a more detailed analysis of the actual state practice in drafting and implementing agreements concerning shared water resources. This part will start with outlining some general prerequisites that should normally be considered prior to making a "good" watercourse agreement. It will then review the principal elements and provisions of a watercourse agreement, establishing why certain provisions are desirable and identifying possible problems and gaps in the design of a watercourse agreement. It will then look at the range of issues that arise in connection with practical implementation of the agreed rules and obligations.

The analysis will draw on examples of relevant treaty practice.

2. DRAFTING "GOOD" AGREEMENTS

National water policy makers, technical experts, and foreign ministry lawyers normally work together in drafting and negotiating a transboundary agreement. Clear, precise, and unambiguous terms facilitate implementation and help to avoid disputes over interpretation of the agreement.

Water policy makers are usually responsible for ensuring that the agreement is necessary and meets the interests of the state and its people. The legal personnel will normally rely on policy makers and technical experts to make certain that all technical issues (hydrography, hydrology, and so forth) are properly addressed and spelled out. Depending on the subject matter of the future treaty, an expert in the field can provide a useful overview or a "checklist" of the issues to be considered in the drafting process. The legal staff will be concerned with conducting negotiations, determining the form and terminology of the future agreement, its textual coherence and lucidity, and possible implications for domestic legislation. Water resource experts and legal staff must collaborate in order to make sure that the agreement properly reflects the real intentions of its parties, devoid of contradictions, ambiguities and technical errors. All elements of the agreement – the preamble, provisions concerning its aims, geographical and functional scope (areas and activities covered), substantive rules, procedural rules, means of dispute resolution, and final clauses – have legal significance and should be properly drafted with advice from foreign ministry lawyers.

In such a highly specialized field as transboundary water resources, drafting and implementing legal rules requires a concentrated effort of international law, science, economics and other disciplines. In other words, it is a process of melding the legal, technical and policy elements.

For the purpose of this study our analysis will deviate slightly from the traditional treaty structure, and follow an outline more suited to identifying and examining the most

Treaty Structure

- title
- preamble
- main text
- final clauses
- testimonium
- signature
- annexes

important elements of the majority of watercourse agreements. It appears that the key components of an agreement include:

- Scope
- Substantive Rules (Obligations)
- Procedural Rules (Obligations)
- Institutional Mechanisms
- Dispute Avoidance/Settlement Mechanisms
- Miscellaneous Provisions and Final Clauses.

3. SCOPE

3.1. Overview

Given that most of the watercourse agreements have the character of "territorial" treaties, the "scope" is an extremely important element of any such agreement, and is generally identified in its first provisions. Scope usually determines the geographical (and/or hydrological or hydrographical) parameters and limits of the treaty's application by defining both the water resources governed and the states eligible to participate in it. Thus, a "good" watercourse treaty should provide a clear definition of the waters covered by its provisions, using either geographic or hydrographical criteria. It can also define the types of uses or activities regulated by the agreement.

Quite often legal controversies or simple misunderstanding involving transboundary waters result from different interpretations of the treaty provisions determining scope, owing to their ambiguity. The River Oder case provides one example where an international dispute as to whether the freedom of navigation should extend to the Oder tributaries arose from an unclear definition of the scope of the Oder Commission jurisdiction provided in the Treaty of Versailles.

Many water-related agreements, in defining their geographical scope, use either the term "watercourse" or "international basin." As was discussed in Part Two, the scope of the 1997 UN IWC Convention is determined in Articles 1–4. The convention applies to the non-navigational uses of international watercourses and their waters. An international watercourse is defined as a system of surface waters and related groundwaters, parts of which are situated in different states. An attempt to extend the application of the conventional provisions to confined groundwaters (aquifers) failed.

1997 UN IWC Convention (Article 4)

"1. Every watercourse State is entitled to participate in the negotiation of and to become a party to any watercourse agreement that applies to the entire international watercourse, as well as to participate in any relevant consultations."

Consistent with its role of a "framework" instrument, the convention requires states to define the waters governed by a specific watercourse agreement to be concluded by them. This is important in the event of a dispute over these waters, since it is necessary that the subject matter of the conflict is clear. Further, the very definition of the scope of the waters covered by a treaty may determine the states who might be eligible to participate in it.

Which states should have a right to become a party to the watercourse agreement? Who has a right to be involved in negotiations over a watercourse that crosses territories of more than one country? The answer is provided by the 1997 IWC Convention in its Article 4. The convention also gives any IWC state that "may be affected to a significant extent" by a proposed watercourse agreement that only applies to a part of the watercourse the right to participate in the negotiations and enter into consultations related to that partial agreement. There are certain principles

that give guidance as to the rights of states to become a party to an agreement. At a minimum, all states that are significantly affected by the implementation of an agreement have a right to receive notice and enter into consultations and negotiations.

Compared with the 1997 IWC Convention, the International Law Association in its 1966 Helsinki Rules adopted a different approach based on the notion of an "international drainage basin." A number of states were reluctant to endorse this term, which they perceived as being too broad and implicitly extending not only to water resources but to the territory (land mass) as well. However, in practical terms the difference between an "international drainage basin" and an "international watercourse," as they are defined in the respective instruments, is negligible. Currently both terms are widely used in international agreements without causing any problems of interpretation.

ILA 1966 Helsinki Rules Article 2

"An international drainage basin is a geographical area extending over two or more states determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a common terminus."

3.2. Treaty Practice

International practice demonstrates that states have adopted various and often different approaches in defining the "scope" to be covered by their water-related agreements. One example is the 1992 Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes, which at the first glance applies only to "transboundary waters," defined as "any surface or groundwaters, which mark, cross or are located on boundaries between two or more states." Although the term "transboundary watercourses" is present in the title, it is absent in the text of the Convention while the term "transboundary waters" is used throughout the text. This discrepancy can be explained by the fact that the principal goal of the 1992 Convention is to prevent and reduce "transboundary impact," primarily caused by pollution. The instrument does not deal with the issue of utilization of waters as such and is focused instead on minimizing adverse impact. However, the convention requires from its participants, who share the same transboundary waters, to enter into separate agreements, which must specify "the *catchment area* or part(s) thereof subject to cooperation."

The recent European Union Water Framework Directive, aimed at improving the governance of Europe's freshwaters, adopts a "river basin" approach and provides for the management of water resources on the basis of "river basin districts." The states are required to manage their waters through River Basin Management Plans. In the event the river basin is international, the EU Members must establish "international river basin districts," using if necessary existing structures stemming from international agreements.

The 1995 SADC Shared Watercourses Protocol and its successor, the 2000 Revised SADC Protocol, use different terms to define their respective scopes. Under the 1995 SADC Protocol, the scope is "shared watercourse systems" without further definition of the term. Under the 2000 Revised Protocol, the scope is "shared watercourses" in the SADC region.

EU Water Framework Directive Article 2

"River basin" means the area of land from which all surface run-offs flow through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta.

"River basin district" means the area of land and sea, made up of one or more neighboring river basins together with their associated groundwaters and coastal waters, which is identified . . . as the main unit for management of river basins.

Thus, the scope is practically identical to the one adopted by the 1997 UN IWC Convention.

Basin-specific agreements are usually more precise in determining their geographical scope of application. Probably, the most exact definition of the scope ever included in an international treaty can be found in the 1998 Rhine Convention. On the other hand, the geographical scope of application in a similar basin-wide instrument – the 1994 Danube Convention – is defined simply as "the catchment area," which is described further as "the hydrological river basin as far as it is shared by the Contracting parties." An automatic right to become a party to the Convention belongs only to the "Danubian states." These include countries that "share a considerable part of the hydrological catchment area of the Danube river." In its turn "considerable part" is defined as a share exceeding 2,000 km^2 of the catchment area of the Danube river. The Danube Convention is very specific in determining its functional scope, or, in other words, what types of activities are governed by it, in contrast to the Rhine Convention, which is practically mute on this point. Under the Danube Convention, virtually all possible uses and water-related activities are covered, including fishery and navigation to the extent they cause problems related to pollution.

2000 SADC Protocol

The "watercourse" is defined as "a system of surface and ground waters consisting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus such as the sea, lake or aquifer"; and "shared watercourse" means "a watercourse passing through or forming the border between two or more Watercourse states."

Unlike the Danube Convention, two identical agreements on the Meuse and Scheldt rivers concluded at the same time, in 1994, make a distinction between a "river basin" and a "drainage area." While most of their provisions apply to the drainage area, there are some that refer to the river basin.

The 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin applies to the "water and related resources of the Mekong river basin." It also uses on one occasion the term "Mekong river system." However, neither of the terms is defined in the document. It follows from the text that the "system" comprises at least the mainstream of the Mekong river and its tributaries, including Tonle Sap. Somehow the title and the terminology of the Agreement are misleading. It is obvious that it cannot apply to the entire river basin, as the two upper riparian states – China and Myanmar – are not parties to it. In this respect the name of the predecessor of the current Mekong River Commission – Committee for the *Lower Mekong Basin* – was more accurate.

General, or "framework," agreements on cooperation tend to cover either all water resources shared by their participants, or only their "boundary parts." The 2002

1998 Convention on the Protection of the Rhine

Article 1 Definitions: "Rhine": The Rhine from the outlet of Lake Untersee and in the Netherlands the branches Bovenrijn, Bijlands Kanaal, Pannerdensch Kanaal, IJssel, Nederrijn, Lek, Waal, Boven-Merwede, Beneden-Merwede, Noord, Oude Maas, Nieuwe Maas and Scheur and the Nieuwe Waterweg as far as the basis line as defined in Article 5 in connection with Article 11 of the UN Convention on the Law of the Sea, the Ketelmeer and the IJsselmeer.
Article 2 Scope: The scope of this Convention comprises: the Rhine; the ground-water interacting with the Rhine; the aquatic and terrestrial ecosystems interacting with the Rhine or whose interaction with the Rhine could be re-established; the Rhine catchment area, as far as its pollution adversely affects the Rhine; the Rhine catchment area, as far as it is of importance for issues of flood prevention and defence along the Rhine.

1994 Agreement on the Protection of the (River) Scheldt

Article 1: Definitions

a) The Scheldt: The Scheldt River, from its source to its mouth, including the coastal and Western Scheldt.
b) The Scheldt river basin: The Scheldt, as well as all the waterways and canals which directly or indirectly run into it . . .
c) The Scheldt drainage area: The area, the waters of which run into the Scheldt or its tributaries.

Russian–Byelorussian Agreement applies to "transboundary surface water and groundwater bodies," defining them as "any surface or groundwater bodies, which mark, cross or are located on the state boundary" between the two countries. The Chino–Kazakh Agreement on Utilization and Protection of the Transboundary Rivers define the latter as "all rivers and rivers' run-off, which cross or are located on the state boundary" between China and Kazakhstan.

On the other hand, the 1956 Treaty between Hungary and Austria and the 1967 Treaty between Austria and Czechoslovakia concerning the regulation of water management questions apply only to "frontier waters." The 1967 Treaty is particularly precise in determining both its territorial and substantive scope, thus leaving little room for conflicting interpretations. Some boundary delimitation agreements also deal with the issues of water resources that straddle or are located on the international boundary.

Finally, some agreements specifically identify waters that are governed by their provisions. Under the 1995 Chino–Mongolian Agreement, which applies to "transboundary waters," the latter include, first, the Halaha river, Kerulen river, Bor Nor Lake and Bulgan river; and, second, lakes, rivers, streams, and other waters that straddle or rest on the state boundary between the two states. The 1998 Luso–Spanish Convention defines both geographical and substantive (functional) scope. This treaty applies, first, to the "river basins of the Minho, Lima, Douro, Tejo and Guadiana rivers"; and, second, "to activities aimed at promoting and protecting the water quality status of these river basins and the current and planned uses of water resources, especially those which cause or are susceptible of causing transboundary impacts."

3.3. Summary

To summarize, it is essential that the *scope* of the watercourse agreement is properly defined so that the "waters" covered, the states eligible to participate in the agreement, and activities or uses regulated by it are clear and unambiguous. When it comes to the geographic scope, a broad range of options is available to the states engaged in negotiating and drafting water-related treaties. The scope should be determined depending on the purpose of the agreement ("framework," watercourse or basin-specific, boundary or project-specific). The geographic scope and the issue of eligibility are intertwined. In principle, if the agreement purports to cover the entire watercourse (or river basin) all the watercourse or basin states should have a right to be involved in negotiation and participation. On the other hand, two or

1967 Treaty Concerning the Regulation of Water Management Questions Relating to Frontier Waters (Austria–Czechoslovakia)

Article 1: Territorial Scope of the Treaty.

a) sections of watercourses along which the State frontier . . . runs;
b) waters intersecting the State frontier and waters adjoining the State frontier where any water management measures applied to them in the territory of one Contracting State would have seriously adverse effects on water conditions in the territory of the other Contracting State.

more states are not precluded from entering into an agreement with respect to a part of an international basin, as long as this does not affect the rights and legitimate interests of the other watercourse states.

4. SUBSTANTIVE RULES

4.1 Overview

For the purpose of this study "substantive rules" mean the rules of international agreements that establish substantive, or material, rights and obligations of states utilizing the same watercourse, *vis-à-vis* each other. These rules may vary depending on the purpose and nature of a particular agreement. The most important among them are those rules that have been codified in the 1997 IWC Convention, which were discussed in detail in Part Two. These rules include primarily the fundamental substantive rule of "equitable and reasonable utilization," an obligation not to cause significant harm, and an obligation to protect international watercourses and their ecosystems. Most of the provisions of existing treaties either reiterate these rules or substantiate and concretize them in response to a particular problem or situation. Thus, in 1971, Chile and Argentina concluded the Act of Santiago concerning Hydrologic Basins with a view to "expressly recognizing general rules of international law and of supplementing them with specific regulations governing the utilization of the waters common to the two countries."

Obligation of conduct	*Obligation of result*
1997 UN IWC Convention *Article 20: Protection and preservation of ecosystems* *Watercourse states shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses.*	*1997 UN IWC Convention* *Article 21: Prevention, reduction and control of pollution* *2. Watercourse states shall, individually and, where appropriate, jointly, prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse states or to their environment. . . . Watercourse states shall take steps to harmonize their policies in this connection.* *3. Watercourse states shall, at the request of any of them, consult with a view to arriving at mutually agreeable measures and methods to prevent, reduce and control pollution of an international watercourse, such as:* *(a) Setting joint water quality objectives and criteria;* *(b) Establishing techniques and practices to address pollution from point and non-point sources;* *(c) Establishing lists of substances the introduction of which into the waters of an international watercourse is to be prohibited limited, investigated or monitored.*

Figure 7. Obligations of conduct and of result

International law often distinguishes between "obligations of conduct" and "obligations of result." While the first require from a state to act in conformity with a particular standard of conduct, the second, to be considered fulfilled, usually requires a state to undertake certain actions in order to realize the purposes of the treaty. Obligations of result may also include obligations to prevent a given event.

"Framework" international agreements mostly impose obligations of conduct, thus establishing parameters of lawful, or permissible, behavior of states. On the other hand, obligations of result are primarily a feature of more specific instruments aimed at achieving concrete goals, such as attaining a water quality objective, eliminating or reducing pollution to a certain level, or allocating agreed volumes of water or benefits of water utilization between the parties.

4.2. Treaty Practice

The drafting process of the 1997 IWC Convention has considerably influenced many recent watercourse agreements. General agreements on transboundary waters, both multilateral and bilateral, tend to include broad obligations as a legal foundation for future cooperation between the parties in more specific areas of water management, utilization, and pollution control. These instruments often refer to the rule of equitable and reasonable utilization as a guiding principle of their relations with respect to transboundary waters.

Both the 1995 SADC Protocol and 2000 SADC Revised Protocol reflect principal substantive rules embodied in the 1997 IWC Convention. The main obligation of the states parties under the 1995 SADC Protocol is "to respect and apply the existing rules of general or customary international law relating to the utilization and management of the resources of shared watercourse systems and, in particular, to respect and abide by *the principles of community of interests in the equitable utilization* of those systems and related resources." The obligation to "utilize a shared watercourse in an equitable manner" is included among its general principles. The principal provisions of the 2000 SADC Revised Protocol are practically identical to those of the IWC Convention.

The main substantive provisions of the 1992 ECE Helsinki Convention incorporate obligations to ensure that transboundary waters are used "with the aim of ecologically sound and rational water management . . . *in a reasonable and equitable way*." Under the 1995 Mekong Agreement, its parties undertook to utilize the waters of the Mekong river system in a *reasonable and equitable manner* . . . pursuant to all relevant factors and circumstances," and devised a procedural scheme of regulating the uses depending on the location (the mainstream of the Mekong or its tributaries) and the season (dry or wet). This approach will be further developed through the Rules for Water Utilization and Inter-basin Diversion.

Mozambique, Swaziland and South Africa incorporated equitable and reasonable utilization in their interim agreement signed in Johannesburg in September 2002, and undertook to cooperate to achieve "*optimal and sustainable utilization* of and benefits from the water resources of the Incomati and Maputo Watercourses." China and Kazakhstan

1966 Lake Constance Agreement

Article 3.

1. Where a projected withdrawal of water . . . is such that it would adversely affect important interests of the other riparian states and the adverse effects cannot be avoided or offset by reasonable compensatory measures . . . *the interest attaching to the withdrawal of water shall be duly assessed in relation to the other interests*. In that assessment particular consideration shall be given to the interest attaching to the maintenance and improvement of living economic conditions in the region of Lake Constance. This shall apply especially to the interests involved in the various types of utilization of the water of the lake.

agreed to adhere to the principles of "*equity and reasonableness*" in utilizing their transboundary rivers, but also "not to restrict" each other's use of water resources provided the respective party's interests are taken into consideration.

There are treaties, such as the 1966 Agreement Regulating the Withdrawal of Water from Lake Constance (between Germany, Austria and Switzerland), that do not directly refer to the principle of equitable and reasonable use. Their provisions, however, are such that their practical application would result in the same outcome: equitable allocation of the uses and benefits of the watercourse.

Various watercourse agreements include a range of other substantive rules, establishing obligations of either conduct or result, such as requirements to protect a watercourse ecosystem, to prevent and control pollution, and to protect installations. Substantive provisions of the water sharing or project-related agreements may be quite specific. They may, for example, provide for different mechanisms of water allocation and benefit sharing.

Canada and the United States, under the 1961 Columbia River Treaty, created an integrated regime of utilization of their transboundary river through balancing the equities and recognition and payment for "downstream benefits." Canada agreed to have three major dams and reservoirs constructed on its territory and to provide to the United States the resulting downstream benefits in the form of electricity and flood control. In return, the United States undertook to compensate Canada by paying for flood-control measures and by providing 50 percent of the additional hydropower resulting from the project. The 1986 Lesotho Highlands Water Project Agreement establishes a very elaborate scheme under which South Africa, in exchange for increased water supplies from Lesotho, financially supported a hydropower generation and water transfer project in that country. The 1998 Syr-Darya Agreement provides for in-kind compensation in energy resources (mostly coal and gas) by downstream states to the upstream state (Kyrgyzstan) in exchange for the release of stored water and transfer of excess power generated during the growing season.

There are other, more straightforward, models of water sharing employed by states that have agreed to allocate their shared water resources equitably: from dividing the entire river basin to apportioning the water of a particular river or aquifer to establishing an agreed regime of water flow benefiting both riparians. India and Pakistan, in their 1960 Treaty, concluded with strong political and financial support of the World Bank, agreed to divide between them the six main rivers constituting the Indus river basin.

In 1996, India and Bangladesh settled their long-running controversy over the waters of the Ganges river, agreeing to share the burden of low waters during the dry season (from January 1 to May 31). Under the 1996 Farakka Barrage Agreement, the parties designed a formula of water allocation that was in their view "fair and just." The Treaty is flexible enough to provide for the water sharing arrangements to be reviewed and, if necessary, adjusted every five years or earlier. Even in the absence of mutually agreed adjustments India has committed itself to release at least 90 percent of water allocated to Bangladesh in accordance with the formula. Similar, although more

1996 Treaty on Sharing of the Ganges Waters at Farakka

Water-sharing formula:

- Flow above 75,000 cu. ft per second (cusecs): India receives 40,000 and Bangladesh the remainder.
- 70,000–75,000 cusecs: Bangladesh receives 35,000 and India the remainder.
- 70,000 cusecs or less: to be divided equally.
- Below 50,000 cusecs: the parties are to consult and take emergency measures to ensure equity, fair play and no harm to each other.

complex, water and power sharing arrangements were envisaged in the 1996 treaty concerning the integrated development of the Mahakali river, concluded between India and Nepal.

The 1972 Agreement between the former Soviet Union and Finland concerning hydropower production on the Vuoksi river is an example of a different regime of water utilization established for one specific purpose: efficient use of the two hydroelectric stations belonging respectively to the two riparian countries. The parties undertook to regulate stream flow in the river in order to maintain the water level required for operation of the Finnish power station located downstream. It was also agreed that Finland would receive annual compensation in kind for the loss of stream flow and energy resulting from the construction by the Soviet side of the new station upstream.

Transboundary watercourse states have generally arrived at an equitable allocation of the watercourses' uses and benefits, mainly through joint study and negotiations. It may be a long and difficult process, especially where the water resources are of paramount importance for the states involved. Suffice it to note that the Columbia river controversy required twenty-five years to be finally settled; the Mekong regime evolved over fifty years with assistance from the United Nations and external donors and is still developing; and the Nile river basin process, involving all basin states, envisages a long-term, in-depth joint study aimed at determining net equitable entitlements for each of them for the use of the Nile waters.

4.3. Summary

The core of any watercourse agreement is in its substantive rules, which establish the material obligations of the parties, either of conduct or result. Most successful treaties reflect, directly or indirectly, the fundamental principle of international water law: equitable and reasonable utilization. Those international agreements that, for whatever reasons, do not comply with this principle will hardly be sustainable in the long term. Any party who perceives a treaty as being inequitable will be tempted to obstruct its implementation or attempt to change its terms and conclude a new one.

Usually it is not sufficient to simply proclaim "equitable utilization" as a guiding principle; this rule has to be "operationalized" through concrete arrangements, the nature of which will depend on a number of factors, including but not limited to the conditions of the watercourse, predominant uses, and the needs and capabilities of the watercourse states. The process of achieving equitable allocation should ideally be done on the basis of an integrated approach involving contributions from a range of disciplines, such as hydrology, economics, water management and engineering, and, of course, law.

While usually, in the first instance, each watercourse state individually makes its own assessment of what constitutes an equitable and reasonable use of a watercourse and ascertains its "legitimate" entitlement, the ultimate allocation of uses and benefits cannot be done by states acting on their own. Equitable utilization or allocation is established either by a third party (be it a court or an impartial mediator) or, better, by the interested states themselves. The second approach may require the states to undertake a joint study of the river basin, exchanges of information, and other coordinated efforts. This is normally done through the use of two primary supporting elements: procedures and institutional mechanisms, each of which will be discussed in the following sections.

5. PROCEDURAL RULES

5.1. Overview

As was discussed in Part Two, procedural requirements and mechanisms are an essential element of practically any watercourse agreement. They provide the means through which the substantive rules are implemented and the changing watercourse regime is managed. The distinction between the "substantive" and "procedural" obligations is made mostly for analytical purposes to understand the treaty structure and requirements better. This does not mean that "procedural" obligations are less binding than obligations characterized as "substantive" (McCaffrey, 2001). Both are categories of international legal obligation whose violation may entail state responsibility, or, in other words, give rise to a new obligation to stop the violation and to make appropriate reparation.

Procedural rules establish a range of obligations: from a general duty to cooperate to obligations concerning data and information exchange, prior notification and consultation. In this respect the 1997 IWC Convention provides a model procedural framework, which has been closely followed by recently adopted agreements, such as the 2000 SADC Revised Protocol or the 2002 Russian-Byelorussian Agreement on Cooperation.

Procedural Rules and Mechanisms

- cooperation
- prior notification
- exchange of data and information
- consultations

5.2. Treaty Practice

Cooperation is a necessary basis for the proper functioning of all procedural rules and mechanisms. The ultimate goal of practically any international treaty is to encourage and promote cooperation between its parties. This is particularly true when dealing with exploitation and protection of natural resources, such as water, that cross international boundaries. Optimal and sustainable utilization and development of a transboundary watercourse is virtually impossible in the absence of cooperation in good faith between the states sharing it. Most watercourse agreements directly refer to cooperation as their primary goal (as in the 1978 Treaty for Amazonian Cooperation) or incorporate a general *obligation to cooperate* as one of their principal provisions.

International lawyers have been at odds over the issue of whether cooperation is indeed a *binding legal obligation* rather than simply a goal or a guideline for conduct. In other words, the question is: can one assert that states *must* rather than *should* cooperate, and can this obligation be imposed on states and enforced through legal means?

In the 1997 IWC Convention cooperation is spelled out as a legal obligation. This duty to cooperate should not be viewed *in abstracto.* The obligation takes on meaning in specific contexts: working together with co-riparians to achieve an equitable allocation of the uses and benefits; entering into consultations and negotiations in good faith concerning alterations of the regime of a watercourse, and so forth (McCaffrey, 2001). Obviously, no one can force a state to cooperate if this means signing a treaty against its will. However, systematic obstruction of other states' efforts to agree on equitable allocation of a shared water resource or refusal to notify and enter into consultations in good

1997 IWC Convention

Article 8. General obligation to cooperate

1. Watercourse states *shall* cooperate on the basis of sovereign equality, territorial equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse.

faith regarding potentially harmful activities that may affect co-riparians may be considered as a breach of a duty to cooperate. While cooperation is the underpinning of other obligations, failure to cooperate could constitute an internationally wrongful act entailing State's responsibility (McCaffrey, 2001).

Cooperation may take different forms. The most common is exchange of information and data on a regular basis. The 1992 UN ECE Helsinki Convention, whose procedural regime is aimed at preventing and reducing transboundary impacts, obligates its parties to provide for the "widest exchange of information, as soon as possible." Parties to the Convention that share the same transboundary waters are required additionally to exchange information on a wide range of issues and to have consultations "aimed at cooperation" on all matters covered by the Convention.

1992 UN ECE Helsinki Convention

Article 13. Exchange of information between Riparian Parties

1. The Riparian Parties shall . . . exchange reasonably available data*, inter alia*, on:

a) environmental conditions of transboundary waters
b) experience gained in the application and operation of best available technology and results of research and development
c) emission and monitoring data
d) measures taken and planned to be taken to prevent, control and reduce transboundary impact
e) permits or regulations for waste-water discharges issued by the competent authority or appropriate body.

Cooperation is particularly important when new uses in one state threaten to affect water-related interests and rights of other co-riparians. The state planning such measures has a duty to give notice in advance of works that may result in *significant adverse effects* (and not necessarily *harm*) to other states. Prior notification is considered as an international legal obligation regardless of whether there is a special agreement between the initiating and the potentially affected states. It is noteworthy that the World Bank's Operational Policies "Projects on International Waterways" (OP 7.50 of June 2001) specifically require prior notification as a compulsory requirement and a precondition for any project financed by the World Bank. Obligation of prior notification applies equally to upstream and downstream states.

If necessary, additional information may be requested by the potentially affected states, which the initiating states must provide. If the countries concerned disagree over the possible effects of the planned activities they must enter into consultations in good faith with a view at arriving at an equitable resolution of the situation. Obligations of prior notification and consultations cannot be construed, however, as a requirement of *consent* on the part of possibly affected states; that would give them a "veto" right with respect to proposed activities.

1995 Mekong Agreement

Notification: Timely providing information by a riparian to the Joint Committee on its proposed use of water according to the format, content and procedures set forth in the Rules for Water Utilization and Inter-Basin Diversions under Article 26.
Prior consultation: Timely *notification* plus additional data and information to the Joint Committee as provided in the Rules for Water Utilization and Inter-Basin Diversion under Article 26, that would allow the other member riparians to discuss and evaluate the impact of the proposed use upon their uses and of water and any other affects, which is the basis for arriving at an agreement. *Prior consultation* is neither a right to veto a use nor unilateral right to use water by any riparian without taking into account other riparians' rights.

Procedural rules and mechanisms established under the 1995 Mekong Agreement and developed further by the Mekong River Commission represent perhaps the most elaborate and advanced model. Of special interest are the two documents recently adopted by the MRC Council: "Procedures for data and

information exchange and sharing," put into effect on November 1 2001, and "Preliminary procedures for notification, prior consultation and agreement," approved on November 12 2002. The primary objective of the first document is to operationalize the data and information exchange and to make available, upon request, basic data and information for public access. The document distinguishes between data exchange and sharing. It establishes the principles and modalities of such exchange and sharing. The MRC is designated as custodian in charge of obtaining, updating and managing data and information. The second document establishes the procedures to be applied by the Mekong basin states in the case of a proposed use, which is defined as "any proposal for a definite use of the waters of the Mekong river system by any riparian, excluding domestic and minor uses of water not having a significant impact on mainstream flows." A six-month time frame is provided for consultation between the countries affected, before a proposed development can begin. The agreement also prescribes a detailed format for notification to be carried out. The agreement refers specifically to "inter- and intra-basin diversions" of Mekong water. These could involve any kind of water retention and diversion for the purposes of electricity generation, irrigation, and flood management.

The two documents have resulted from increased cooperation between the lower Mekong river countries under their Water Utilization Programme (WUP). According to the countries' schedule, procedures for monitoring existing water uses will be agreed by the end of 2003, rules for the maintenance of flows by the end of 2004, and rules for water quality by the end of 2005.

Another major development in the Mekong river basin was the signing in April 2002 of a historic agreement between the MRC and China on data sharing. Under this agreement, which required over a year of active negotiations and visits between the MRC and China, the Chinese Ministry of Water Resources undertook to provide data on Mekong river flow and water levels to the MRC Secretariat by computer link-up every twenty-four hours. The data would come from water-measuring stations located in Yunnan province on the Upper Mekong (the Lancang river) in China. In its turn, the MRC undertook to assist the Chinese government in upgrading the two water-measuring stations, which are transmitting the data. A Joint Working Group comprising delegates from the MRC and China was set up to oversee the practical issues of data-sharing.

Data and information exchange: reciprocal transfer of data and information among the member countries.

Data and information sharing: provision of full access to data and information maintained in the MRC-IS to the member countries through MRCS.

Under the 2000 SADC Revised Protocol, for all new activities the parties agreed to exchange information, consult, and negotiate "the possible effects of planned measures on the conditions of the watercourse." The protocol is quite detailed in outlining respective procedural rights and obligations of the states concerned as well as in establishing precise time frame necessary for notification, reply and consultations.

Similar procedural rules, if not as detailed as those in the Mekong Agreement or SADC Revised Protocol, are contained in many other agreements, both "framework" and watercourse-specific.

5.3. Summary

Thus, procedural rules, in their entirety, constitute what once was called "the procedural law of cooperation" in relation to international watercourses (Higgins, 1994). Procedural obligations of a watercourse treaty are as important as its substantive provisions. Indeed, they complement the latter and provide the necessary machinery, through which substantive obligations are implemented and the goals of

the treaty are attained. It is impossible to imagine how equitable and optimal utilization of a transboundary watercourse can be achieved without information and data exchange and consultations between the states sharing it. Prior notification with respect to planned activities that may significantly affect other co-riparians is a crucial obligation. It plays a particularly important role in preventing international disputes.

6. INSTITUTIONAL MECHANISMS

6.1. Overview

International watercourse joint bodies and commissions form another essential component of many modern watercourse agreements. They are used both as permanent institutional mechanisms of interstate cooperation and, specifically, as important tools of identification of competing interests, thus preventing disputes over shared waters. In addition to their main function of coordinating watercourse states' efforts in developing and managing the watercourse, institutional mechanisms usually serve the function of dispute avoidance by allowing the technical experts to study a potentially controversial issue and make recommendations before this issue turns into a controversy that requires formal diplomatic negotiations or third-party dispute resolution.

As will be seen below, the composition and duties of existing institutional mechanisms vary greatly. International practice demonstrates the importance of effectively functioning joint bodies. Pursuant to the global policy objectives of peace, security, and poverty alleviation, multilateral and national aid agencies support the creation and evolution of institutional mechanisms through direct aid and capacity building.

The 1997 IWC Convention generally recommends to watercourse states to "consider the establishment" of joint bodies but leaves the particulars to be determined by the states concerned. The relevant provision, which is contained in the 1991 draft articles prepared by the International Law Commission, went much further in outlining possible functions and responsibilities that these bodies should be entrusted with. This final compromise wording was reached only at a late stage following some controversy on the matter during the deliberations of the Working Group of the Whole.

1976 ILA Rules "Administration of International Water Resources"

Article 4

1. In order to provide for an effective international water resources administration, the agreement establishing that administration should expressly state, among other things, its objective or purpose, nature and composition, form and duration, legal status, area of operation, functions and powers, and its financial implications.

Although the rules of customary law do not require watercourse states to establish joint commissions, state practice demonstrates that the majority of international agreements, bilateral and multilateral, provide for such institutional mechanisms as means of treaty implementation and dispute prevention. As early as 1976, the ILA in its rules concerning "Administration of International Water Resources" (supplementary to the 1966 Helsinki Rules) called for basin states to establish an international water administration, defined as "any form of institutional or other arrangement . . . for the purpose of dealing with the conservation, development and utilization of the waters of an international drainage basin." The ILA viewed this as a precondition to effective implementation of the principle of equitable utilization and prevention and settlement of disputes. The practical experience gained from the work of numerous joint institutions has been succinctly analyzed and presented in the "Berlin Recommendations on Transboundary Water Management:

Experience of International River and Lake Commissions" adopted by the International Round Table in September 1998.

6.2. Treaty Practice

There are different approaches to designing international river basin institutions and determining their role, mandate, and composition. In North America, Canada, Mexico, and the United States entrust their joint commissions with a wide range of responsibilities including the task of dealing with watercourse controversies. Both the US–Canadian International Joint Commission (IJC) and the US–Mexican International Boundary Waters Commission (IBWC) are bilateral organizations with equal representation of their respective member states. The commissions are among the oldest existing international water organizations and for many years have been successfully used to resolve potential and actual differences over transboundary water resources. The ICJ, for example, can be used by the two governments both as an instrument of fact-finding and inquiry, and as a tool of dispute resolution where there are "questions or matters of difference" between the parties, involving their rights, obligations, or interests. In the first instance, its reports, which may include conclusions and recommendations, are not legally binding and "in no way have the character of an arbitral award." In the second, such decisions will be binding on the two governments, provided there is a majority in the Commission.

Europe, having adopted the 1992 Helsinki Convention under the aegis of the UN Economic Commission for Europe, introduced a two-tiered approach. While at the regional (pan-European) level "the Meeting of the Parties" (MOP) to the Convention is responsible for the implementation of the umbrella treaty, basin-specific agreements set up their own joint bodies responsible for individual watercourses. Thus, unlike many watercourse agreements, the 1992 Convention does not create any special institutional mechanism apart from the MOP, which serves as a forum, both informally and formally, for dispute prevention through regular meetings and its joint work program. Among its current projects is the development of a compliance review procedure and enhanced public participation.

The adoption of the Helsinki Convention gave an impetus to the institution-building process, although some of the joint river basin bodies in Europe were created long before it. One of the earliest examples of joint bodies was a bilateral commission established by France and Italy under their 1914 convention concerning utilization of the waters of the Roya river and its tributaries. Now such commissions exist for practically all major European watercourses: the Rhine, Elbe, Danube, Meuse, Scheldt, and Oder. Currently the work continues on the creation of two new commissions: for the Zapadnaya Dvina/Daugava river basin (Russia, Byelorussia, and Latvia) and the Neman river basin (Byelorussia, Lithuania, and Russia), which will be set up with the conclusion of the respective trilateral agreements on cooperation. In addition to basin-specific (mostly multilateral) institutions, the neighboring states often create bilateral

Tasks of the Rhine Commission

a) To prepare international monitoring programmes and analyses of the Rhine ecosystem and to evaluate their results, also in cooperation with scientific institutions.
b) To elaborate proposals for different measures and programmes of measures, eventually including economic instruments and taking into account expected costs.
c) To coordinate the contracting parties' warning and alarm plans for the Rhine.
d) To evaluate the effectiveness of the measures decided on, in particular on the basis of the reports of the contracting parties and the results of monitoring programmes and analyses of the Rhine ecosystem;
e) To carry out any other tasks upon the instructions of the contracting parties.

commissions responsible for all transboundary waters that they share. Examples of such joint bodies are numerous. Suffice it to mention the Joint Finnish–Russian Commission on the Utilization of Frontier Watercourses, successfully operating since 1965, Austrian–Czechoslovak Frontier Water Commission (1965), Finnish–Swedish (1972) and Finnish–Norwegian Commissions (1980), Russian–Kazakh Commission (1992), Luso–Spanish Commission (1998), and numerous others.

Each of these institutions has a specific mandate set forth in their respective agreements. For example, the Rhine Commission has particularly broad powers, including monitoring of compliance with the treaty provisions and obligations through evaluation of the parties' reports. On the other hand, unlike some other river basin institutions, the Commission does not have a formal mandate to resolve interstate controversies. Under the Rhine Convention, all disputes must be settled by negotiations or submitted to compulsory arbitration.

In Africa, the emphasis is put on management of main international river basins through multilateral institutions. One example is the institutional framework for shared watercourses established in the Southern African region. Under the 1995 SADC Protocol the parties agreed to establish "appropriate" institutions, called "River Basin Management Institutions" (RBMIs), consisting of a regional Monitoring Unit, and River Basin Commissions and River Authorities or Boards (for each drainage basin). It is noteworthy that, unlike other regional and watercourse-specific regimes, neither the objectives of the RBMI's nor the long list of assigned functions include dispute settlement. This task was left to the SADC Tribunal, which was established under the original 1992 SADC Treaty.

The 2000 SADC Revised Watercourses Protocol significantly modifies the 1995 Protocol bringing it closer to the text of the 1997 IWC Convention. One notable difference of the 2000 Protocol from its predecessor is the shape and functions of institutional mechanisms responsible for "implementation" of the treaty. These are not only more numerous, but more powerful as well. They include institutions at the regional level – the SADC "Water Sector Organs" (comprising the Committee of Water Ministers; the Committee of Water Senior Officials; the Water Sector Co-ordinating Unit; and the Water Resources Technical Committee and sub-Committees) – and "Shared Watercourse Institutions."

The most senior body, the Committee of Water Ministers, which consists of ministers from each state, has among its other functions a task of assisting in resolution of "potential conflicts on shared watercourses." The committee is also in charge of "overseeing and monitoring the implementation" and providing "regular updates to the Council on the status of the implementation" of the protocol. The task of compliance verification is also entrusted to the Water Sector Coordinating Unit, the executing agency of the Water Sector. It is required to monitor implementation and to "liaise with other SADC organs and Shared Watercourse Institutions on matters pertaining to the implementation" of the Protocol, as well as to "provide guidance on the interpretation" of the Protocol.

Another example of a relatively successfully evolving multilateral institutional framework is a mechanism established under the 1987 Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River System, which was concluded by the five Zambezi basin states. It consists of the Zambezi Intergovernmental Monitoring and Coordinating Committee (ZIMCC) and Zambezi River Basin Coordinating Unit. The first, as an intergovernmental body, is responsible for coordination and provision of operational and policy guidance. The second is a small standing body primarily responsible for the *implementation* of the Action Plan. It is noteworthy, that it was established as both a river basin institution and a SADC unit, thus ensuring a very close cooperation and coordination with relevant SADC institutions.

There are other multilateral institutions created for particular African river basins and watercourses, including the Niger, Senegal, Kagera, and Okavango rivers, Lake Victoria, Lake Chad, and the Nubian Sandstone Aquifer. Not all of these joint bodies have always been successful in discharging their functions, mostly owing to the inadequacy of available financial, technological, and human resources. The experience of existing commissions shows that their financial capacity to undertake activities must be guaranteed by the cooperating parties if they are to fulfill their mission in a sustainable fashion (Berlin Recommendations). Although external support should not be viewed as a long-term means to meet the financial requirements of commissions, in many respects it is indispensable in the initial phases of their operation.

In this regard, the experience of the Nile Basin Initiative (NBI) is instructive as an instance where the involvement and substantial financial support of the World Bank and other donor agencies have been particularly important. One unique feature of the NBI, which distinguishes it from similar institutional mechanisms on other watercourses, is that it was launched by the Nile basin countries without any formal treaty. Rather than trying to conclude an agreement, which seemed very unlikely given the range of unresolved contentious issues separating them, the basin states established the NBI at the 1999 meeting of the Ministers of Water Affairs by simply adopting and signing the Minutes. The NBI comprises the Council of Ministers of Water Affairs of the Nile Basin states (Nile-COM), Technical Advisory Committee (Nile-TAC), and a Secretariat (Nile-SEC). This institutional mechanism provides policy direction and support for the river basin cooperation. However, given its *transitional* nature, the NBI is a process rather than a conventional joint institution with a clear mandate, powers and decision-making authority. It is likely that the NBI will eventually be replaced by a permanent framework, which will require a properly concluded international treaty.

The institutional framework in the Aral Sea basin is based on the 1992 Agreement on Cooperation in the Management, Utilization and Protection of Interstate Water Resources, which was concluded by the five newly independent states (the former Soviet republics of Central Asia). The 1992 Agreement was a starting point in creating a legal and institutional regime for sharing and management of transboundary waters of the two main rivers: the Amu-Darya and Syr-Darya. Since then, the Aral Sea basin countries concerned have entered into a number of more specific agreements and arrangements, often in the form of declarations of the heads of state.

The principal water management institution established by the 1992 Agreement is the Interstate Commission for Water Coordination (ICWC), which was given a mandate to determine regional water policy and to develop measures ensuring comprehensive and rational utilization of water resources. The most important of its functions is the determination of the total available water resources in the region and their allocation among the states parties. ICWC is comprised of the senior members of the central water management organizations (Ministries of Water Resources) of each of the founding states.

Under the 1992 Agreement, water-related disputes are to be resolved by the heads of the Central Water Management organizations of the states concerned and, where necessary, through the involvement of an impartial third party. However, this formal procedure has not been used to date. In practical terms, the joint body – ICWC – acts to prevent and resolve regional water conflicts and provides a forum where representatives of the five basin states can meet, discuss, and make binding decisions on contentious issues, including water allocation.

The Mekong River Commission (MRC), which succeeded the Committee for Coordination of Investigation of the Lower Mekong Basin, was established as an intergovernmental agency of the four basin states – Cambodia, Laos, Thailand, and Vietnam – under the 1995 Agreement. The Commission, which is composed of three

permanent bodies (the Council, the Joint Committee and the Secretariat), is the key institutional mechanism with a broad range of responsibilities, including, crucially, resolution of contentious issues and disputes. Both the Council, consisting of one ministerial (cabinet) level representative from each riparian state, and the Joint Committee, comprised of one member from each riparian state at no less than head of department level, are empowered *"to entertain, address and resolve issues, differences and disputes"* referred to them under the Agreement. Only those disputes (or differences) that are not resolved by the Mekong River Commission are to be referred to the governments for negotiation, possible mediation, or eventual settlement "according to the principles of international law."

Under the 1960 Indus Waters Treaty, the Joint Commission is made up of two commissioners, engineers, each representing his or her respective state, India or Pakistan. The Permanent Indus Commission (PIC) is in charge of promoting and maintaining cooperative arrangements for implementation of the Treaty and should act as a "regular channel of communication on all matters related to the Treaty." Even during the recent hostilities, parties did not suspend the annual meeting of the PIC. Like the MRC, the Indus Commission serves as the initial venue where a possible conflict must first be addressed. The PIC is empowered to examine any "question, which arises between the parties concerning the interpretation or application of this Treaty or the existence of any fact which, if established, might constitute a breach of the Treaty . . . [and] resolve the question by agreement." If the PIC cannot reach agreement, either commissioner can request that the matter be put to a "neutral expert." If the neutral expert or the commissioners determine the matter constitutes a dispute, the dispute resolution procedures are followed. The neutral expert, a highly qualified engineer appointed in advance by agreement of the parties or by the World Bank, has extensive quasi-juridical powers, including determination of available waters, withdrawals, releases, uses, and procedures for providing each party "an adequate hearing." If the parties cannot agree whether the question falls within the powers of the expert, he/she has the power to make that determination. The decisions of the expert are binding.

Finally, in South America, under the Treaty for Amazonian Cooperation, the Amazonian Cooperation Council, comprised of "top level diplomatic representatives," was established in order, *inter alia*:

- To ensure that the aims and objectives of the Treaty are complied with.
- To be responsible for carrying out the decisions taken at meetings of Foreign Affairs Ministers.
- To take under consideration initiatives and plans presented by the parties as well as to adopt decisions for undertaking bilateral or multilateral studies and plans.
- To evaluate the implementation of plans of bilateral or multilateral interest.

The parties were required to establish "Permanent National Commissions" to ensure that the treaty is implemented, including those decisions taken by the Meeting of Foreign Ministries and the Amazonian Cooperation Council. It is not clear whether and to what extent this model has been successfully employed on the ground.

There are numerous other examples of institutional mechanisms established to facilitate the smooth management of shared international watercourses and prevent and resolve transboundary water disputes.

6.3. Summary

There are very few areas of interstate relations where the existence of a permanent institutional framework for cooperation would be as important as in the area of transboundary water resources. International river basin commissions and other joint

bodies have proved to be very effective tools of water disputes avoidance and resolution. It is impossible to identify any developed legal regime concerning transboundary watercourses that would not have some kind of an institutional mechanism.

There is a great diversity of existing joint bodies in terms of their mandates, powers, compositions, and structures. They may be bilateral or multilateral; they may be in charge of a particular watercourse or of all transboundary waters shared between the state parties; they may deal with the entire range of water-related activities and uses, or focus on specific sectors of the water management and utilization; they may involve the highest (heads of states) level of interstate relations, or be purely technical with representation at a specialist level; they can be used simply as a channel of communication or be entrusted with much broader responsibilities, including dispute resolution. There is no single model or approach to cooperation that would be appropriate for all or even most situations. This diversity is a major strength and is a consequence of the large variety of political and physical settings, various origins and mandates of the institutions, and the current and emerging problems they are required to address (Berlin Recommendations).

Although there is no blueprint for a successful legal framework for cooperation, well-drafted and unambiguous legal instruments are essential in creating effective and sustainable institutional frameworks. On the other hand, the process of institution-building and development of joint bodies is as important as the substantive content of the legal instrument establishing them. Given that the role and objectives of the river basin institutions are not static, agreements that provide the framework for their operation should allow for modifications in their functions and powers over time to deal more effectively with changing conditions and to address emerging issues.

7. DISPUTE AVOIDANCE AND RESOLUTION

7.1. Overview

Practice demonstrates that states usually implement international agreements concluded by them without serious controversies. This, of course, does not mean that problems do not arise or that the parties do not have disagreements over how the treaty provisions should be applied or interpreted. For that reason, an international agreement must envisage the possibility of a dispute between its parties and provide for a mechanism designed to settle them.

As was discussed in Part Three, a broad range of dispute avoidance and settlement mechanisms is available to watercourse states. If a dispute or a disagreement arises, most international watercourse legal regimes tend to gradually elevate it from one level of dispute settlement procedure to another: from using technical experts within a joint institution to diplomatic negotiations and, eventually,

1966 ILA Helsinki Rules

Article XXX. In case of a dispute between states as to their legal rights or other interests . . . they should seek a solution by *negotiation.*

Article XXXI. If a question or dispute arises which relates to the present or future utilization of the waters of an international drainage basin, the basin states should refer the question or dispute to a *joint agency* and request the agency to survey the international drainage basin and to formulate plans or recommendations for the most efficient use thereof in the interests of all the states concerned.

Article XXXII. If a question or a dispute is one which is considered by the states concerned to be incapable of resolution in the manner set forth in article XXXI, it is recommended that they seek the *good offices*, *or jointly request the mediation of a third State, of a qualified international organization or of a qualified person.*

Article XXXIII. 1. If the states concerned have not been able to resolve their dispute through negotiation or have been unable to agree on the measures described in articles XXXI and XXXII, it is recommended that they form *a commission of inquiry or an ad hoc conciliation commission*, which shall endeavour to find a solution, likely to be accepted by the states concerned, of any dispute as to their legal rights.

Article XXXIV. It is recommended that the states concerned agree to submit their legal disputes to an ad hoc arbitral tribunal, to a permanent arbitral tribunal or to the International Court of Justice if:

a) A commission has not been formed as provided in article XXXIII, or
b) The commission has not been able to find a solution to be recommended, or
c) A solution recommended has not been accepted by the states concerned, and
d) An agreement has not been otherwise arrived at.

to binding resolution by the impartial third party. This approach is consistent with general international practice and was mirrored in the work of the ILA, which in its 1966 Helsinki Rules identified the most appropriate mechanisms and procedures to be employed in resolving disputes over shared water resources.

The 1997 IWC Convention utilizes a similar phased approach with an innovative provision for compulsory fact-finding. According to the ILC commentary, in such a very specialized field as water resources "it will be necessary to rely on technical experts . . . to apply equitable and reasonable utilization – the flexibility of the framework convention makes it difficult to apply with any precision." The next section discusses in more detail various dispute avoidance and resolution techniques that states have adopted in their practice involving water conflicts.

7.2. Treaty Practice

Most watercourse agreements follow the UN Charter in enjoining states to resolve their disputes, in the first instance, through negotiations and other diplomatic means. Parties are generally free to select the methods of dispute settlement that follow on from negotiations. The most common model provides for institutional mechanisms to take the lead in resolving disputes, failing which the matter moves to governments to settle. State practice reveals some differences in the way that countries belonging to different regions tend to resolve their disputes over water. Generally, watercourse states in Africa and Europe while empowering their joint institutional mechanisms with the task of dispute avoidance, appear more willing to involve third parties, including arbitration and adjudication, in the resolution of disputes. In contrast, in North America and, in particular, Asia, joint institutions and technical bodies play the dominant role, with practically no recourse to compulsory third-party settlement.

The dispute resolution provisions of the 1992 Helsinki Convention are quite traditional but not particularly detailed. The parties have discretion in what means of dispute resolution they employ, including negotiations, "or any other means of dispute settlement" acceptable to them. Arbitration and judicial settlement are also envisaged, but only as non-binding options.

Among the means of dispute resolution provided for under the Rhine Convention, negotiations are referred to as the first and primary means of settlement. However, a closer look at the dispute settlement provisions reveals a very heavy reliance on arbitration as the ultimate resort. This follows the pattern established by the predecessor agreements on the Rhine. Under two separate 1976 Rhine Conventions, all disputes unresolved through negotiations were to be referred to arbitration at the request of any party to the dispute.

Under the 1992 SADC Treaty, which is a "framework" agreement for both SADC protocols on shared watercourses, its parties must resolve disputes amicably primarily through negotiations as the first instance. Where this fails, the matter can be

submitted to the SADC Tribunal, created to "ensure adherence to and the proper interpretation of the provisions of the treaty and the subsidiary instruments, and to adjudicate upon such disputes as may be referred to it."

The decisions of the Tribunal are final and binding. The Protocol, which contains the operational norms of the Tribunal, including its rules of procedure, is very detailed. The Tribunal has jurisdiction over all disputes related to the Treaty and all protocols related to interpretation, application, validity, and "all matters specifically provided for." Its jurisdiction covers "disputes between states, and between natural or legal persons and states," and the Tribunal has exclusive jurisdiction over disputes between states and the community.

The 2000 Revised Shared Watercourses Protocol views the Tribunal as an important instrument of dispute settlement, along with institutional organs established under the Protocol, which are also responsible for assisting "in resolving potential conflicts on shared watercourses." The parties are required to "strive to resolve all disputes regarding the implementation, interpretation or application of the Protocol amicably," failing which the matter is to be referred to the SADC Tribunal. So far the Tribunal has not yet heard any water related disputes, although Namibia and Botswana submitted their dispute concerning a boundary river to the World Court.

1992 UN ECE Helsinki Convention

Article 22. Settlement of Disputes

1. If a dispute arises between two or more Parties about the interpretation or application of this Convention, they shall seek a solution by negotiation or by any other means of dispute settlement acceptable to the parties to the dispute.

2. When signing, ratifying, accepting, approving or acceding to this Convention, or at any time thereafter, a Party may declare in writing to the Depositary that, for a dispute not resolved in accordance with paragraph 1 of this article, it accepts one or both of the following means of dispute settlement as compulsory in relation to any Party accepting the same obligation:

a) Submission of the dispute to the International Court of Justice;
b) Arbitration in accordance with the procedure set out in annex IV. If the parties to the dispute have accepted both means of dispute settlement referred to in paragraph 2 of this article, the dispute may be submitted only to the International Court of Justice, unless the parties agree otherwise.

In North America, Canada, Mexico, and the United States rely heavily on their institutional mechanisms to resolve conflicts over shared waters. The 1909 Boundary Waters Treaty (BWT) was concluded between Great Britain, on behalf of Canada, and the United States with the specific purpose of preventing "disputes regarding the use of boundary waters" and settling all questions "pending between the United States and the Dominion of Canada involving the rights, obligations, or interests of either." Central to the dispute settlement objectives of the Treaty was the creation of the International Joint Commission (IJC) with administrative, investigative and quasi-judicial powers.

1998 Rhine Convention,

Article 16 Settlement of Disputes

"Should disputes arise . . . on the issue of the interpretation or application of this Convention, the parties concerned will strive for a solution by means of *negotiations* or *any other possibility of arbitration* acceptable to them. If it is not possible to settle the dispute by this means and provided the parties to the dispute do not decide otherwise, *arbitration proceedings according to the annexes* to this Convention which are part of this Convention are carried out upon the demand of one of the parties to the dispute."

The BWT sets up a multi-tiered approach to conflict resolution by establishing several categories of dispute. As was discussed earlier, the IJC plays a prominent role in resolving interstate differences. If the Joint Commission fails to settle a matter of difference submitted to it by both

parties, the contentious issue *must* be referred to third-party resolution (an umpire).

To the authors' knowledge, the ICJ has not yet been asked to "adjudicate" disputes and its role has been largely one of making recommendations on questions referred to it by the two governments. Management of the numerous shared water resources has been accomplished through the extensive use of technical advisory committees and the conclusion of basin-specific agreements.

The International Boundary Waters Commission (IBWC), established under the 1944 International Boundary Waters Treaty between the United States and Mexico, deals with controversies over shared water resources through the adoption of "minutes." More than 300 minutes have been adopted over the past six decades. The most recent, "Minute 308" concluded in June 2002, brokered an arrangement whereby Mexico provided 90,000 acre-feet of water to the United States as payment towards its debt under the 1944 Treaty. The minute also provides for exchange of information and support for new water conservation projects. A survey of the other 307 minutes illustrates the array of problems the IBWC had to deal with: from very technical issues to a number of project specific arrangements and emergency responses.

Asian countries also prefer to use their joint bodies in resolving disputes. The Mekong Agreement, for example, provides that disputes (or differences) are to be resolved, first by the Commission, failing which the matter is to be referred to the Governments for negotiation, possible mediation or eventual settlement "according to the principles of international law." It is noteworthy, however, that the Agreement contains no reference to any form of compulsory third party dispute settlement procedures. This omission is not accidental. It reflects a general reluctance of the Mekong river countries to use arbitration or adjudication as a means of dispute resolution and signals their preference for internal measures (e.g. through the Mekong Commission) and direct negotiations.

The dispute settlement provisions of the 1960 Indus Waters Treaty, which have not yet been invoked by either party, are quite complex. The overarching objective appears to be to resolve any "differences" internally within the commission, before they become "disputes." Issues that cannot be resolved by the commission will be deemed "differences," which may, depending on their classification, be heard by a "neutral expert" ("qualified engineer") at the request of either commissioner. The difference will be considered as a "dispute" if the matter falls outside those listed in Annex F. Disputes are to be resolved through negotiation, and failing any successful outcome are subject to arbitration. The current tensions between India and Pakistan over the construction of the hydro-electric/irrigation dam on the Chenab river may result in the third party dispute settlement provisions under the Indus Treaty being invoked for the first time.

Mekong Agreement

Article 35. Resolution by Governments

In the event *the Commission is unable to resolve the difference or dispute within a timely manner*, the issue shall be referred to the Governments to take cognisance of the matter for resolution by *negotiation through diplomatic channels* within a timely manner. . . . Should the Governments find it necessary or beneficial to facilitate the resolution of the matter, *they may, by mutual agreement, request the assistance of mediation* through an entity or party mutually agreed upon, and thereafter *to proceed according to the principles of international law.*

7.3. Summary

Most of the existing international agreements – regional, watercourse-specific, and bilateral – provide for a range of formal dispute settlement mechanisms: from negotiations to third-party involvement, including optional or mandatory arbitration

and adjudication. The 1997 UN Watercourses Convention, as the only global instrument of its kind, endorses the compulsory fact-finding procedure, which bridges the gap between purely diplomatic means, entirely dependent upon the discretion of the parties to the dispute, and binding third-party dispute resolution.

With respect to regional approaches, a couple of general observations can be made. The state practice surveyed demonstrates the willingness of states to establish joint bodies to deal with operational matters and to act as a port of first call for possible disputes, an approach that promotes basin-wide cooperation and dispute avoidance.

Extensive use and heavy reliance on joint commissions to perform the task of dispute prevention (or act as pragmatic solution facilitators) is typical for different water regimes, regardless of region. It was observed that one of the valuable aspects of a joint commission is that it provides a forum where co-basin states may dispute each other's claims vigorously without involving their governments at a high level (Bourne).

A distinctive characteristic feature of regional approaches to dispute settlement is the disposition of states to permit third-party intervention in their transboundary water controversies. In Africa and Europe, while institutional mechanisms play important roles, arbitration and adjudication remain real options. On the other hand, in both regions there is a visible tendency to introduce compliance facilitation procedures under the auspices of their institutional bodies. In Asia and North America, where there have been a regular series of conflicts of use, the focus is on the employment of joint organs to resolve the contentious matters internally, without recourse to external third party intervention. In Asia, in particular, there is a strong tendency to avoid compulsory third-party involvement in water-related disputes, with the "Mekong spirit" being positive evidence in support of such a regional approach. The record of recent cases and those pending decision before the International Court of Justice shows that African and European countries appear more willing to submit their disputes to third-party adjudicative organs for resolution. While negotiations and the use of joint bodies are still the preferred options, arbitration and adjudication remain among the possible alternatives.

8. IMPLEMENTATION AND COMPLIANCE

8.1. Overview

Reaching an agreement is not in itself "the end of the road." Once the treaty has been concluded and become binding for its parties, it must be "implemented." To implement an international agreement means to fulfill one's obligations established by it. Thus, implementation can be defined as the states' activities in their entirety aimed at achieving the goals and objectives of the treaty regime. The character and nature of these activities are determined by the nature of the states' obligations under the treaty. States parties may be required to adhere to a certain pattern of behavior, to refrain from or to undertake certain actions (e.g., engage in cooperation by exchanging information, or take national legal and administrative measures to control pollution); to achieve specific targets (e.g., reduce water pollution to certain levels or meet emission standards), or to carry out a project (e.g., construct and put into operation a water installation).

Most of the "framework" watercourse agreements that establish legal foundations for long-term cooperation make no provision for duration and could remain in force indefinitely, but also contain a termination clause. Those that are concluded for a fixed period of time usually provide for an automatic extension. Treaties that establish obligations of result may be deemed fulfilled (implemented) once their objectives have been attained. On the other hand, the implementation of obligations of conduct is

usually not limited by a specified time frame or dependent on a particular event, such as the completion of construction works.

Thus, proper implementation of an international treaty is a crucial phase in moving from actual or potential conflict to cooperation. Implementation of the framework agreements, usually containing general obligations, is relatively easy to achieve. This model has great relevance for transboundary waters, where early commitment to cooperation is essential but details of cooperative arrangements need time and dialogue. "Subsidiary" agreements, often in the form of protocols, can be developed later, as information becomes available and confidence grows to address specific needs such as quality standards, cost allocation, and benefit sharing (Berlin Recommendations). These types of agreements, which require specific actions (such as meeting agreed water quality standards or realization of a water allocation scheme) that often entail significant financial commitments, are harder to realize.

States invest considerable resources in their efforts to conclude agreements related to the management of their transboundary waters. However, ratification of a treaty is not a guarantee of its due implementation. According to general international law and its fundamental rule *pacta sunt servanda* states parties to a treaty are under an obligation to perform it in good faith. But what happens if a party is unable or unwilling to fulfill its treaty obligations?

A failure to implement a treaty, or to *comply* with its provisions, is a serious political and legal issue. It can lead to a new conflict and undermine the very foundation of the agreement reached by the parties. Traditional international law deals with the issue of *non-compliance* through the mechanism of state responsibility, whereby a state found in breach of its treaty obligation will be liable to another party. However, this approach to enforcing treaty obligations has many shortcomings.

First, this approach is adversarial by its nature, turning one state into the accuser and making another the accused – a situation not particularly conducive to maintaining the good relations necessary for long-term cooperation. Second, although the material breach of a treaty by one party entitles the other to suspend or terminate the treaty in whole or in part, with respect to watercourse agreements this may not always be to the benefit of the victim interested in achieving the treaty's objectives. That was aptly demonstrated in the Danube (Gabčikovo–Nagymaros) case, where Slovakia insisted on the implementation of the 1977 Treaty notwithstanding its unilateral termination by Hungary. Finally, in most cases involving utilization of transboundary waters or environmental obligations generally, non-compliance is not the result of a willful act but a consequence of ambiguous treaty provisions or, more often, of the lack of capacity and resources to properly implement it. In the latter case invoking state responsibility with a view to "punish" the offender may be counterproductive.

8.2. New Approach to Ensuring Implementation: Compliance Control

A focus on ensuring compliance through non-adversarial and non-judicial measures – compliance assurance (verification and control) systems or mechanisms – has become the new and increasingly popular feature of some recent international environmental conventions. Compliance is an integral component of implementation and refers to a state's behavior in terms of conformity with its commitments, while the compliance assurance mechanism is a set of rules and procedures aimed at assessing, regulating, and ensuring compliance (UNECE Geneva Strategy on Compliance). Compliance control mechanisms are normally used to identify the acts of non-compliance, that is, where a state does not meet its commitments, including its inability to give effect to substantive norms and standards, to meet procedural requirements, or to fulfill institutional obligations.

One distinctive feature of compliance assurance techniques is the emphasis on a non-confrontational approach in addressing the issue of non-compliance. Although the process of treaty implementation always implies a certain degree of compliance control by one party with respect to another (or others), relatively few international watercourse regimes provide for the use of formal compliance verification mechanisms. In this regard they have been lagging behind some multilateral environmental agreements.

8.3. Elements of Compliance Control Systems

Key Elements of Compliance System

- reporting
- review and evaluation
- support

A successful compliance assurance system requires a commitment by the parties to monitor compliance with their treaty obligations and, if necessary, to assist each other in achieving the goals and specific targets of an agreed regime. This normally involves the use of procedures and mechanisms specifically devised to enhance, improve and ensure compliance, rather than reliance on traditional enforcement tools, such as state responsibility and dispute resolution through arbitration or adjudication. This approach entails a response to problems with compliance that, in the first instance, is positive, forward-looking, non-confrontational, non-judicial and, which is supplementary to, yet independent from, any existing dispute settlement machinery.

To achieve this, the focus must be on measures and incentives aimed at facilitating the state performance in implementing the treaty regime. Ideally, the instrument establishing the compliance verification procedure should be legally binding. But the commitments subject to compliance review may arise out of both formal agreements and non-legally binding instruments, such as recommendations, guidelines, and voluntary undertakings. The compliance review process is greatly enhanced by the elaboration of clear, easily measurable and verified primary rules, objectives, or targets, such as quantifiable water allotments, fixed emission limits, water quality objectives and criteria, lists of prohibited substances, and so on.

The cornerstone elements of a compliance strategy include:

- an agreed baseline (benchmark) provisions
- an agreed compliance review procedure, including an institutional mechanism with a mandate to monitor compliance
- a system of measures (incentives and disincentives) facilitating proper performance and discouraging non-compliance.

Public access to information, and equal access to justice are also considered important elements of a compliance regime.

Increasing emphasis on ensuring compliance can be found in the UN ECE treaties related to water resources (the 1992 Helsinki Convention and the 1999 London Protocol on Water and Health), access to justice and public participation (the 1998 Aarhus Convention), and, in particular, to air pollution (the regime established under the 1979 Convention on the Long-Range Transboundary Air Pollution and its protocols provides the most

1999 London Protocol on Water and Health

Article 15. Review of Compliance
The Parties shall review the compliance of the Parties with the provisions of this Protocol on the basis of the reviews and assessments… Multilateral arrangements of a *non-confrontational, non-judicial and consultative nature for reviewing compliance* shall be established by the Parties. . . . These arrangements shall allow for appropriate public involvement.

advanced regional model of compliance verification).

The first attempt to develop a comprehensive compliance control and assurance strategy with respect to transboundary watercourses was initiated under the aegis of the 1992 Helsinki Convention. The meeting of the parties created a working group to draft a compliance review procedure based on the "Geneva Strategy and Framework for Monitoring Compliance with Agreements on Transboundary Waters."

The 1998 Rhine Convention is one of the very few watercourse agreements that establish a compliance control mechanism, using for this purpose the Rhine Commission. The latter has a mandate "to evaluate the effectiveness of the measures decided on, in particular on the basis of the reports of the contracting parties, and the results of monitoring programs and analyses of the Rhine ecosystem." The commission also has a right to adopt decisions, which are to be implemented by the parties within a certain time limit. The Rhine basin states are required to submit regular reports on how they implement the rules of the convention as well as the decisions of the Commission. Failure to implement may trigger consultations between the parties and a new decision by the commission on measures supporting implementation.

> The contracting parties regularly report to the [Rhine] commission:
>
> a) On legislative, regulatory or other measures taken with a view to implementing the rules of the convention and the decisions of the commission.
> b) On the results of the measures implemented according to sub-paragraph a).
> c) On problems arising due to the implementation of measures according to a).
>
> *Should a contracting party not be able to implement the decisions of the commission or only be able to partly implement them it will inform the others within a certain time limit individually set by the commission and explain the reasons.* Each delegation may move for consultations; such a move must be met within two months.
>
> On the basis of the reports of the contracting parties or on the basis of consultations *the commission may decide on measures supporting the implementation of decisions*.

Elements of compliance verification have been introduced into the 2000 SADC Revised Protocol, which requires the Committee of Water Ministers to "oversee and monitor the implementation" and to "provide regular updates to the Council on the status of the implementation" of the protocol. The Water Sector Coordinating Unit, the executive agency of the Water Sector, also has a role in monitoring compliance and is required to "liaise with other SADC organs and shared water institutions on matters pertaining to the implementation" of the protocol.

8.4. Summary

While the traditional approach to dealing with states that fail to meet their treaty obligations relies on state responsibility and formal means of dispute resolution, current international practice is shifting towards non-confrontational and non-judicial arrangements. The trend to use positive incentives ("carrots") and disincentives in case of non-compliance ("sticks") is particularly evident in multilateral environmental regimes, established under the 1979 LRTAP Convention, 1987 Montreal (Ozone Layer) Protocol, and some other instruments. The range of compliance strategies used is broad: from reporting procedures to financial incentives and sanctions. Reporting is viewed as a primary compliance verification tool. Reporting procedures are more effective when based on an agreed format. Transparency and public participation contribute to the effectiveness of compliance control regimes. Positive incentives include enhanced access to technology and financial assistance, and may involve the creation of special funds. Although sanctions ("sticks"), such as penalties and withdrawal or suspension of privileges are not completely excluded, they are rarely

used. The main emphasis is always on non-confrontational compliance assistance rather than formal enforcement

In contrast to the practice of some recent global environmental agreements, most agreements on transboundary waters do not provide for the formal monitoring of compliance, including compliance review procedures. There are several reasons for this. First, formal compliance control mechanisms, including "compliance review" or "treaty implementation" committees or similar bodies, are more suited for multilateral regimes involving a large number of states. There are only few water-related agreements that fall into this category. Second, compliance control mechanisms are most effective in regimes that pursue concrete and verifiable objectives, rather than in framework agreements mostly limited to general commitments. Again, not many multilateral watercourse agreements establish such standards.

However, it is advisable that watercourse states consider including compliance assurance mechanisms in their agreements as an additional tool of dispute prevention. This applies in particular to treaties dealing with control and reduction of water pollution or other agreements establishing verifiable quantitative and qualitative targets and standards. The more elaborate and specific the watercourse treaties become, the more important role compliance verification will play in ensuring their effective implementation.

While compliance control mechanisms facilitate treaty implementation, problems and disputes may still arise. For example, unforeseen circumstances may prevent strict observance by one or more states of the treaty regime, as may occur in the case of severe floods, drought, or changing natural conditions. What happens then? How will such a situation be dealt with? Ideally, provisions allowing for adjusting to changing circumstances should be included in the treaty itself. Problems of implementation can often be resolved within joint bodies. Alternately, ad hoc commissions can be established by agreement to deal with particular issues, as was the case in the Lake Lanoux and Danube river disputes.

As a general comment, change is inherent in freshwater systems, and watercourse agreements should be flexible and adaptable to changing circumstances. The almost century-long peaceful management of more than 300 basins shared by Canada and the United States demonstrates how a regime created in 1909 can not only survive but successfully adapt to new conditions despite numerous challenges. A similar longstanding and adaptive legal regime has evolved with respect to the Colorado/Rio Grande rivers, shared by the United States and Mexico.

9. CONCLUSION

This part has examined the key elements of a "good" watercourse agreement: those essential components and provisions that should be present or reflected in any cooperative arrangement over shared transboundary waters. Watercourse states have a range of options available to them in the design of their legal framework, but state practice demonstrates that there should be agreement on the issues of *scope*, *substantive rules*, *procedural rules*, *institutional mechanisms*, and *dispute avoidance/settlement procedures.* Understanding and agreeing on the "rules of the game" will go a long way in providing a regime that is sustainable and adequate to meet the changing requirements in respect of shared freshwater resources.

The 1997 UN Watercourses Convention, the only global instrument of its kind, provides a framework of substantive and procedural rules that should be considered by states. That instrument is based on the primacy of the rule of *equitable and reasonable utilization*, a conventional and customary international law endorsed by states in their relations involving shared transboundary waters. The *procedural rules* set forth in Parts II and III of the UN Convention are especially useful to watercourse

states that have no agreed arrangements for planned measures. States are left to make their own arrangements regarding institutional mechanisms. The state practice surveyed in this study reveals a broad range of options to select from. On the matter of *dispute settlement*, the formula proposed under the 1997 IWC Convention – traditional means coupled with compulsory fact-finding – offers states a predictable and enforceable arrangement that is particularly suited to disputes over water.

PART FIVE: LESSONS LEARNED AND CHECKLIST OF ISSUES

1. OVERVIEW

With more than 250 major international watercourses, some of which cross the world's most water-hungry regions, and the growing demand for water, it appears that conflicts over water are inevitable. Within an individual country's borders, it is for the national government to determine its national water policy, laws, and regulations, including means of implementing and enforcing them. Where waters have their origin in or flow into other nations' territories, the issues of legal entitlements and obligations with respect to these water resources become of crucial importance. Conflicts between sovereign states over shared waters can be avoided through predictable and enforceable legal frameworks, as demonstrated in this study. International water law provides a coherent body of rules and mechanisms that assist states in designing and implementing cooperative arrangements concerning their shared waters.

2. LESSONS LEARNED

A summary of the most important findings of this report follows.

i. International law – the law of nations – is the only instrument available to states to govern their relations concerning utilization and protection of their transboundary freshwater resources. It provides both the legal framework that makes it possible to determine respective legal rights and obligations, and the mechanisms for ensuring compliance and resolving disputes between states.

ii. States have increasingly found it beneficial to base their relations concerning utilization of shared water resources on international treaties, which as a rule ensure greater stability and predictability of behavior. Although an international treaty as such is not a guarantee against potential water conflicts (and history shows that some disputes arose from arguments over interpretation and application of treaty provisions), the absence of agreed legal frameworks governing relations between states over their shared waters significantly increases the possibility of water disputes.

iii. Ideally, legal regimes regulating utilization of transboundary watercourses should involve all watercourse (or basin) countries, thus ensuring that the interests of all potentially affected states are properly taken into consideration. Although there exists no blueprint for an effective international legal framework for cooperation, a combination of an "umbrella" treaty, which establishes certain general obligations, and more specific agreements (protocols, "minutes," and so on), which deal with particular issues of water management and utilization, is apparently becoming an increasingly popular model.

iv. International water law, as an integral part of public international law, has evolved over the past fifty years into a system of rules, the most important of which are reflected in the 1997 UN International Watercourses Convention, the only universal treaty concerning transboundary waters. Most states have shown their willingness to respect, apply, and abide by the general rules of international water law, which establish parameters of permissible behavior. Both substantive obligations, such as equitable and reasonable utilization, and procedural requirements, such as prior notification and consultation concerning planned projects, have found support and endorsement in state practice, including numerous multilateral and bilateral agreements.

v. The cornerstone principle of international water law that governs international relations in the field of transboundary water resources is that *each watercourse state is entitled to a reasonable and equitable use of the watercourse*. The principle of *equitable and reasonable utilization* should be applied through consideration of all the relevant factors in each particular case. The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable share, all relevant factors are to be considered together and a conclusion should be made on the basis of the whole.
vi. Conflicts over water arise out of different circumstances, but almost always directly or indirectly involve issues of allocation. States have demonstrated their ability to find solutions to problems of transboundary water allocation, from dividing control over the entire watercourse (Indus river), to water apportioning (Ganges river), to sharing "downstream benefits" (Columbia river), to water-energy swaps (Syr-Darya). However, water conflicts are inevitable; they have occurred in the past and will arise in the future.
vii. Thus, one of the most important functions of international law is to manage and resolve actual or potential conflicts peacefully through the use of available dispute settlement mechanisms and techniques. A range of such means – from negotiations, to mediation, arbitration, and adjudication – have been resorted to in resolving past water disputes. Compulsory fact-finding procedure is a relatively new mechanism established under the 1997 International Watercourses Convention that has yet to be tried.
viii. The present tendency is an increased reliance on various institutional bodies, such as joint river commissions, as a main forum where potential conflicts over water can be considered and "disarmed" without being elevated to a formal diplomatic level. Another current trend is the growing emphasis on dispute avoidance and prevention, primarily through the use of compliance verification and support systems, as evidenced by state practice in Europe and Southern Africa.
ix. The implementation of agreed arrangements is as important as settlement of conflicts over water in the first place. Proper performance of treaty obligations both helps to avoid possible further disputes and contributes to confidence building and promotion of cooperation.
x. International treaty regimes should be flexible enough to reflect the constantly changing natural status of water resources, as well as growing human impact and demands on them. Ideally, the regimes should contain built-in flexibility mechanisms that would allow them to adapt to changing conditions (such as fluctuations in precipitation, droughts, floods, and other emergency situations). Existing international practice demonstrates different approaches to achieving greater adaptability of treaty regimes, the most effective of which is to entrust a joint institutional mechanism with a mandate to respond to natural and human-related changes in shared water resources.

3. PCCP CHECKLIST

In developing their national water strategies, transboundary watercourses states would be well advised to consider the following issues:

i. To what extent does a particular state depend on transboundary freshwater resources (surface waters and aquifers)?
ii. What are the legal rules (treaty and customary) that govern the particular international watercourse?

- identify the legal regime governing the watercourse (i.e., boundary, armistice, friendly relations, regional framework agreements, and specific watercourse treaties)
- determine the nature of legal rights and obligations of the specific watercourse agreements.

In analyzing an existing, or in designing a new, treaty over water, watercourse states should consider the following issues:

a) Scope.

- What are the geographical (hydrographical, hydrological) boundaries of the waters resources to be regulated?
- What activities should be governed by an agreement?
- What states should (or can) participate in an agreement?

b) Substantive Rules: Equitable and Reasonable Utilization

- What are the rules that govern the lawfulness of existing or new uses?
- Develop a framework for the allocation of existing and future uses based on the principle of equitable and reasonable utilization, taking into consideration the following key issues:
  - *Vital human needs and in-stream flow.* Identify the water resources needed to satisfy vital human and environmental needs (domestic drinking and sanitation, livestock, "food production to alleviate hunger," and in-stream flows sufficient to protect the watercourse, *inter alia*). These "first calls" on the water are not in and of themselves legal obligations, but a competing use that harms these beneficial uses will probably be considered "unreasonable."
  - *Existing uses.* Identify all existing uses, including harm or future harm, projecting future requirements (establish a base line for the future projections), based on planning policies at national government level and international standards (such as WHO).
  - *Proposed uses.* Identify proposed uses (not a "wish list," but uses that are economically and environmentally feasible); these must be "carefully studied and objectively evaluated."
  - *Consumptive and non-consumptive uses.* Identify the quantity of water available in the watercourse system for consumptive and non-consumptive uses (select and justify the standard to be used: mean annual flow and temporal variability, *inter alia*).
  - *Conservation measures.* Identify the economically feasible conservation measures and water resources available from those measures. The objective is to compare the increased value of efficiency (conservation measures to meet existing or proposed uses; economic gains compared to cost of achieving greater efficiency *not* inefficiency of existing use to benefits of proposed uses)
  - *Alternative resources.* Identify financially practicable alternative resources to meet needs (water and other resources)
  - *Allocation.* Allocate the "beneficial" uses of the transboundary watercourse, attempting to attain the optimal utilization: the maximum possible benefits for all watercourse states, achieving the greatest possible satisfaction of all their needs, while minimizing the detriment to, or unmet needs of, each
  - *Environmental requirements.* Identify the environmental needs of the watercourse and related ecosystem.
  - *Changing circumstances.* What are the obligations where circumstances change? How are these accommodated under the agreement?

– *Emergency measures.* What are the obligations in times of emergency? How are these accommodated under the agreement?

c) Procedural Rules

- What are the procedural rules that apply to planned measures?
- Is there a prior notification requirement?
- What information is to be provided for planned measures?
- Is there an agreement concerning a regular exchange of information; when, and of what type?

d) Institutional Mechanisms

- What are the institutional mechanisms established (or to be established) under an agreement?
- What is the composition and mandate of the institutional mechanism?
- What role and mandate is there for dispute settlement and avoidance?
- Are there any compliance verification tasks?
- Are there any elements to allow flexibility and adaptability of the treaty regime to changing circumstances?

e) Dispute Avoidance/Settlement/Compliance

- What are the provisions for dispute avoidance?
- What provisions are there for monitoring compliance?
- What dispute settlement means are envisaged: negotiations, inquiry, fact-finding, conciliation, arbitration, adjudication?

f) Miscellaneous Provisions

- What term? (5-year? 25-year? Indefinite?)
- How to modify, amend, terminate?
- Entry into force? (What modalities?)
- Relationship to other agreements?

4. CONCLUSIONS

This study had as its primary purpose to demonstrate how transboundary watercourse states have developed and pursued practical solutions to the problems associated with managing and allocating their shared freshwater resources. Most of these arrangements are spelt out in international agreements, which are guided by the primary rules of international law reflected in the 1997 UN Watercourses Convention. However, the state practice discussed in this report also reveals that nations have a broad range of options available to them in the design and implementation of their agreements. Fundamental to the most successful treaty regimes is an effective institutional mechanism that deals with the issues of implementation, including dispute avoidance. The introduction of more formal mechanisms for monitoring compliance, based on non-confrontational and supportive reporting and review processes, illustrates yet another instrument aimed at ensuring cooperative relations among watercourse states.

Although the world faces a freshwater crisis and water disputes are inevitable, "water wars" must and can be avoided. States have shown time and again that they are willing and ready to pursue peaceful water relations through the use of the rules of international water law in their management of transboundary waters.

ANNEX I: RELEVANT FACTORS MATRIX (DUNDEE KNOWLEDGE AND RESEARCH PROJECT R8039)*

Relevant Factors Matrix			
Factor and components		*Comments & data required to assess the factor*	*Sources of data, methodology, assumptions, and problems*
1. What? The physical (natural) characteristics of the watercourse	Geographic Hydrographic Hydrological Hydro-geological Climatic Ecological/ Environmental	• Geographical context • Extent of drainage basin or aquifer in the state • Mean water availability – surface and ground water • Variability of the resources • Water quality • Contribution of water to the watercourse by each watercourse state • Potential climate change impacts • Climate type • Variability and trends • Potential climate change impacts • Environmental goods and service	
2. Who? Population in the basin	Present and projected population	• Total population in the study country and in the other TWSs • Population within the watercourse catchment area and dependent on the water of the watercourse • Growth and migration of population • Livestock	
3. What uses? Uses served by the watercourse	Existing uses Potential uses Extent of "Vital human needs" Existing structure of use Dependence of the economy on these activities Social use Ecological/ environmental use	• Population dependent on these economic activities • Share of GDP, tax revenues, employment, foreign exchange earnings • Human development index • Customary uses • Gender uses • Water needed to maintain ecosystem functioning • Population dependent on the ecosystem	

Relevant Factors Matrix			
Factor and components		*Comments & data required to assess the factor*	*Sources of data, methodology, assumptions, and problems*
4. What Impacts? Impacts caused by the use of the watercourse in one state on the uses in the others	Impacts of existing and potential uses	• Beneficial and adverse impacts • Transboundary and national effects • Changes in physical characteristics (quantity, quality) • Social and economic impacts	
5. What Options? Efficiency of and alternatives to the use of the watercourse	Specific (comparative efficiency of use) Broad (alternatives to use)	• Consumptive use (present and future) • Non-consumptive use • Alternative source of water for existing or planned uses • Alternatives to using water (which provide similar benefits)	
6. Other relevant factors			

The *Relevant Factors Matrix* has been developed under the DFID Knowledge and Research Project (KaR) Contract No R8039, "Transboundary Water Resources Management: Using the Law to Develop Effective National Water Strategy: "Poverty Eradication through Enforceable Rights to Water" (*see explanatory note below).

The *Relevant Factors Matrix*, driven in the first instance by legal research, represents a non-exhaustive list of key factors and a method for the collection of data to identify these, based on legal, economic and hydrologic expertise. Factors 1 and 2 set the physical context ("What," "Who"); Factor 3 identifies demand ("What Uses"); Factor 4 aims to set forth the consequences of the uses ("What Impact"); and Factor 5 requires consideration of alternative uses ("What Options"). Factor 6 permits identification of additional relevant factors.

Notes on the KaR Research Project: Contract No R8039

Transboundary Water Resources Management: Using the Law to Develop Effective National Water Strategy

When a state draws on more than its equitable share of water or pollutes the transboundary freshwater resources located in its territory, other states are affected. With close to 300 major watercourses shared by two or more states, growing demands for water provide a potential for both cooperation and conflict all over the world. But what are the watercourse state's legal rights and obligations and who defines them?

The principal aim of the Dundee Knowledge and Research (KaR) project is to develop a tool that would enable a transboundary watercourse state (TWS) to identify its legal entitlement and obligations with respect to shared freshwater resources. This

would assist a TWS in developing a national water policy that ensures reasonable and equitable access to freshwater resources for all, especially the most disadvantaged.

The Dundee KaR project aims to develop a Legal Assessment Model (LAM), to establish a set of gauging components, or "quantitative and qualitative parameters," to support national governments in determining with increased certainty their transboundary water entitlements and obligations. The LAM includes a series of data collection tools (factors matrix, legal audit, glossary of terms, and method of evaluation) designed to enable a TWS to comply with its international obligations.

The KaR project carried out by the International Water Law Research Institute (IWLRI), Department of Law, University of Dundee, is headed by Dr Patricia Wouters, Director of the Institute. Water resource experts with expertise in economics, hydrology and law conduct the project, working in interdisciplinary teams on the three project case studies in China (upstream), Mozambique (downstream) and Palestine (transboundary groundwater).

The Inception Report was issued in February 2002 for public dissemination and is available to view at the website:
www.dundee.ac.uk/law/iwlri.

The project's expected completion date is March 31 2003, with the final report and dissemination strategy following that date. If you require further information please refer to the website, contact Dr Wouters or the project assistant at IWLRI on +44 (0)1382 344451, or email
p,k.wouters@dundee.ac.uk.

ANNEX II: THE 1997 UN WATERCOURSES CONVENTION

UNITED NATIONS: CONVENTION ON THE LAW OF THE NON-NAVIGATIONAL USES OF INTERNATIONAL WATERCOURSES*

[Adopted by the UN General Assembly and
Opened to Signature, May 21, 1997]

*[Reproduced from United Nations Document A/51/869. April 11, 1997, which is the Report of the Sixth Committee convening as the Working Group of the Whole at its second session. The Working Group of the Sixth Committee held its second session from March 24 to April 4 1997; for the report of the Sixth Committee on the work of the Working Group at its first session (October 7 to 25 1996) see UN Document A/51/624. At the second session, the Chairman of the Working Group of the Sixth Committee took note of understandings pertaining to the following articles of the Convention: 1; 2(c); 3; 6(1)(e); 7(2); 10; 21; 22; 23; 28; and 29. Paragraph 8 of the Report in which those understandings are noted appears at 36 I.L.M. 719 (1997), following the text of the Convention.

On May 21 1997, by Resolution 5/229, the UN General Assembly adopted the Convention on the Law of Non-navigational Uses of International Watercourses, by a vote of 103 in favor to three against (Burundi, China, and Turkey), with twenty-seven abstentions (Andorra, Argentina, Azerbaijan, Belgium, Bolivia, Bulgaria, Colombia, Cuba, Ecuador, Egypt, Ethiopia, France, Ghana, Guatemala, India, Israel, Mali, Monaco, Mongolia, Pakistan, Panama, Paraguay, Peru, Rwanda, Spain, Tanzania, and Uzbekistan). The Convention was opened to signature on the same day, and remained open for signature until May 20, 2000.

For additional information contact the UN Treaty Section, Office of Legal Affairs, Secretariat Building S3200, UN Headquarters, New York, NY 10017, U.S.A. (tel.: (212) 963-5047; fax: (212) 963-3693).]

Preamble

PART I. INTRODUCTION
- Article 1 Scope of the present Convention
- Article 2 Use of terms
- Article 3 Watercourse agreements
- Article 4 Parties to watercourse agreements

PART II. GENERAL PRINCIPLES
- Article 5 Equitable and reasonable utilization and participation
- Article 6 Factors relevant to equitable and reasonable utilization
- Article 7 Obligation not to cause significant harm
- Article 8 General obligation to cooperate
- Article 9 Regular exchange of data and information
- Article 10 Relationship between different kinds of uses

PART III. PLANNED MEASURES.
- Article 11 [Exchange of] Information concerning planned measures
- Article 12 Notification concerning planned measures with possible adverse effects
- Article 13 Period for reply to notification
- Article 14 Obligations of the notifying State during the period for reply
- Article 15 Reply to notification
- Article 16 Absence of reply to notification
- Article 17 Consultations and negotiations concerning planned measures
- Article 18 Procedures in the absence of notification
- Article 19 Urgent implementation of planned measures

PART IV. PROTECTION, PRESERVATION AND MANAGEMENT
- Article 20 Protection and Preservation of ecosystems
- Article 21 Prevention, reduction and control of pollution
- Article 22 Introduction of alien or new species
- Article 23 Protection and Preservation of the marine environment
- Article 24 Management
- Article 25 Regulation
- Article 26 Installations

PART V. HARMFUL CONDITIONS AND EMERGENCY SITUATIONS
- Article 27 Prevention and mitigation of harmful conditions
- Article 28 Emergency situations

PART VI. MISCELLANEOUS PROVISIONS
- Article 29 International watercourses and installations in time of armed conflict
- Article 30 Indirect procedures
- Article 31 Data and information vital to national defence or Security
- Article 32 Non-discrimination
- Article 33 Settlement of disputes

PART VII. FINAL CLAUSES
- Article 34 Signature
- Article 35 Ratification, acceptance, approval or accession
- Article 36 Entry into force
- Article 37 Authentic texts [Depositary]

[Arabic, Chinese, English, French, Russian and Spanish; depositary is the UN Secretary-General]

ANNEX: ARBITRATION

Article 1 [APPLICABLE RULES]
Article 2 [REFERRAL OF DISPUTE TO ARBITRATION]
Article 3 [COMPOSITION OF ARBITRAL TRIBUNAL]
Article 4 [CHAIRMAN]
Article 5 [APPLICABLE LAW]
Article 6 [RULES OF PROCEDURE]
Article 7 [INTERIM MEASURES]
Article 8 [RESPONSIBILITIES OF THE PARTIES]
Article 9 [COSTS OF THE TRIBUNAL]
Article 10 [INTERVENTION OF PARTIES]
Article 11 [COUNTERCLAIMS]
Article 12 [DECISION-MAKING BY MAJORITY]
Article 13 [FAILURE TO APPEAR OR DEFEND; HEARINGS IN ABSENTIA]
Article 14 [FINAL DECISION; BINDING EFFECT]

[STATEMENTS OF UNDERSTANDING PERTAINING TO CERTAIN ARTICLES OF THE CONVENTION]

Convention on the Law of the Non-navigational Uses of International Watercourses

The Parties to the present Convention,

Conscious of the importance of international watercourses and the non-navigational uses thereof in many regions of the world,

Having in mind Article 13, Paragraph 1 (a), of the Charter of the United Nations, which provides that the General Assembly shall initiate studies and make recommendations for the purpose of encouraging the progressive development of international law and its codification,

Considering that successful codification and progressive development of rules of international law regarding non-navigational uses of international watercourses would assist in promoting and implementing the purposes and principles set forth in Articles 1 and 2 of the Charter of the United Nations,

Taking into account the problems affecting many international watercourses resulting from, among other things, increasing demands and pollution,

Expressing the conviction that a framework convention will ensure the utilization, development, conservation, management and protection of international watercourses and the promotion of the optimal and sustainable utilization thereof for present and future generations,

Affirming the importance of international cooperation and good-neighbourliness in this field,

Aware of the special situation and needs of developing countries,

Recalling the principles and recommendations adopted by the United Nations Conference on Environment and Development of 1992 in the Rio Declaration and Agenda 21,

Recalling also the existing bilateral and multilateral agreements regarding the non-navigational uses of international watercourses,

Mindful of the valuable contribution of international organizations, both governmental and non-governmental, to the codification and progressive development of international law in this field,

Appreciative of the work carried out by the International Law Commission on the law of the non-navigational uses of international watercourses,

Bearing in mind United Nations General Assembly resolution 49/52 of 9 December 1994,

Have agreed as follows:

PART I. INTRODUCTION

Article 1

Scope of the present Convention

1. The present Convention applies to uses of international watercourses and of their waters for purposes other than navigation and to measures of protection, preservation and management related to the uses of those watercourses and their waters.

2. The uses of international watercourses for navigation is not within the scope of the present Convention except insofar as other uses affect navigation or are affected by navigation.

Article 2

Use of terms

For the purposes of the present Convention:
(a) "Watercourse" means a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus;
(b) "International watercourse" means a watercourse, parts of which are situated in different States;
(c) "Watercourse State" means a State Party to the present Convention in whose territory part of an international watercourse is situated, or a Party that is a regional economic integration organization, in the territory of one or more of whose Member States part of an international watercourse is situated;
(d) "Regional economic integration organization" means an organization constituted by sovereign States of a given region, to which its member States have transferred competence in respect of matters governed by this Convention and which has been duly authorized in accordance with its internal procedures, to sign, ratify, accept, approve or accede to it.

Article 3

Watercourse agreements

1. In the absence of an agreement to the contrary, nothing in the present Convention shall affect the rights or obligations of a watercourse State arising from agreements in force for it on the date on which it became a party to the present Convention.

2. Notwithstanding the provisions of paragraph 1, parties to agreements referred to in paragraph 1 may, where necessary, consider harmonizing such agreements with the basic principles of the present Convention,

3. Watercourse States may enter into one or more agreements, hereinafter referred to as watercourse agreements, which apply and adjust the provisions of the present Convention to the characteristics and uses of a particular international watercourse or part thereof.

4. Where a watercourse agreement is concluded between two or more watercourse States, it shall define the waters to which it applies. Such an agreement may be entered into with respect to an entire international watercourse or any part thereof or a particular project, programme or use except insofar as the agreement adversely affects, to a significant extent, the use by one or more other watercourse States of the waters of the watercourse, without their express consent.

5. Where a watercourse State considers that adjustment and application of the provisions of the present Convention is required because of the characteristics and uses of a particular international watercourse, watercourse States shall consult with a view to negotiating in good faith for the purpose of concluding a watercourse agreement or agreements.

6. Where some but not all watercourse States to a particular international watercourse are parties to an agreement, nothing in such agreement shall affect the rights or obligations under the present Convention of watercourse States that are not parties to such an agreement.

Article 4

Parties to watercourse agreements

1. Every watercourse State is entitled to participate in the negotiation of and to become a party to any watercourse agreement that applies to the entire international watercourse, as well as to participate in any relevant consultations.

2. A watercourse State whose use of an international watercourse may be affected to a significant extent by the implementation of a proposed watercourse agreement that applies only to a part of the watercourse or to a particular project, programme or use is entitled to participate in consultations on such an agreement and, where appropriate, in the negotiation thereof in good faith with a view to becoming a party thereto, to the extent that its use is thereby affected.

PART II. GENERAL PRINCIPLES

Article 5

Equitable and reasonable utilization and participation

1. Watercourse States shall in their respective territories utilize 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 utilization thereof and benefits therefrom taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse.

2. 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 utilize the watercourse and the duty to cooperate in the protection and development thereof, as provided in the present Convention.

Article 6

Factors relevant to equitable and reasonable utilization

1. Utilization of an international watercourse in an equitable and reasonable manner within the meaning of article 5 requires taking into account all relevant factors and circumstances, including:

(a) Geographic hydrological, climatic, ecological and other factors of a natural character;

(b) The social and economic needs of the watercourse States concerned;

(c) The population dependent on the watercourse in each watercourse State;

(d) The effects of the use or uses of the watercourses in one watercourse State on other watercourse States;

(e) Existing and potential uses of the watercourse;

(f) Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect;

(g) The availability of alternatives, of comparable value, to a particular planned or existing use.

2. In the application of article 5 or paragraph 1 of this article, watercourse States concerned shall, when the need arises, enter into consultations in a spirit of cooperation.

3. The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

Article 7

Obligation not to cause significant harm

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 articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the Question of compensation.

Article 8

General obligation to cooperate

1. Watercourse States shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse.

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

Article 9

Regular exchange of data and information

1. Pursuant to article 8, watercourse States shall on a regular basis exchange readily available data and information on the condition of the watercourse, in particular that of a hydrological, meteorological, hydrogeological and ecological nature and related to the water quality as well as related forecasts.

2. If a watercourse State is requested by another watercourse State to provide data or information that is not readily available, it shall employ its best efforts to comply with the request but may condition its compliance upon payment by the requesting

State of the reasonable costs of collecting and, where appropriate, processing such data or information.

3. Watercourse States shall employ their best efforts to collect and, where appropriate, to process data and information in a manner which facilitates its utilization by the other watercourse States to which it is communicated.

Article 10

Relationship between different kinds of uses

1. In the absence of agreement or custom to the contrary, no use of an international watercourse enjoys inherent priority over other uses,

2. 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.

PART III. PLANNED MEASURES

Article 11

Information concerning planned measures

Watercourse States shall exchange information and consult each other and, if necessary, negotiate on the possible effects of planned measures on the condition of an international watercourse.

Article 12

Notification concerning planned measures with possible adverse effects

Before a watercourse State implements or permits the implementation of planned measures which may have a significant adverse effect upon other watercourse States, it shall provide those States with timely notification thereof. Such notification shall be accompanied by available technical data and information, including the results of any environmental impact assessment, in order to enable the notified States to evaluate the possible effects of the planned measures.

Article 13

Period for reply to notification

Unless otherwise agreed:

(a) A watercourse State providing a notification under article 12 shall allow the notified States a period of six months within which to study and evaluate the possible effects of the planned measures and to communicate the findings to it;

(b) This period shall, at the request of a notified State for which the evaluation of the planned measures poses special difficulty, be extended for a period of six months.

Article 14

Obligations of the notifying State during the period for reply

During the period referred to in article 13, the notifying State:

(a) Shall cooperate with the notified States by providing them, on request, with any additional data and information that is available and necessary for an accurate evaluation; and

(b) Shall not implement or permit the implementation of the planned measures without the consent of the notified States.

Article 15

Reply to notification

The notified States shall communicate their findings to the notifying State as early as possible within the period applicable pursuant to article 13. If a notified State finds that Implementation of the planned measures would be inconsistent with the provisions of articles 5 or 7, it shall attach to its finding a documented explanation setting forth the reasons for the finding.

Article 16

Absence of reply to notification

1. If, within the period applicable pursuant to article 13, the notifying State receives no communication under article 15, it may, subject to its obligations under articles 5 and 7, proceed with the implementation of the planned measures, in accordance with the notification and any other data and information provided to the notified States,

2. Any claim to compensation by a notified State which has failed to reply within the period applicable pursuant to article 13 may be offset by the costs incurred by the notifying State for action undertaken after the expiration of the time for a reply which would not have been undertaken if the notified State had objected within that period.

Article 17

Consultations and negotiations concerning planned measures

1. If a communication is made under article 15 that implementation of the planned measures would be inconsistent with the provisions of articles 5 or 7, the notifying State and the State making the communication shall enter into consultations and, if necessary, negotiations with a view to arriving at an equitable resolution of the situation,

2. The consultations and negotiations shall be conducted on the basis that each State must in good faith pay reasonable regard to the rights and legitimate interests of the other State.

3. During the course of the consultations and negotiations, the notifying State shall, if so requested by the notified State at the time it makes the communication, refrain from implementing or permitting the implementation of the planned measures for a period of six months unless otherwise agreed.

Article 18

Procedures in the absence of notification

1. If a watercourse State has reasonable grounds to believe that another watercourse State is planning measures that may have a significant adverse effect upon it, the former State may request the latter to apply the provisions of article 12. The request shall be accompanied by a documented explanation setting forth its grounds.

2. In the event that the State planning the measures nevertheless finds that it is not under an obligation to provide a notification under article 12, it shall so inform the other State, providing a documented explanation setting forth the reasons for such finding. If this finding does not satisfy the other State, the two States shall, at the request of that other State, promptly enter into consultations and negotiations in the manner indicated in paragraphs 1 and 2 of article 17.

3. During the course of the consultations and negotiations, the State planning the measures shall, if so requested by the other State at the time it requests the initiation of consultations and negotiations, refrain from implementing or permitting the implementation of those measures for a period of six months unless otherwise agreed.

Article 19

Urgent implementation of planned measures

1. In the event that the implementation of planned measures is of the utmost urgency in order to protect public health, public safety or other equally important interests, the State planning the measures may, subject to articles 5 and 7, immediately proceed to implementation, notwithstanding the provisions of article 14 and paragraph 3 of article 17.

2. In such case, a formal declaration of the urgency of the measures shall be communicated without delay to the other watercourse States referred to in article 12 together with the relevant data and information.

3. The State planning the measures shall, at the request of any of the States referred to in paragraph 2, promptly enter into consultations and negotiations with it in the manner indicated in paragraphs 1 and 2 of article 17.

PART IV. PROTECTION PRESERVATION AND MANAGEMENT

Article 20

Protection and preservation of ecosystems

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

Article 21

Prevention, reduction and control of pollution

1. For the purpose of this article, pollution of an international watercourse means any detrimental alteration in the composition or quality of the waters of an international watercourse, which results directly or indirectly from human conduct.

2. Watercourse States shall, individually and, where appropriate, jointly, prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment, including harm to human health or safety, to the use of the waters for any beneficial purpose or to the living resources of the watercourse. Watercourse States shall take steps to harmonize their policies in this connection.

3. Watercourse States shall, at the request of any of them, consult with a view to arriving at mutually agreeable measures and methods to prevent, reduce and control pollution of an international watercourse, such as:

(a) Setting joint water quality objectives and criteria;

(b) Establishing techniques and practices to address pollution from point and non-point sources;

(c) Establishing lists of substances the introduction of which into the waters of an international watercourse is to be prohibited limited, investigated or monitored.

Article 22

Introduction of alien or new species

Watercourse States shall take all measures necessary 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.

Article 23

Protection and preservation of the marine environment

Watercourse States shall, individually and, where appropriate, in cooperation 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.

Article 24

Management

1. Watercourse States shall, at the request of any of them, enter into consultations concerning the management of an international watercourse which may include the establishment of a joint management mechanism.

2. For the purposes of this article, "management" refers, in particular, to:

(a) Planning the sustainable development of an international watercourse and providing for the implementation of any plans adopted; and

(b) Otherwise promoting the rational and optimal utilization, protection and control of the watercourse.

Article 25

Regulation

1. Watercourse States shall cooperate, where appropriate, to respond to needs or opportunities for regulation of the flow of the waters of an international watercourse.

2. Unless otherwise agreed, watercourse States shall participate on an equitable basis in the construction and maintenance or defrayal of the costs of such regulation works as they may have agreed to undertake.

3. For the purposes of this article, regulation means the use of hydraulic works or any other continuing measure to alter, vary or otherwise control the flow of the waters of an international watercourse.

Article 26

Installations

1. Watercourse States shall, within their respective territories, employ their best efforts to maintain and protect installations, facilities and other works related to an international watercourse.

2. Watercourse States shall, at the request of any of them which has reasonable grounds to believe that it may suffer significant adverse effects, enter into consultations with regard to:

(a) The safe operation and maintenance of installations, facilities or other works related to an international watercourse; and

(b) The protection of installations, facilities or other works from wilful or negligent acts or the forces of nature.

PART V. HARMFUL CONDITIONS AND EMERGENCY SITUATIONS

Article 27

Prevention and mitigation of harmful conditions

Watercourse States shall, individually and, where appropriate, jointly, take all appropriate measures to prevent or mitigate conditions related to an international watercourse that may be harmful to other watercourse States, whether resulting from natural causes or human conduct, such as flood or ice conditions, water-borne diseases, siltation, erosion, salt-water intrusion, drought or desertification,

Article 28

Emergency situations

1. For the purposes of this article, emergency means a situation that causes, or poses an imminent threat of causing, serious harm to watercourse States or other States and that results suddenly from natural causes, such as floods, the breaking up of ice, landslides or earthquakes, or from human conduct, such as industrial accidents.

2. A watercourse State shall, without delay and by the most expeditious means available, notify other potentially affected States and competent international organizations of any emergency originating within its territory.

3. A watercourse State within whose territory an emergency originates shall, in cooperation with potentially affected States and, where appropriate, competent international organizations, immediately take all practicable measures necessitated by the circumstances to prevent, mitigate and eliminate harmful effects of the emergency.

4. When necessary, watercourse States shall jointly develop contingency plans for responding to emergencies, in cooperation, where appropriate, with other potentially affected States and competent international organisations,

PART VI. MISCELLANEOUS PROVISIONS

Article 29

International watercourses and installations in time of armed conflict

International watercourses and related installations, facilities and other works shall enjoy the protection accorded by the principles and rules of international law applicable in international and non-international armed conflict and shall not be used in violation of those principles and rules.

Article 30

Indirect procedures

In cases where there are serious obstacles to direct contacts between watercourse States, the States concerned shall fulfil their obligations of cooperation provided for in the present Convention, including exchange of data and information, notification, communication, consultations and negotiations, through any indirect procedure accepted by them.

Article 31

Data and information vital to national defence or security

Nothing in the present Convention obliges a watercourse State to provide data or information vital to its national defence or security. Nevertheless, that State shall cooperate in good faith with the other watercourse States with a view to providing as much information as possible under the circumstances.

Article 32

Non-discrimination

Unless the watercourse States concerned have agreed otherwise for the protection of the interests of persons, natural or juridical, who have suffered or are under a serious threat of suffering significant transboundary harm as a result of activities related to an international watercourse, a watercourse State shall not discriminate on the basis of nationality or residence or place where the injury occurred, in granting to such persons, in accordance with its legal system, access to judicial or other procedures, or a right to claim compensation or other relief in respect of significant harm caused by such activities carried on in its territory.

Article 33

Settlement of disputes

1. In the event of a dispute between two or more Parties concerning the interpretation or application of the present Convention, the Parties concerned shall, in the absence of an applicable agreement between them, seek a settlement of the dispute by peaceful means in accordance with the following provisions.

2. If the Parties concerned cannot reach agreement by negotiation requested by one of them, they may jointly seek the good offices of, or request mediation or conciliation by, a third party, or make use, as appropriate, of any joint watercourse institutions that may have been established by them or agree to submit the dispute to arbitration or to the International Court of Justice,

3. Subject to the operation of paragraph 10, if after six months from the time of the request for negotiations referred to in paragraph 2, the Parties concerned have not been able to settle their dispute through negotiation or any other means referred to in paragraph 2, the dispute shall be submitted, at the request of any of the Parties to the dispute, to impartial fact-finding in accordance with paragraphs 4 to 9, unless the Parties otherwise agree.

4. A Fact-finding Commission shall be established, composed of one member nominated by each Party concerned and in addition a member not having the nationality of any of the Parties concerned chosen by the nominated members who shall serve as Chairman.

5. If the members nominated by the Parties are unable to agree on a Chairman within three months of the request for the establishment of the Commission, any Party concerned may request the Secretary-General of the United Nations to appoint the Chairman who shall not have the nationality of any of the parties to the dispute or of any riparian State of the watercourse concerned. If one of the Parties fails to nominate a member within three months of the initial request pursuant to paragraph 3, any other party concerned may request the Secretary-General of the United Nations to appoint a person who shall not have the nationality of any of the parties to the dispute or of any riparian State of the watercourse concerned. The person so appointed shall constitute a single-member Commission.

6. The Commission shall determine its own procedure.

7. The Parties concerned have the obligation to provide the Commission with such information as it may require and, on request, to permit the Commission to have access to their respective territory and to inspect any facilities, plant, equipment, construction or natural feature relevant for the purpose of its inquiry.

8. The Commission shall adopt its report by a majority vote, unless it is a single-member Commission, and shall submit that report to the Parties concerned setting forth its findings and the reasons therefor and such recommendation as it deems appropriate for an equitable solution of the dispute, which the Parties concerned shall consider in good faith.

9. The expenses of the Commission shall be borne equally by the Parties concerned.

10. When ratifying, accepting, approving or acceding to the present Convention, or at any time thereafter, a Party which is not a regional economic integration organization may declare in a written instrument submitted to the Depositary that, in respect of any dispute not resolved in accordance with paragraph 2, it recognizes as compulsory *ipso facto* and without special agreement in relation to any Party accepting the same obligation:

(a) Submission of the dispute to the International Court of Justice; and/or

(b) Arbitration by an arbitral tribunal established and operating, unless the parties to the dispute otherwise agreed, in accordance with the procedure laid down in the annex to the present Convention,

A Party which is a regional economic integration organization may make a declaration with like effect in relation to arbitration in accordance with subparagraph (b).

PART VII. FINAL CLAUSES

Article 34

Signature

1. The present Convention shall be open for signature by all States and by regional economic integration organizations from 21 May 1997 until 20 May 2000 at United Nations Headquarters in New York.

Article 35

Ratification, acceptance, approval or accession

1. The present Convention is subject to ratification, acceptance, approval or accession by States and by regional economic integration organizations. The instruments of ratification, acceptance, approval or accession shall be deposited with the Secretary-General of the United Nations.

2. Any regional economic integration organization which becomes a Party to this Convention without any of its member States being a Party shall be bound by all the obligations under the convention. In the case of such organizations, one or more of whose member States is a Party to this convention, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under the Convention. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention concurrently.

3. In their instruments of ratification, acceptance, approval or accession, the regional economic integration organizations shall declare the extent of their competence with respect to the matters governed by the Convention. These organizations shall also inform the Secretary-General of the United Nations of any substantial modification in the extent of their competence.

Article 36

Entry into force

1. The present Convention shall enter into force on the ninetieth day following the date of deposit of the thirty-fifth instrument of ratification, acceptance, approval or accession with the Secretary-General of the United Nations.

2. For each State or regional economic integration organization that ratifies, accepts or approves the Convention or accedes thereto after the deposit of the thirty-fifth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the deposit by such State or regional economic integration organization of its instrument of ratification, acceptance, approval or accession.

3. For the purposes of paragraphs 1 and 2, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by States.

Article 37

Authentic texts

The original of the present Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned plenipotentiaries, being duly authorized thereto, have signed this Convention.

DONE at New York, this 21st day of May one thousand nine hundred and ninety-seven.

ANNEX

ARBITRATION

Article 1

Unless the parties to the dispute otherwise agree, the arbitration pursuant to Article 33 of the convention shall take place in accordance with articles 2 to 14 of the present annex.

Article 2

The claimant party shall notify the respondent party that it is referring a dispute to arbitration pursuant to Article 33 of the convention. The notification shall state the subject matter of arbitration and include, in particular, the articles of the Convention, the interpretation or application of which are at issue. If the parties do not agree on the subject matter of the dispute, the arbitral tribunal shall determine the subject matter.

Article 3

1. In disputes between two parties, the arbitral tribunal shall consist of three members. Each of the parties to the dispute shall appoint an arbitrator and the two arbitrators so appointed shall designate by common agreement the third arbitrator, who shall be the Chairman of the tribunal. The latter shall not be a national of one of the parties to the dispute or of any riparian State of the watercourse concerned, nor have his or her usual place of residence in the territory of one of these parties or such riparian State, nor have dealt with the case in any other capacity.

2. In disputes between more than two parties, parties in the same interest shall appoint one arbitrator jointly by agreement,

3. Any vacancy shall be filled in the manner prescribed for the initial appointment.

Article 4

1. If the Chairman of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the President of the International Court of Justice shall, at the request of a party, designate the Chairman within a further two-month period.

2. If one of the parties to the dispute does not appoint an arbitrator within two months of receipt of the request, the other party may inform the President of the International Court of Justice, who shall make the designation within a further two-month period.

Article 5

The arbitral tribunal shall render its decisions in accordance with the provisions of this Convention and international law.

Article 6

Unless the parties to the dispute otherwise agree, the arbitral tribunal shall determine its own rules of procedure.

Article 7

The arbitral tribunal may, at the request of one of the Parties, recommend essential interim measures of protection,

Article 8

1. The parties to the dispute shall facilitate the work of the arbitral tribunal and, in particular, using all means at their disposal, shall:

(a) Provide it with all relevant documents, information and facilities;

(b) Enable it, when necessary, to call witnesses or experts and receive their evidence.

2. The parties and the arbitrators are under an obligation to protect the confidentiality of any information they receive in confidence during the proceedings of the arbitral tribunal.

Article 9

Unless the arbitral tribunal determines otherwise because of the particular circumstances of the case, the costs of the tribunal shall be borne by the parties to the dispute in equal shares. The tribunal shall keep a record of all its costs, and shall furnish a final statement thereof to the parties.

Article 10

Any Party that has an interest of a legal nature in the subject matter of the dispute which may be affected by the decision in the case, may intervene in the proceedings with the consent of the tribunal.

Article 11

The tribunal may hear and determine counterclaims arising directly out of the subject matter of the dispute.

Article 12

Decisions both on procedure and substance of the arbitral tribunal shall be taken by a majority vote of its members.

Article 13

If one of the parties to the dispute does not appear before the arbitral tribunal or fails to defend its case, the other party may request the tribunal to continue the proceedings and to make its award. Absence of a party or a failure of a party to defend its case shall not constitute a bar to the proceedings. Before rendering its final decision, the arbitral tribunal must satisfy itself that the claim is well founded in fact and law.

Article 14

1. The tribunal shall render its final decision within five months of the date on which it is fully constituted unless it finds it necessary to extend the time limit for a period which should not exceed five more months.

2. The final decision of the arbitral tribunal shall be confined to the subject matter of the dispute and shall state the reasons on which it is based. It shall contain the names of the members who have participated and the date of the final decision. Any

member of the tribunal may attach a separate or dissenting opinion to the final decision.

3. The award shall be binding on the parties to the dispute. It shall be without appeal unless the parties to the dispute have agreed in advance to an appellate procedure.

4. Any controversy which may arise between the parties to the dispute as regards the interpretation or manner of Implementation of the final decision may be submitted by either party for decision to the arbitral tribunal which rendered it.

STATEMENTS OF UNDERSTANDING PERTAINING TO CERTAIN ARTICLES OF THE CONVENTION

During the elaboration of the draft Convention on the Law of the Non-navigational Uses of International Watercourses, the Chairman of the working Group of the Whole took note of the following statements of understanding pertaining to the texts of the draft Convention:

As regards *article 1:*

(a) The concept of "preservation" referred to in this article and the Convention includes also the concept of "conservation";

(b) The present Convention does not apply to the use of living resources that occur in international watercourses, except to the extent provided for in part IV and except insofar as other uses affect such resources.

As regards *article 2 (c):*

The term "watercourse State" is used in this Convention as a term of art. Although this provision provides that States and regional economic integration organizations can both fall within this definition, it was recognized that nothing in this paragraph could be taken to imply that regional economic integration organizations have the status of States in international law,

As regards *article 3:*

(a) The present Convention will serve as a guideline for future watercourse agreements and, once such agreements are concluded, it will not alter the rights and obligations provided therein, unless such agreements provide otherwise;

(b) The term significant is not used in this article or elsewhere in the present Convention in the sense of "substantial". What is to be avoided are localized agreements, or agreements concerning a particular project, programme or use, which have a significant adverse effect upon third watercourse States. While such an effect must be capable of being established by objective evidence and not be trivial in nature, it need not rise to the level of being substantial.

As regards *article 6 (1) (e):*

In order to determine whether a particular use is equitable and reasonable, the benefits as well as the negative consequences of a particular use should be taken into account.

As regards *article 7 (2):*

In the event such steps as are required by article 7 (2) do not eliminate the harm, such steps as are required by article 7 (2) shall then be taken to mitigate the harm.

As regards *article 10:*

In determining "vital human needs", special attention is to be paid to providing sufficient water to sustain human life, including both drinking water and water required for production of food in order to prevent starvation.

As regards *articles 21, 22 and 23:*

As reflected in the commentary of the International Law Commission, these articles impose a due diligence standard on watercourse States,

As regards *article 28:*

The specific reference to international organizations is by no means intended to undermine the importance of cooperation, where appropriate, with competent international organizations on matters dealt with in other articles and, in particular, dealt with in the articles in part IV.

As regards *article 29:*

This article serves as a reminder that the principles and rules of international law applicable in international and non-international armed conflict contain important provisions concerning international watercourses and related works. The principles and rules of international law that are applicable in a particular case are those that are binding on the States concerned. Just as article 29 does not alter or amend existing law, it also does not purport to extend the applicability of any instrument to States not parties to that instrument.

* * *

Throughout the elaboration of the draft Convention, reference had been made to the commentaries to the draft articles prepared by the International Law Commission to clarify the contents of the articles.

Status of the Convention on the Law of the Non-Navigational Uses of International Watercourses

Adopted by the General Assembly of the United Nations on 21 May 1997

NOT YET IN FORCE: (see article 36).

TEXT: Doc. A/51/869.

STATUS: Parties: 12, Signatories: 8.

By resolution A/RES/51/229 of 21 May 1997, the General Assembly of the United Nations adopted at its 51st session, the said Convention. In accordance with its article 34, the convention shall be open for signature at the Headquarters of the United Nations in New York, on 21 May 1997 and will remain open to all States and regional economic integration organizations for signature until 21 May 2000.

Ratified by: Finland, Hungary, Iraq, Jordan, Lebanon, Namibia, Netherlands, Norway, Qatar, South Africa, Sweden, and the Syrian Arab Republic.

Signed by: Cote d'Ivoire, Germany, Luxembourg, Paraguay, Portugal, Tunisia, Venezuela, and Yemen.

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Constitution of UNESCO (excerpt)

London, 16 November 1945

The Governments of the States Parties to this Constitution on behalf of their peoples declare:

That since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed;

That ignorance of each other's ways and lives has been a common cause, throughout the history of mankind, of that suspicion and mistrust between the peoples of the world through which their differences have all too often broken into war;

That the great and terrible war which has now ended was a war made possible by the denial of the democratic principles of the dignity, equality and mutual respect of men, and by the propagation, in their place, through ignorance and prejudice, of the doctrine of the inequality of men and races;

That the wide diffusion of culture, and the education of humanity for justice and liberty and peace are indispensable to the dignity of man and constitute a sacred duty which all the nations must fulfil in a spirit of mutual assistance and concern;

That a peace based exclusively upon the political and economic arrangements of governments would not be a peace which could secure the unanimous, lasting and sincere support of the peoples of the world, and that the peace must therefore be founded, if it is not to fail, upon the intellectual and moral solidarity of mankind...











International Hydrological Programme

World Water Assessment Programme