# INTERNATIONAL WATERS AND GOVERNANCE

# Reference and Training Manual

Global International Waters Governance Initiative
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Good Practices and Portfolio Learning in GEF Transboundary Freshwater and Marine Legal and Institutional Frameworks

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# Disclaimer

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This draft reference and training manual does not necessarily represent the views of GEF, UNDP, FAO, White & Case or any other entity or organization with which the authors are now, or may have been previously, associated.



Comments and criticisms of experiences using this manual are strongly encouraged by emailing Richard Kyle Paisley, Global Transboundary International Waters Governance Initiative, University of British Columbia IAR, Vancouver, Canada at: rpaisley@internationalwatersgovernance.com

# Preface

The objective of these reference and training materials is to provide practical and "learner-centered" training materials regarding international waters and governance issues.

These materials were developed for two key reasons. First, there appeared to be a relative lack of user friendly international training materials succinctly integrating negotiation skills with international water law training. Second, there appeared to be a niche for a more "learner centered" training approach to governance and international waters focusing on analysis of experience, and encouraging attendees to become increasingly self directed and more responsible for their own learning. Under such an approach, first hand and vicarious experiences, dialogue among learners as well as between instructors and learners, and analysis and interpretation would become the focus of instruction.

The target audience for these materials includes inexperienced and experienced negotiators, and practitioners of international waters governance, and those with an interest in developing effective negotiation skills and techniques.

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Errors and omissions remain the sole responsibility of the authors.

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# CHAPTER 1

# International Waters

## Introduction[1]

> *There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things. For the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in all those who would profit by the new order, this lukewarmness arising partly from fear of their adversaries … and partly from the incredulity of mankind, who do not truly believe in anything new until they have had actual experience of it.*
>
> - Niccolo Machiavelli, 1535, The Prince

International waters in this reference and training manual include international watercourses (international drainage basins, international groundwater situations and international Large Marine Ecosytems (LMEs)).

There are at least two key reasons why good governance of international waters are critically important.

First, international agreements governing the utilization of international waters serve not only to protect and promote sustainability but can also affect security throughout an entire region. International agreements governing the utilization of international waters tend to stabilize and enhance security at the regional level, and the security return generated is independent of the concrete ecological and economic benefits produced by such agreements.

Second, international waters are important because nearly half of the world's population is located within one or more of the over 260 international drainage basins alone shared by two or more states. Even more striking than the absolute number of international drainage basins, is a breakdown of each nation's land surface which fall within these watersheds. At least 145 nations include territory within international basins. At least 21 nations lie in their entirety within international basins including 33 countries which have greater than 95% of their territory within these basins. All told 19 international drainage basins are shared by 5 or more riparians countries. The Danube has 17 riparian nations. The Congo, Niger, Nile, Rhine and Zambezi are shared by between 9 and 11 countries. The remaining 13 basins have between 5 and 8 riparian countries.

[1] The material in this section relies on material originally developed by Professor Aaron Wolf including Heather L. Beach et al., Transboundary Freshwater Dispute Resolution: Theory, Practice and Annotated References, (Juha I. Uitto & Asit K. Biswas eds.,

Severe deforestation, soil erosion, salinization, toxic contamination, drought and flooding, and air and water pollution are just some of the environmental calamities that can increase international tension. Conversely, the very process of reaching accommodation while developing bilateral resources and environmental mechanisms for cooperation in a transboundary water context creates a stabilizing and more transparent atmosphere. The mere fact of negotiation usually widens political participation, builds political stability and spreads confidence between basin states. Even in cases in which riparians merely agree to share information and exchange data, while agreeing to disagree on substantive issues, increased confidence usually emerges.

According to James Kraska:

> *The role of transboundary river agreements in promoting sustainable development extends beyond simple economic and environmental factors. In South Asia, agreements have helped to strengthen political ties. The agreements have value as vehicles to ameliorate tension and reduce the likelihood of war. Although freshwater rivers, especially transnational ones, are frequently understood to contribute to international conflict, in South Asia the process and results of concluding transboundary river agreements have had positive ripple effect on the regional security environment.*[2]

Cooperation on international water issues is also an important catalyst for regional cooperation.[3] Competition for access to increasingly scarce water resources is one of the most significant and frequent structural causes for crises. Only regional cooperation can solve many of these serious water problems. Unresolved international water issues can also block cooperation as a whole between states. Water issues thus overshadow many political themes in which regional cooperation would benefit all stakeholders. Solving international water conflicts means making regional cooperation possible again. Joint cooperation around international watercourses essentially paves the way for regional cooperation in other domains of politics, economics, environment and culture.

The real issue is how best to strengthen development aid to better facilitate the negotiation and implementation of transboundary water agreements that clearly contribute to regional peace and security.

This reference and training manual includes chapters on international law; lessons learned and experiences with governance of international waters; adult learning; cross cultural communication; negotiation and conflict resolution; and experiential learning exercises. There is also a glossary and a bibliography.

## Background

There are over 260 freshwater watersheds and countless aquifers and LMEs which cross the political boundaries of two or more countries. International basins alone cover 45.3% of the

[2] James Kraska, Sustainable Development is Security: the Role of Transboundary River Agreements as Confidence Building Measure (CBM) in South Asia, 28 Yale J. Int'l L. 465 (2003).
[3] Id.

land surface of the earth, affect about 40% of the world's population, and account for approximately 80% of global river flow.[4]

These basins have certain characteristics that make their management especially difficult, the most notable of which is the tendency for regional politics to regularly exacerbate the already difficult task of understanding and managing complex natural systems.

According to Wolf, the most critical lessons learned from the global experience in international waters issues are as follows:

1. Water crossing international boundaries can cause tensions between nations which share the basin. While the tension is not likely to lead to warfare, early coordination between riparian states can help ameliorate the issue.
2. Once international institutions are in place, they are tremendously resilient over time, even between otherwise hostile riparian nations, and even as conflicts are waged over other issues.
3. More likely than violent conflict occurring is a gradual decreasing of water quantity or quality, or both, which over time can affect the internal stability of a nation or region, and act as an irritant between ethnic groups, water sectors, or states/provinces. The resulting instability may have effects in the international arena.
4. The greatest threat of the global water crisis to human security comes from the fact that millions of people lack access to sufficient quantities of clean water for their well being.[5]

[4] Aaron T. Wolf et al., International Waters: Identifying Basins at Risk, 5 (1) Water Policy 29-60 (2003).
[5] Id.

## Entities for Managing, Allocating, Protecting, and Developing International Waters

Commissions and other entities are especially relevant to the management, allocation, protection, and development of international waters. Such entities have been employed on a multitude of international rivers in Europe; in North America, on the Great Lakes, the Rio Grande and the Colorado River; in Africa on the Okavango and Zambezi Rivers and for Lake Chad; in Asia on the Mekong River; in Latin America on the frontier waters between Guatemala and Mexico and on the Uruguay River. As well, they have been important with respect to international aquifers and LMEs (eg. the Guarani Aquifer, the Franco-Swiss Aquifer, the Benguela Current LME).

> *"Meaningful progress in improving water resources management across jurisdictional boundaries requires effective mechanisms to be developed for an informed and structured dialogue about contentious issues as a means of resolving disagreements as they arise, and an agreed means for implementing the decisions that are taken. This requires an open and transparent process to be put into effect, one that facilitates the development of mutual trust and understanding over time. Creating river basin organizations (RBOs) has been actively promoted as a way of peacefully managing shared water resources and there are many good examples of RBOs from across the globe."*[6]

Usually there exists no 'perfect' solution in international water issues - but only the 'best' possible under all of the current political, social, economic and environmental circumstances.

Negotiations surrounding the role and functions of bi/multilateral entities have revolved around power; politics; history; culture; the economy and the environment.

[6] Personal Communication with John Scanlon (2007) (on file with author).

# CHAPTER 2

## International Law[7]

The materials included in this compilation concern the decisions that comprise international water law and the international law of the sea. The purpose of this introductory statement is to provide some background that will help in understanding this body of law and this collection of materials.

All international law is composed of the flow of decisions about events that have effects across national boundaries or that affect more than one nation state or other entity. The part of international law that is international water law and the international law of the sea consists of decisions to prescribe and to apply policy for uses of freshwater and marine environments. This introductory statement therefore seeks to describe the wide range of uses of the freshwater and marine environment, the claims made by nations and international organizations to exercise authority and control over these uses, and the decisions (including the process of making them) by which such claims are recognized as lawful or rejected as unlawful.

A major purpose of this introduction is to try to place the most recent decisions about international water law and the international law of the sea into a context that emphasizes developments over the past four decades. The underlying idea is to see international law of in the context of factors that have been influential in affecting such decisions. A depiction of law which resembles a snapshot, freezing an event in an immediate framework of time and space, is inadequate for understanding the flow of decisions over time. And a treatment of law solely in terms of black letter rules and doctrines, divorced from the social process that gives them life and meaning, is worse than useless, it is misleading. If done properly, the analogy is to a moving picture which depicts the unfolding past and focuses on the events and relationships that have had influence in shaping the current circumstances so that these become clearer as to their meaning and significance for the future as well as the past.

The two principal means for creating international law are by explicit agreement - the express concurrence of the position of nations and (occasionally) of international bodies (**codified international law**), and by custom - the practices of States that are uniform and accepted by the relevant community of states, and usually enforced (**customary international law**). Both of these sources are important in international water law and the international law of the sea, but recent events have magnified the critical role of customary international law. The initial refusal of the United States Administration to accept the 1982 Convention on the Law of the Sea, while at the same time emphasizing that this treaty in its nonseabed portions reflects customary law, put major emphasis on customary law.

International water law and the international law of the sea bear on many matters generally considered of major political interest: power (in the sense of influence including the use of coercion), the production and allocation of energy, living resources for food and employment, knowledge that is critical for preservation and protection of environmental quality, and matters affecting the physical well-being of groups ranging from isolated communities to aggregates of

[7] The material in this section relies on materials originally developed by Linda Nowlan including Linda Nowlan, et al., Kyoto, Pops and Straddling Stocks: Understanding Environmental Treaties, West Coast Environmental Law Association (2000).

billions of people. The role of international law and institutions in decisions about the creation and allocation of such values is not trivial and merits study.

There is benefit to being informed about the law relating to events of various kinds that appear almost daily in the news. Among occurrences that have been prominent in the media in recent years are security-related occurrences such as those involving rights of access of tankers and aircraft in the Persian Gulf region (even prior to the Desert Storm operation); rights of navigation through the Northwest Passage; the delimitation of Canadian boundaries in the Arctic Archipelago forming the Northwest Passage; the use of pelagic driftnets in high seas fisheries around the globe; the claims by states to continue to harvest whales for commercial and scientific purposes; the movement of vessels through archipelagoes, such as those of the Philippines and Indonesia; the continued mortality of dolphins in high seas fisheries for tuna; claims for damages suffered from pollution-causing incidents in the ocean; the enormous loss of life on the high seas resulting from the use of small vessels by refugees seeking escape from Vietnam, occasioned in part by the refusal of regular commercial and other vessels to come to the assistance of these refugees; and, major controversies regarding the allocation and management of water and related, resources in international rivers, lakes and aquifers.

International law is different from national law. In a national legal system, a central law-making body or legislature makes the laws, the executive implements the laws and secures their observance and the judiciary interprets and applies the law. There are no real equivalents to these bodies in the international legal system.

The main concept of international law is sovereignty, defined as “the supreme, absolute and uncontrollable power by which any state is governed.” A state’s sovereign power to control activities inside its boundaries is limited by the international legal rules that the state has agreed to follow. In the international law field, the tension between sovereignty and protection of the environment often surfaces.

Sovereign states make the rules that govern their citizens and that apply within the limits of their territorial jurisdiction, including the land within their borders, internal waters, territorial sea and the air above these areas extending to the point at which the legal regime of outer space begins. Each of these territorial areas is defined by legal rules. Areas outside the national jurisdiction of each state include the high seas, deep sea bed, atmosphere and outer space, and certain limited land areas in Antarctica. These areas are sometimes called the “global commons” and international rules also govern these areas.

International legal rules develop by consent among states. Treaties affect only those states that consent or agree to be legally bound by the written agreement. International laws are formed when states need to cooperate with other states. This need to cooperate creates an incentive to comply with international law. However, conditions do change, which can lead to violations of international law. Law breaking states may attract diplomatic pressures, sanctions, reprisals, and in extreme cases, military intervention.

International law encompasses global, multilateral or bilateral agreements, as well as customary law, state practice, institutions that develop and administer the law and the extra-territorial application of domestic law. Among other things, international law attempts to control,limit and prevent environmental damage and promote a clean and healthy environment. Environment is a broad topic, including fresh and salt water, soil, land, atmosphere, all living creatures and all other aspects of the physical environment.

International law is very much intertwined with other pressing issues facing the world: the North-South divide; excessive and inequitable consumption patterns; poverty; human health; human rights; international and national trade; and investment and financial regimes.

## Codified International Law and Customary International Law

The sources of international law are sometimes characterized as "codified international law" and "customary international law." International treaties are codified international law. States that negotiate and ratify international treaties intend to be legally bound and are expected to make all efforts to comply with these laws.

**Codified international law** includes conventions, treaties, agreements and protocols, all different names for legally binding written agreements between states. In the field of international environmental law, treaties or MEAs (Multilateral Environmental Agreements) contain most international legal obligations. Treaties are created to codify existing and emerging practices and to progressively develop create new binding rules. The customary international law rules concerning international treaties that have developed over years of state practice have been collected and codified in a treaty called the Vienna Convention on the Law of Treaties. The Vienna Convention defines what an international treaty is, outlines the procedures for states to demonstrate their consent to be bound by the international treaty, sets the rules for treaty procedure, and addresses other matters such as determining priority between international treaties

**Customary international law** emerges due to coherent/uniform state practice over time, and *opinio juris*, and may be evidenced by such things as declarations, guidelines, resolutions and statements of principle or codes of conduct that are not legally binding.

## What is a treaty?

A treaty between nations is similar to a legal contract between individuals. It is a written agreement that all parties involved consented to and intend to guide their actions. In the international arena treaties are agreements between states to take common action on a problem that transcends national boundaries. Treaties have a fixed geographic scope. A treaty often, but not always, creates an international organization to carry out the work defined by the Parties, take new decisions and further develop the applicable international law.

The *Vienna Convention* defines a treaty as "an international agreement concluded between states in written form and governed by international law whether embodied in a single instrument or in two or more related instruments and whatever its particular designation."

Treaties may be known by other names, such as conventions, protocols, covenants, pacts, charters or agreements, but the different names have no legal significance. If the agreement is between states, in written form, and is intended to be legally binding and governed by international law, then it is a treaty.

To decide whether a particular agreement is a treaty, the intent of negotiating parties must be examined. If they intended to be bound by international law, there will usually be some evidence of that intent in the words of the agreement. If the agreement says "The Contracting Parties hereby agree …," or uses other terms such as "rights" or "obligations", that is evidence of an intention to be bound. If the agreement says that the states (not Parties) "declare" their intent, as in the Declaration on the Establishment of the Arctic Council, that is evidence that the states did not intend to create a legally binding treaty. The Rio Declaration on Environment and Development is another example of a non- binding statement by states. States intentionally use the title 'Declaration' when they do not intend to create legally binding commitments, and on occasion even more explicitly emphasize that a document is not a treaty, as in the "Non-Legally Binding" Forest Principles adopted in Rio.

A treaty cannot conflict with a "peremptory norm" of international law (*jus cogens* norm). These norms are universal, applicable to all states and cannot be contracted out of through the treaty process. Further, Article 53 of the Vienna Convention states that a treaty is void if it conflicts with a peremptory norm of international law.[8] The most widely known examples of these norms are prohibitions against genocide and slavery.

[8] Vienna Convention on the Law of Treaties art. 53, *opened for signature* May 23, 1969, U.N. Doc. A/CONF. 39/27, 1155 U.N.T.S. 331 (entered into force Jan. 27, 1980).

## Who can Agree to be Legally Bound by a Treaty

Nation states are the primary subjects of the international legal system. The majority of treaties are between states. Some other entities such as associations of states, like the European Union or the United Nations also have the "legal personality" which allows them to conclude treaties. A treaty can be concluded between a state and an international organization, or between two or more international organizations, but not between a state and a corporation.

### Bilateral or Multilateral

Treaties may be bilateral—i.e., have two states as Parties—or multilateral—i.e., have more than two states as Parties. The major environmental treaties, such as the climate change and biodiversity agreements, are multilateral. Both these treaties have over 190 Parties. These are very high rates of membership—there are 193 states that are members of the United Nations.

### Framework and Self-contained Treaties

A "framework treaty" is a type of treaty that contains general obligations, usually with a procedure for reaching more detailed agreement on specific obligations through protocols or subsequent legal agreements in the future. This type of multilateral treaty has become common for global environmental subjects. Examples of framework treaties include the *UN Convention on the Non-navigational Uses of International Watercourses* [hereinafter *Watercourses Convention*],[9] the *UN Convention on the Law of the Sea*,[10] the draft Articles on the Law of Transboundary Aquifers,[11] and the *UNECE Water Convention*.[12]

A self-contained treaty works through annexes or appendices which are revised periodically by the Contracting Parties at Conferences or meetings. An examples of this type of Convention includes the *Ramsar Convention on Wetlands*,[13] which maintains a list of wetlands of international importance. Revising an Appendix or List is usually easier than negotiating a new Protocol or addition to a treaty, but is only suitable for subjects that can easily be set out in a list.

### Protocols

In the international law field, the term "Protocol" is usually used to describe a legally binding agreement that elaborates on, or contains detailed substantive commitments to implement the objectives of a framework treaty. Protocols must be agreed, signed and ratified separately from the framework treaty. An Optional Protocol to a treaty establishes additional rights and obligations, and allows some willing Parties to go farther than the original treaty.[14]

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[9] United Nations, Convention on the Non-navigational Uses of International Watercourses, G.A. Res 51/299, U.N. Doc. A/RES/51/229 (Jul.
[8], 1997) as found at http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf,
[10] United Nations, Convention on the Law of the Sea as found at
http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf
[11] United Nations, Draft Articles on the Law of Transboundary Aquifers, 63rd Sess., Supp. No. 10.
[12] UNECE, Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Helsinki (1992).
[13] UNESCO, Convention on Wetlands on International Importance, especially as Waterfowl Habitat
[14] European Parliament, EU Water Framework Directive, Directive 2000/60/EC (2000).

**How Does a State Agree to a Treaty?**

The *Vienna Convention* provides that states can demonstrate their intent to be legally bound by a treaty in a variety of ways, including: signature, exchange of instruments constituting a treaty, ratification, acceptance or approval, accession, or any other agreed means.[15]

## Signature

Most often a state will indicate its intention to become a Party by first signing the treaty. Two different purposes for signature must be distinguished: a state can sign a treaty to indicate approval of the final text or to show consent to be bound by the treaty. Signature alone is usually insufficient to show consent to be legally bound to a multilateral treaty, but shows that the state is willing to proceed with the international law-making process. Additional steps, such as ratification, are usually required. Environmental treaties commonly state that they will be "open for signature" until a specified date. When a state signs a treaty, it agrees to refrain from any acts which would defeat the object and purpose of the treaty.

## Exchange of Instruments

This procedure allows states to exchange instruments, or written documents, to conclude the treaty. Usually, an exchange of instruments will be used to formalize a bilateral treaty.

## Ratification

This is the most common way states show consent to be bound by environmental treaties. The *Vienna Convention* defines ratification as "the international act so named whereby a state establishes on the international plane its consent to be bound by a treaty." Ratification usually occurs when a state completes the necessary formal procedures for executing an instrument of ratification, and then exchanges this document with another state for a bilateral treaty or, for a multilateral treaty, sends it to a depository, the place where all the documents of ratification are collected.[16]

## Acceptance or Approval

These are alternatives to ratification which have the same legal effect as ratification. Many environmental treaties say that they are "subject to ratification, acceptance or approval," leaving it up to the state to decide which procedure to follow.

[15] Vienna Convention on the Law of Treaties, *opened for signature* May 23, 1969, U.N. Doc. A/CONF. 39/27, 1155 U.N.T.S. 331 (entered into force Jan. 27, 1980).
[16] Vienna Convention on the Law of Treaties, *opened for signature* May 23, 1969, U.N. Doc. A/CONF. 39/27, 1155 U.N.T.S. 331 (entered into force Jan. 27, 1980).

## Accession

This procedure allows a state to agree to be bound by a treaty that has already been concluded by other states. Accession will be used, for example, if the treaty has come into force. Accession has the same legal effect as ratification.

## Party to a Treaty

Before a treaty enters into force, a state that has demonstrated its intent to be bound is called a "contracting state." Only after the treaty has entered into force is a state that has consented to be bound called a "Party." Throughout this Guide, when the term "Party" is used, it refers to a state that is legally bound by a particular treaty.

## Depositary

To demonstrate that a state has agreed to the treaty, an instrument or document showing ratification (or its equivalent) is deposited, or placed, in a specified location. A treaty will usually designate a depositary such as a location in a country or, more often today, an international organization like the United Nations. The UN Secretary General is the depositary for over 500 multilateral treaties. Depositaries must accept all ratifications and documents related to the treaty, examine whether all formal requirements have been met, deposit them, register the treaty and notify Parties of all new developments regarding the treaty.

## Reservations

A state does not usually need to agree to every single provision of a treaty in order to become a Party to that treaty. It can contract out of one or more of the treaty's obligations by entering a reservation to the treaty. A reservation is defined by the *Vienna Convention on the Law of Treaties* as:

> *"A unilateral statement, however phrased or named, made by a state, when signing, ratifying, accepting, approving or acceding to a treaty, whereby it purports to exclude or to modify the legal effect of certain provisions of the treaty in their application to that state."*

For example, Norway is a party to the *International Convention for the Regulation of Whaling* but has issued a reservation about the catch quotes on whaling imposed by the treaty.[17] The *Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES)* allows Parties to enter reservations or a unilateral statement that it will not be bound by the provisions of the Convention relating to trade in a particular species listed in the Appendices as endangered.[18] This procedure has been used, for example, by some African states for the elephant, and France, Denmark and Finland for the mountain weasel. The underlying purpose of a more permissive policy regarding reservations is based on the interest of encouraging as many states as possible to join treaties.

[17] International Convention for the Regulation of Whaling, *opened for signature* Dec. 2, 1946, 161 U.N.T.S. 72 (entered into force Nov. 10, 1948).

[18] Convention on International Trade in Endangered Species of Wild Flora and Fauna, *opened for signature* Jan. 13, 1976, 993 U.N.T.S. 243 (entered into force Jul. 1, 1975) [*hereinafter* CITES].

Reservations are allowed unless the treaty specifically states that they are not allowed. For example, UNCLOS[19] does not allow for reservations. A state must agree to be legally bound by every provision of those treaties or decide not to consent to them at all. Reservations are forbidden if they are incompatible with the object and purpose of the treaty.

## Entry into Force

A treaty enters into force and becomes binding law for those states that have consented to be bound (and those states only) in a manner and on the date provided for in the treaty or as the negotiating states may agree. The treaty itself will usually specify how it enters into force.

The most common way for a treaty to enter into force is when ratification by a set number of the negotiating states occurs. For example, Canada signed and then ratified the *UN Fish Agreement (UNFA)*, or the *Agreement on Highly Migratory or Straddling Stocks*, by 1999, but it was not legally binding on Canada until it entered into force. That treaty required thirty states to ratify it before it entered into force. The required number of ratifications was reached in 2001, and *UNFA* entered into force on December 11, 2001.

After a state signs a treaty, but before it enters into force and becomes legally binding, a contracting state is obliged to refrain from acts which would defeat the object and purpose of the treaty. In the context of environmental treaties, this obligation means that a state would be prohibited from taking any environmentally damaging action covered by the treaty before it entered into force.

Sometimes, to enter into force, a treaty specifies that additional requirements must be met by the states that agree to be legally bound. The *1984 Protocol to the Convention on Long-Range Transboundary Air Pollution* required ratification by 19 states within the geographical scope of the protocol, namely Europe, before it came into force. The *Montreal Protocol on Substances that Deplete the Ozone Layer* came into force only after ratification by 11 states representing at least two-thirds of the 1986 estimated global consumption of the controlled ozone depleting substances. The rules for entry into force of the Kyoto Protocol require two conditions to be met: ratification by 55 Parties to the climate change convention and ratification by Annex I Parties (developed countries) that accounted for 55% of that group's carbon dioxide emissions in 1990.

## Amendments of Treaties

Treaties may be amended by agreement between the Parties, normally by concluding an additional written agreement. Amendments change the original treaty provisions only for those Parties that adopt the amendment. A state is not required to adopt any amendments to the original treaty and is allowed to remain a Party to the treaty, but not to the subsequent amendments. A treaty will often specify particular amendment procedures. If it does not contain these procedures, any amendments will require the consent of all Parties.

[19] United Nations, Convention on the Law of the Sea as found at http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf

## Which Treaty Takes Precedence in the Event of a Conflict?

If there are two treaties with conflicting provisions, and both treaties have identical Parties, then the law is clear. The later treaty will take precedence to the extent of the conflict. The earlier treaty will apply only to the extent that its terms are compatible with those of the later treaty.

Treaties often contain provisions about their relationship to subsequent treaties. "Conflict clauses" or "savings clauses" can be used to prevent disputes. The clauses are used to record the intention of negotiators and not leave the dispute to be resolved by the rules of the *Vienna Convention*. In the international law arena, the *Watercourses Convention* contains a clause, Article 3, "Watercourse Agreements":

> *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.*[20]

Other trade treaties, such as the WTO Agreements, do not contain similar provisions.

## Registration and Publication

The United Nations Charter requires every treaty and every international agreement entered into by any member of the United Nations to be first registered and then published by the United Nations Secretariat.[21] Over 158,000 treaties of all types (not just environmental) were registered with the UN by 2006.[22] In the ten years from 1988 to 1998, on average 1,200 treaties were registered each year. The United Nations Treaty Series (UNTS) is the definitive published source for treaties. A treaty is not published in the UNTS until it has entered into force and been registered.

## Interpreting Treaties

The general rule of interpretation as set out in Article 31 of the *Vienna Convention* is that treaties "shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its objects and purpose."[23] If the treaty's meaning is still ambiguous, obscure or manifestly absurd or unreasonable after reading the full treaty text and any other agreements which may have been made between the Parties about the treaty, then other interpretative aids may be used, such as the *travaux preparatoires* (preparatory works) for the treaty. These rules of interpretation for treaties are similar to the rules used to determine the meaning of domestic laws.

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[20] United Nations, Convention on the Non-navigational Uses of International Watercourses, G.A. Res 51/299, U.N. Doc. A/RES/51/229 (Jul. 8, 1997).
[21] Charter of the United Nations, *opened for signature* Jun. 26, 1945, 59 Stat. 1031 (entered into force Oct. 24, 1945).
[22] United Nations Treaty Series as found at http://treaties.un.org/pages/DB.aspx?path=DB/UNTS/page1_en.xml&menu=UNTS
[23] Vienna Convention on the Law of Treaties art. 31, *opened for signature* May 23, 1969, U.N. Doc. A/CONF. 39/27, 1155 U.N.T.S. 331 (entered into force Jan. 27, 1980).

## Stages of Treaty-Making

Multilateral Environmental Agreements (MEAs) can be proposed by an individual state, a small group of states, one or more nongovernmental organizations, or, the most common method, by a resolution approved by the members of an inter- governmental body, usually a UN body. Interestingly the *Watercourses Convention* was spearheaded by the United Nations Law Commission. UNECE's *Water Convention* initiated a number of regional MEAs.[24] In the case of recent MEAs, it is usually up to governments to voluntarily contribute the financial support needed to support the negotiations. It is generally not practical to launch and conduct negotiations without the support of an international body.

Environmental treaties are driven by scientific consensus that action needs to be taken by the global community. Treaties develop in stages, from the time the problem is identified through to full implementation of the treaty at the national level.

The stages of developing a treaty typically are:

- Identification of the problem;
- Building political consensus to address the problem;
- Convening global meetings to draft the treaty text by negotiation;
- Signing the completed treaty;
- Ratification, acceptance, approval or accession to the treaty (alternate procedures for making the treaty binding on a state);
- The treaty comes into force;
- Elaborating on the treaty, or developing more detailed actions that must be taken, either in a protocol to the treaty or through Plans of Action or programmes of work that set out what needs to be done;
- Amendments to the treaty and expanding on the treaty secretariat's programme of work.

Proceeding through these stages can happen relatively quickly, as with the ozone treaty regime that was rapidly developed and implemented through domestic legislation in Canada. Or the process can be very slow - the *UNCLOS* took 10 years to negotiate and another 12 years before it came into force in 1994.

### At a Treaty Negotiation

The alphabet soup of acronyms used at MEA negotiations can be confusing. The most common negotiating groups at MEA meetings are:

- The European Union (EU). The 27-member states of the EU (as of January 2007) coordinate a single negotiating position at MEA meetings. Usually only one representative speaks for the EU during the plenary session.
- JUSCANZ: Non-EU developed countries. The core is normally Japan, USA, Canada, Australia and New Zealand but also can include Norway, Switzerland, Iceland, Korea, Mexico and

[24] See UNECE, Introducing Water, as found at http://www.unece.org/env/water.html.

sometimes Israel. The group was formed to allow non-EU developed countries to coordinate their positions. The JUSCANZ group may coordinate a negotiating position, but each state which is part of the group speaks individually at the plenary session.

- G-77 and China. This group takes its name from the group of 77 developing countries which was influential in the UN in the post-colonial period of the 1960s and 70s. The group now includes virtually all developing countries, numbering over 130 states, and is subdivided into geographic groups, e.g., Africa, Asia and Pacific, Latin America and the Caribbean.
- Eastern Europe. The countries of the Eastern Europe and most countries of the former Soviet Union also meet as a group.

Other groups may play a role at negotiating meetings. For example, AOSIS is the Alliance of Small Island States, an influential group at climate change meetings due to the direct and disproportionate impacts that these states will suffer from climate change. The Umbrella Group was the name given to the negotiating bloc representing most non-EU industrialized countries including Canada, Russia and the US throughout the climate change negotiations. The Miami Group, a coalition of the major exporters of genetically modified seed and crops including Canada, Argentina, Australia, Chile, the US and Uruguay, played a significant role in the *Biosafety Protocol* negotiations. Other alliances emerge and dissolve as the issues under discussion change.

A unique feature of the politics of MEA negotiations is that "most global environmental agreements have been negotiated and adopted despite significant reservations – and in some cases, the active opposition – on the part of the most powerful of all countries, the USA, a situation that is entirely inconceivable in the GATT/WTO context."[25] For example, the USA has not yet ratified the *Watercourses Convention*.[26]

## Key Features of MEAs

Most modern MEAs typically have the following main components:

1. **An introductory preamble and statement of guiding principles.**
2. **A statement of objectives of the agreement.**
3. **Definition of key terms used in the treaty.**
4. **Substantive commitments by the Parties.**

   These commitments may be very specific, such as to reduce greenhouse gas emissions by a specified amount within a set deadline, or more general, such as to identify threats to biodiversity and attempt to eliminate these threats. The Canadian MEA database has grouped commitments under these headings: assistance, compliance, conservation measures, consultation, control measures, cooperation, development of science and technology, education and training, emergency response, enforcement, exchange of information, financial obligations, further international measures, general pollution control/prevention, impact assessment, implementation, indigenous and local communities, monitoring, national inventories, national legislation/policy development, notification, public participation and information, remediation, reporting, review, scientific cooperation, sharing of benefits, trade measures and transfer of technologies.

[25] Konrad von Moltke, Whither MEAs? The Role of International Environmental Management in the Trade and Environment Agenda, International Institute for Sustainable Development (2001) at 3.
[26] As at Oct 6, 2001, 24 states are party to the Convention.

5. **Provisions for regular meetings of the parties to develop and approve work programs, to discuss implementation issues and to update the agreement through decisions, Protocols, amendments or Annexes.**

   Decisions about the MEA are usually made at a periodic Conference of the Parties (COP) or Meeting of the Parties (MOP). The term "Conference of the Parties" generally refers to conferences of parties to a framework convention, while "Meeting of the Parties" is used for meetings of parties to a Protocol. Combined meetings are referred to as "COP/MOPs." At these meetings, the budget and programme of work to implement the treaty are established. National reports on implementation are reviewed. A COP can also decide on the need for a new Protocol to make more specific rules on one of the topics covered by the MEA. Another COP function is to revise Annexes, or lists regulated by the treaty, such as the list of wetland sites designated by the *Ramsar Convention*.

6. **Provisions to establish a secretariat or similar organizational body with administrative and coordinating functions.** A secretariat acts as the host or home office for the treaty. Secretariats for MEAs provide the ongoing support for meetings of the Parties and may also implement projects or programmes of work. Many MEA secretariats are located in common locations, such as Geneva, home to numerous other UN and trade organizations such as the WTO.

7. **Provisions to establish Advisory bodies.** Advisory bodies can be established by treaty or by international organizations. For instance, the *Ramsar Convention on Wetlands* establishes a Scientific and Technical Review Panel (STRP) to provide scientific and technical advice to the Conference of the Parties.[27] The Commission on the Limits of the Continental Shelf was established under the *UNCLOS* to advise and make recommendations to states concerning the establishment of the outer limits of the continental shelf.[28]

8. **Reporting and information sharing obligations.**

   MEAs typically require Parties to report on their efforts to implement and comply, as well as to share information through a Clearing House Mechanism (CHM) designed to collect and share scientific, technical, environmental or legal information about the MEA. A CHM can promote best practices, share experiences of different countries on implementation and share solutions for common problems. The CHM of the Biodiversity Convention includes case studies, national and other reports and information on programmes such as the Global Taxonomy Initiative. Other examples of CHMs are found under the Montreal Protocol,[29] the Global Plan of Action to Address Land Based Sources of Marine Pollution[30] and the Persistent Organic Pollutants Convention.[31]

9. **Compliance mechanisms, including specific compliance and non-compliance procedures.**

   Compliance mechanisms range from minimal to sophisticated procedures. Compliance provisions adopted under the Kyoto Protocol set a fairly high standard, establishing both a process to facilitate compliance through assistance and a judicial process to make determinations of non-compliance and impose consequences for non-compliance.

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[27] See Ramsar, The Scientific and Review Panel, as found at http://www.ramsar.org/cda/en/ramsar-documents-strp/main/ramsar/1-31-111_4000_0__

[28] See Commission on the Limits of the Continental Shelf, as found at http://www.un.org/depts/los/clcs_new/commission_purpose.htm#Purpose

[29] Montreal Protocol on Substances that Deplete the Ozone Layer, available at http://ozone.unep.org/new_site/en/Treaties/treaty_text.php?treatyID=2

[30] Protocol Concerning Pollution From Land-Based Sources And Activities To The Convention For The Protection And Development Of The Marine Environment Of The Wider Caribbean Region, Adopted in Aruba, 6 October 1999, available at http://www.cep.unep.org/pubs/legislation/lbsmp/final%20protocol/lbsmp_protocol_eng.html

[31] Persistent Organic Pollutants Convention, available at http://chm.pops.int/Convention/tabid/54/Default.aspx

10. **Dispute settlement provisions.**

Dispute settlement mechanisms are underdeveloped. Only a few MEAs use a body unique to the treaty, such as the *UNCLOS*'s International Tribunal on the Law of the Sea. Many MEAs follow a graduated process for dispute resolution. The same untried non-binding provisions are incorporated into most MEAs without much discussion. The Parties are bound to try to settle their dispute by negotiation, then mediation, and if that doesn't work, they may resort to a court, usually the International Court of Justice (ICJ), though resort to the ICJ is generally seen as impractical and is rarely used.

11. **A financial mechanism.**

Financial mechanisms may be created by the terms of the treaty. One example is the Multilateral Fund for the Implementation of the *Montreal Protocol on Substances that Deplete the Ozone Layer*, established by an amendment to the Protocol in 1990. This Fund distributes funds from developed country Parties to developing country Parties to help them with the costs of compliance. Another financial mechanism, the Global Environment Facility (GEF), jointly administered by the World Bank, UNEP and the UN Development Programme (UNDP) is used to fund environmental projects with global benefits by developing countries and countries in economic transition.[32] The GEF is the designated financial mechanism for international agreements on biodiversity, climate change and persistent organic pollutants, and it also supports projects that combat decertification, protect international waters and protect the ozone layer.

## Financing MEAs

The costs of operating a secretariat, convening COPs, holding advisory body meetings, enabling participation of civil society in treaty negotiations and carrying out programmes of work are high. Various methods are used to finance these activities. Trust funds, composed of mandatory or voluntary contributions from Parties, are the most common funding source. The actions required by MEAs may also be funded by multilateral financial mechanisms. Most recent MEAs have voluntary funding arrangements based on the UN scale of assessments (the amount that each nation must pay as annual dues to support the United Nations, assessed by means of an agreed on scale). Few MEAs benefit from any mandatory assessed funding from the UN's general budget.

## NGO Involvement in MEAs

Examples abound of NGOs involved in MEAs. The term civil society is used increasingly to describe NGOs working for the public good. Perhaps more than any other branch of international law, international environmental law is influenced by civil society groups at all stages throughout the formation, negotiation, implementation and enforcement of agreements.

NGOs play multiple roles in MEAs, which have been classified by UNEP as:

- Providing technical knowledge;
- Raising awareness;
- Assisting the secretariat in communicating with non-parties;

[32] See GEF, What is the GEF available at http://www.thegef.org/gef/whatisgef

- Promoting implementation in the field;
- Gathering and transmitting information about possible non-compliance;
- Implementing relevant national policies;
- Pressuring governments to implement the MEAs; and
- Participating in the decision-making process.

No set of rules about participation applies universally to MEAs. The new regional *UNECE Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters* may point the way towards standardization of public participation rules in the domestic context, eventually paving the way for internationally agreed rules on public participation.[33]

Most modern MEAs apply rules of procedure based on those developed for the Rio Earth Summit that allow accredited NGOs to play an active role at MEA meetings. Participation is often limited to lobbying delegates of Parties in the corridors of MEA meetings and observing the meetings. Sometimes NGOs are given opportunities to address meetings. NGOs may also be excluded from some treaty meetings if a state party objects, and have restricted participation rights in plenary sessions of MEA meetings.

NGOs influence legal and policy developments by taking part in government delegations, preparing law reform briefs and issuing report cards.

[33] UNECE, Introducing Public Participation as found http://www.unece.org/env/pp/welcome.html

**International Environmental Law**[34]

No general treaty establishes a framework and principles for international environmental law. Instead, this body of law has developed piece-meal, in response to specific threats. Many concepts are repeated in each new treaty, and various shared principles have emerged from the patchwork of treaties.

The principles of international environmental law are evolving. Most of these principles are found in bilateral or multilateral environmental agreements, but also in non-binding declarations, such as the *1972 Stockholm Declaration on the Human Environment* and the *1992 Rio Declaration on Environment and Development*.

Often, principles first set out in non-binding declarations are later translated into binding enforceable treaties. A concept included in a binding treaty has more weight and authority than one that is contained only in soft law declarations.

The following list of principles is meant to illustrate the wide range of potential legal principles that may be included in international environmental law agreements and is not exhaustive.

## General Summary of International Environmental Law Principles

### Sovereignty Over Natural Resources

Each state has sovereignty, or supreme controlling power, over its natural resources. Each state has the right of possession and the right to freely manage and dispose of natural resources within the limits of international law. Sovereignty should be exercised in an environmentally responsible way. The sovereign right of control is limited by the state's duty to limit damage to the environment beyond its borders.

Principle 21 of the 1972 *Stockholm Declaration* and Principle 2 of the 1992 *Rio Declaration* codify this principle. These two related and linked concepts, sovereignty over natural resources and the duty not to cause harm beyond national borders, are repeated in binding agreements such as *UNCLOS*, the *Climate Change Convention*, and the *Convention on Biological Diversity*.

However, according to McCaffrey, "… the doctrine of sovereignty does not apply to shared freshwater resources in any way that resembles its application to land territory."[35] It is difficult to posit sovereignty over something which moves. This is at the heart of the controversy surrounding the Draft Articles on the Law of Transboundary Aquifers, which states in Article 3:

> *Each aquifer State has sovereignty over the portion of a transboundary aquifer or aquifer system located within its territory. It shall exercise its sovereignty in accordance with international law and the present draft articles.*[36]

The Draft Articles on the Law of Transboundary Aquifers defines an aquifer as the rock formation containing water, rather than focusing on the water itself.

[34] The material in this section relies on materials originally developed by Linda Nowlan including Linda Nowlan, et al., Kyoto, Pops and Straddling Stocks: Understanding Environmental Treaties, West Coast Environmental Law Association (2000).
[35] Stephen C. McCaffrey, The International Law Commission Adopts Draft Articles On Transboundary Aquifers, Am.J.Int'l.L. 272-294 at 272 (2009) at 288.
[36] United Nations, Draft Articles on the Law of Transboundary Aquifers, 63rd Sess., Supp. No. 10, Article 3.

## Duty to Prevent Transboundary Pollution and Environmental Harm

The idea that states have a duty to not significantly harm neighbouring states was first explored in the Trail Smelter case in which a tribunal established by the International Joint Commission, an agency set up by a Canada-US treaty, found that sulphur dioxide air emissions from a copper smelter in Trail, BC, Canada were harming US territory.[37]

The case is an example of a tribunal establishing an important principle of international environmental law and has been widely cited as confirming the principle that a state is responsible for environmental damage to foreign countries that is caused by activities within its borders. As noted above, the duty not to cause harm is often linked to the concept of sovereign control over natural resources.

## Sustainable Use of Natural Resources

This principle requires states to pay due care to the environment and to make rational use of the natural resources within their jurisdictions. The concept has evolved over time, from Principle 2 of the Stockholm Declaration which states that: "the natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate," to Rio Principle 7 which says states shall cooperate to conserve, protect and restore the health and integrity of the earth's ecosystem.

MEAs also incorporate this principle. Sustainable use is one of the three themes of the Biodiversity Convention; the objective of the UN Fish Agreement is to "ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks;"[38] and one of the objectives of the International Tropical Timber Agreement is to encourage members to develop national policies aimed at sustainable utilization and conservation of timber producing forests and their genetic resources.

## Sustainable Development

One of the key goals for MEAs is to ensure 'sustainable development' defined by the Brundtland Commission as "… development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[39]

Sustainable development contains within it two key concepts:

- the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and
- the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.[40]

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[37] See United Nations, *Reports of International Arbitral Awards, Trail Smelter Case (United States, Canada)*, 2006.

[38] United Nations, *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*, General Assembly, A./Conf. 164/37 8 Sept. 1995.

[39] World Commission on Environment and Development, Our Common Future, Report of the World Commission on Environment and Development, 1987. Published as Annex to General Assembly document A/42/427, Development and International Co-operation: Environment August 2, 1987.

*Rio Principle* 4 states that in order to achieve sustainable development, environmental protection shall constitute an integral part of the development process. *Rio Principle* 8 links the achievement of sustainable development to the reduction and elimination of unsustainable patterns of production and consumption. *Rio Principle* 12 states that nations must cooperate to promote international trade policies that will lead to economic growth and sustainable development in all countries. Predicating sustainable development on economic growth is not a universally accepted position.[41]

Environmental treaties referring to this principle include those on climate change. Notably, the treaty which established the World Trade Organization and the treaty governing the European Union, also list 'sustainable development' as an objective.

## Right to a Healthy Environment

As the Stockholm Declaration on the Human Environment notes, the environment is essential to the enjoyment of basic human rights, even the right to life itself. There are many links between environment and human rights, two major new branches of public international law which have developed over the past half-century. No legally binding international right to a clean environment yet exists, but the foundation for the future development of such a right has been laid.

With a global water crisis looming, extensive discussion has arisen debating whether water should be designated a human right. For example there was a 2010 General Assembly and Human Rights Council resolution on the human right to water and sanitation. However, the debate over the formal acknowledgement of water as a human right and its global implications are beyond the scope of this manual.

## Precautionary Approach

Preventing damage to the environment, natural resources and human health has become a key concern of environmental law. The precautionary principle holds that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. The meaning of this principle in international law is evolving. *Rio Principle* 15 states that in order to protect the environment, the precautionary approach shall be widely applied by states according to their capabilities. The *Stockholm POPS Convention* states in Article 1: "Mindful of the precautionary approach as set out in Principle 15 of the *Rio Declaration on Environment and Development*, the objective of this Convention is to protect human health and the environment from the effects of persistent organic pollutants." The principle has also been adopted in the 2001 OECD Environmental Strategy.[42]

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[40] World Commission on Environment and Development, Our Common Future, Report of the World Commission on Environment and Development, 1987. Published as Annex to General Assembly document A/42/427, Development and International Co-operation: Environment August 2, 1987.

[41] UN Conference on the Environment and Development (1992), *Rio Declaration on the Environment and Development*, available at UNEP http://www.unep.org/Documents.Multilingual/Default.asp?documentid=78&articleid=1163

[42] OECD, OECD Environmental Strategy for the First Decade of the 20th Century, Adopted by the OECD Environment Ministers, 16 May 2001.

## Common Heritage of Mankind/Common Concern of Humankind

Agreements relating to the global commons have included the principle of 'common heritage of mankind,' most notably in the *UNESCO World Heritage Convention*, *UNCLOS* and the *1979 Agreement Governing the Activities on the Moon and Other Celestial Bodies*. The concept applies to resources in the global commons, those areas outside the recognized jurisdiction of any state, such as the high seas, deep-sea bed, atmosphere, outer space and even Antarctica. All states share the responsibility to protect the global environment, including areas within their own jurisdiction and those in the global commons.

'Common heritage' has four characteristics: non-appropriation of resources by any one state, international management of the global resources, sharing of benefits from the use of the resources, and using the resources for peaceful purposes.

A weaker version of this principle, 'common concern of humankind' is used in both the *Climate Change* and *Biodiversity Conventions* in their preambles and in substantive provisions on burden sharing, financing and transfer of technology. 'Common heritage' was rejected by the drafters of these Conventions, because developed countries objected to the resource benefit sharing implications, and developing countries resisted the idea of international management of sovereign biological resources.

## Common but Differentiated Responsibility

'Common but differentiated responsibilities' provides that states share common responsibilities to protect the environment, but the actions they take to remedy these problems may be different because not all states have contributed equally to causing environmental problems (i.e., climate change caused by greenhouse gas emissions is largely due to the actions of industrialized, developed countries) and not all states have similar resources to invest in environmental protection. *Rio Principle* 7 states that developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command. The climate treaties demonstrate the application of this principle through the differing commitments for developed and developing countries to reduce emissions. Treating countries differently according to their economic circumstances is also an integral part of trade agreements, expressed in the WTO Agreements as 'special and differential treatment.'

## Intergenerational Equity

Recognition that the current generation holds the earth in trust for future generations, and that the environment must be managed to meet the needs of both present and future generations, is a relatively new concept in international law. Intergenerational equity is based on three principles:

1. Each generation should be required to conserve the diversity of natural and cultural resource base so it does not unduly restrict the options available to future generations;
2. Each generation should maintain the planet's quality so that it is bequeathed on balance in no worse condition than received; and
3. Members of every generation should have comparable rights of access to the legacy of past generations and should conserve this access for future generations.

Both the Stockholm and Rio Declarations refer to future generations (Principles 1 and 2, respectively). The Stockholm POPs Convention is an example of a treaty that incorporates this principle.

## Public Participation

Procedural principles are common to many MEAs, emphasizing the "three pillars" of environmental democracy: public participation, access to information, and access to justice. These are found, among other places, in Rio Principle 10, which states that environmental issues are best handled with the participation of all concerned citizens.

Significant procedural rights are also included in the regional UN Economic Commission for Europe "*Aarhus Convention on Access to Information, Public Participation in Environmental Decision-Making and Access to Justice in Environmental Matters*."

## Polluter Pays

This principle requires polluters to pay the full costs of remedying the damage they cause to the environment. The cost of pollution prevention and control should be internalized or reflected in the cost of goods and services which cause pollution or environmental damage. *Rio Principle* 16 asks states to internalize environmental costs and to use economic instruments for this purpose. First used by the OECD in the 1970s, this term is found in Agenda 21, many MEAs, and many national environmental laws.

## Liability and Compensation for Environmental Damage

*Stockholm Principle* 22 concerns compensation, and says that states shall cooperate to develop international law regarding liability and compensations for victims of pollution and other environmental damage. Twenty years later in Rio, states called for "expeditious" and "determined" progress on these issues in *Rio Principle* 13. The *Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Waste and Their Disposal* is an example of this principle in practice. Funds established under two International Maritime Organization (IMO) treaties, the *1992 Civil Liability Convention for Oil Pollution* and the *1992 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage* compensate victims of oil pollution from ships. In 2002, UNEP renewed efforts to clarify the international law on liability and compensation for environmental damage and transboundary harm.

## Duty to Conduct Environmental Impact Assessments

Assessing the probable impacts of new projects, policies or plans on the environment in advance of granting final approval is an established part of the decision-making process of most states and international agencies. The duty to conduct environmental impact assessments (EIAs) is found in many environmental treaties such as the *Biodiversity and Climate Change Conventions*. Impacts should ideally be assessed as early as possible before irrevocable decisions are taken and should not be limited solely to impacts within a state's own territory. One regional treaty, the *Convention on Environmental Impact Assessment in a Transboundary Context*, also known as the *Espoo Convention*,

has been developed to address transboundary EIA. This has been further confirmed in the decision of the ICJ in the Pulp Mills case.

## Duty of Non-discrimination/Environmental Justice

This principle requires states not to discriminate in relation to environmental harm. *Rio Principle* 14 holds that states should discourage the relocation or transfer to other states of activities or substances that cause environmental degradation. *The North American Free Trade Agreement (NAFTA)* includes this principle in Article 1114 stating that the Parties agree it is inappropriate to encourage investment by relaxing domestic health, safety or environmental measures.

## Right to Development

The right to development is a highly contested concept and is the topic of annual battles at the UN Commission on Human Rights. Its meaning and implications have not been defined and it is not part of any of the six "core" human rights treaties. The right to development was established in a UN General Assembly Declaration in 1986, which states that 'the right to development is an inalienable human right by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized.' It was reaffirmed at the Vienna Conference on Human Rights in the *1993 Vienna Declaration and Programme of Action*. *Rio Principle* 3 also restates this right. There is no internationally agreed or legally accepted definition of the right, though the UN Commission on Human Rights has established a dual mechanism to explore in greater depth ways of implementing the right to development: an open-ended Working Group on the Right to Development and an independent expert on the right to development.

## Other Principles

This listing of principles is not exhaustive. The *Rio Declaration* contains other principles such as cooperation to eradicate poverty, enacting effective environmental legislation, the role of youth, women and indigenous people and the peaceful resolution of disputes. Since Rio, experts have listed principles of international sustainable development law, and have also attempted, unsuccessfully to date, to codify these principles.

In the sections that follow, three genres of international water law will be examined: international watercourses, aquifers and LMEs.

## International Watercourses Law[43]

The most salient international watercourses law treaty, even though not in force yet, is that which was concluded under United Nations auspices in 1997. It is entitled the *United Nations Convention on the Law of the Non-navigational Uses of International Watercourses*.[44] The UN Convention is generally regarded as reflecting the fundamental rules of customary international law applicable in the field. This proposition was reinforced by the judgment of the International Court of Justice in the *Case Concerning the Gabčíkovo - Nagymaros Project* (Hungary/Slovakia).[45]

Also of key historical importance are the 1966 Helsinki Rules.[46]

A number of key terms are generally used in international water law including:

"Watercourse": The term used in the UN Convention to refer to a river, stream, or lake, as well as many types of aquifers, is "watercourse." This term is also in general use internationally. However, this expression should not be conceived of restrictively, for example, as applying only to the main stem of a stream. Instead, it refers to the entire system of waters in a drainage basin or catchment. Thus it would include tributary flows, whether consisting of surface water or groundwater.

The UN Convention defines the term "watercourse" in the following way:

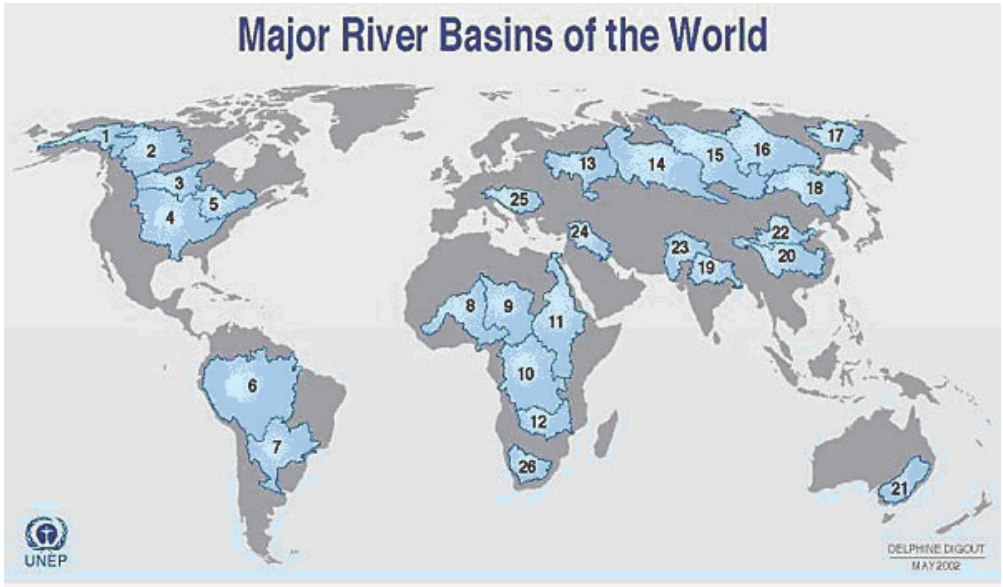
"Watercourse" means a system of surface waters and ground waters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus.[47]

An "International Watercourse" is a "watercourse" that is shared by two or more countries.[48]

The breadth of these definitions means that the rules of international law concerning shared freshwater apply to any and all "parts" of an international watercourse that may be located in a given country. Thus they would apply, for example, to: headwaters or tributaries in State A of a stream that flows into State B; a groundwater basin that straddles the border between States A and B and is fed by surface water in State A; or a groundwater basin wholly located in State A that feeds a tributary of a stream flowing into State B.[49]

Figure 1. Major River Basins of the World

[43] The material in this section relies on materials originally developed by Professor Stephen McCaffrey included in *See* Stephen McCaffrey, The Law of International Watercourses, Oxford University Press (2001). For the purposes of these materials, the terms international drainage basin and international watercourse are used interchangeably.
[44] United Nations, 21 May 1997, annexed to UN Doc. A/RES/51/229, of 8 July 1997.
[45] International Court of Justice, *Case Concerning the Gabčíkovo - Nagymaros Project (Hungary/Slovakia)*, Judgment of 25 Sept 1997, available at http://www.icj-cij.org/docket/files/92/7377.pdf.
[46] The Helsinki Rules (Campioni Consolidation) and the Commentary to the Helsinki Rules on the Uses of the Waters of International Rivers, ILA Report of the 52nd Conference, Helsinki 1966, at 484, 484-505 (1966, 1987): Arts. J-XI, 4. Coming from the non-governmental International Law Association (ILA), the Helsinki Rules, a predecessor to the 1997 UN Watercourses Convention, are not intergovernmentally authorative, technically speaking. However, they reflect many years of research by a representative body of international law experts, and therefore come within the terms of Article 38(i.)(d) of the Statute of the International Court of Justice.
[47] United Nations, Convention on the Non-navigational Uses of International Watercourses, G.A. Res 51/299, U.N. Doc. A/RES/51/229 (Jul. 8, 1997), art. 2(a).
[48] United Nations, Convention on the Non-navigational Uses of International Watercourses, G.A. Res 51/299, U.N. Doc. A/RES/51/229 (Jul. 8, 1997), art. 2(b).
[49] United Nations, Convention on the Non-navigational Uses of International Watercourses, G.A. Res 51/299, U.N. Doc. A/RES/51/229 (Jul. 8, 1997), art. 2(b).




**North America**
1 Yukon
2 Mackenzie
3 Nelson
4 Mississippi
5 St. Lawrence

**South America**
6 Amazon
7 Paraná

**Europe**
25 Danube

**Africa and West Asia**
8 Niger
9 Lake Chad Basin
10 Congo
11 Nile
12 Zambezi
26 Orange
24 Euphrates and Tigris

**Asia and Australia**
13 Volga
14 Ob
15 Yenisey
16 Lena
17 Kolyma
18 Amur
19 Ganges and Brahmaputra
20 Yangtze
21 Murray Darling
22 Huang He
23 Indus

Source: United Nations Environment Programme (UNEP); World Conservation Monitoring Centre (WCMC); World Resources Institute (WRI); American Association for the Advancement of Science (AAAS); *Atlas of Population and Environment*, 2001.

## General Rules of Law concerning International Watercourses

According to McCaffrey, there are several rules of international law of a general and fundamental nature that govern the conduct of states in relation to international watercourses.

The most basic of these are the following requirements:

- A state use an international watercourse in a way that is "equitable and reasonable" vis-à-vis other states sharing the watercourse.
- International watercourse states take "all appropriate measures" to prevent the causing of "significant harm" to co-riparian states.
- The requirement that international watercourse states provide "prior and timely notification" to other international watercourse states concerning any "new use or change in existing uses" of an international watercourse, together with relevant technical information, and that it "consult" with the other international watercourse states.
- The general duty to cooperate.[50]

There is also probably an emerging rule requiring the protection of the ecosystems of international watercourses.[51]

The following paragraphs provide an overview of these general rules and some of their implications.[52]

### Equitable Utilization

According to McCaffrey, the most fundamental rule of international law concerning the use of international watercourses is that of equitable and reasonable utilization. In its judgment in the *Danube Case* the International Court of Justice referred to the "basic right" of a state to "an equitable and reasonable sharing of the resources of an international watercourse."[53]

This obligation requires each riparian state to ensure, in an ongoing manner, that its use is equitable and reasonable vis-à-vis other riparian states. What is equitable and reasonable in any given case may be determined only by taking into account all relevant factors and circumstances – both natural (eg., climate, hydrography) and human-related (eg., social and economic needs of the riparian states, effects of uses in one state on co-riparians, existing and potential uses).[54]

How States value water is an especially relevant issue for resolving conflicts and negotiating over transboundary freshwater resources. The idea of valuation often is at the core of disputes over fresh water resources pitting farmers against municipalities, businesses against environmentalists, and those who have fresh water against those who don't.

Furthermore, conditions may change over time producing consequential changes in the weight assigned to given factors. For example, a drought would reduce the available water supply; a

[50] Stephen McCaffrey, The Law of International Watercourses, Oxford University Press (2001).
[51] Stephen McCaffrey, The Law of International Watercourses, Oxford University Press (2001).
[52] These general rules are generally utilised by international organisations. For example, the World Bank has at least 3 documents reflecting these principles: Bank Operational Policies (OP 7.50): Projects on International Waterways; Bank Procedures (BP 7.50): Projects on International Waterways; Bank Good Practices (GP 7.50): Projects on International Waterways.
[53] Case Concerning the Gabčíkovo-Nagymaros Project (Hungary v. Slovakia), Judgment, 1997 I.C.J. 92 (Sept. 25)., ¶ 78 at 54.
[54] United Nations, Convention on the Non-navigational Uses of International Watercourses, G.A. Res 51/299, U.N. Doc. A/RES/51/229 (Jul. 8, 1997), art.6.

population increase would result in greater need for water. Maintaining a regime of utilization that is equitable in relation to other riparian states is therefore necessarily a dynamic process. It requires regular communication between the countries sharing the watercourse – communication regarding data and information relating to the condition of the watercourse (eg., flow and any regulation thereof, pollution, meteorological factors that could influence utilization) and regarding any new projects or changes in existing uses. Many countries sharing international watercourses have found that this kind of systematic communication may be effectively and efficiently accomplished through a joint management mechanism, such as a commission.

Absent such an organization or some other system allowing regular communication, it can be challenging at best to maintain a regime of utilization that is equitable vis-à-vis a state's co-riparians.

## Equitable participation

Riparian States have a right and duty to participate in use, development and protection in an equitable and reasonable manner. This notion is captured in the concept of "equitable participation", a principle reflected in the UN Convention.[55] In the *Danube Case* the International Court of Justice laid stress on the importance of equitable participation in the "common utilization of shared water resources for the achievement of the several objectives mentioned in the Treaty [in question]."[56]

## Prevention of Significant Harm

According to McCaffrey, it is a fundamental rule of international law that one state should not cause "significant harm" to another.[57] This principle has been recognized in several important decisions in international cases.[58] However, the application of the principle to international watercourses is highly controversial. While it is clear that one state may not intentionally cause harm to another through, for example, flooding or deliberate releases of toxic pollution, there is dispute about whether one state's use that reduces the available supply in another state is prohibited by this norm.

The better view is that the latter situation is governed first and foremost by the principle of equitable utilization: if harm is caused through a pattern of utilization that is otherwise equitable, it should not be prohibited.

Otherwise, for example, a later-developing upstream state would be prevented from developing the portion of an international watercourse in its territory to the extent that such development impaired existing uses in downstream states. Many states argue that the principle of equitable utilization prevails over harm prevention principle if the two should come into conflict and this view would

[55] See art. 5(2) of the UN Convention, setting forth this concept. United Nations, Convention on the Non-navigational Uses of International Watercourses, G.A. Res 51/299, U.N. Doc. A/RES/51/229 (Jul. 8, 1997). See also Richard K. Paisley, Adversaries into Partners: International Water Law and the Equitable Sharing of Down Stream Benefits, 3 (2) Melbourne Journal of International Law 280 (2002).

[56] Case Concerning the Gabčíkovo-Nagymaros Project (Hungary v. Slovakia), Judgment, 1997 I.C.J. 92 (Sept. 25), ¶ 147 at 80. The objectives referred to included hydropower production, improvement of navigation, protection from floods and protection of water quality and riverine ecosystems. The treaty referred to was signed in 1977 between Hungary and Czechoslovakia "…'concerning the construction and operation of the Gabcilcovo-Nagymaros System of Locks'…."

[57] Stephen McCaffrey, The Law of International Watercourses, Oxford University Press (2001).

[58] Chiefly: Trail Smelter Case (U.S. v. Can.), Lake Lanoux Arbitration (Fr. V. Spain), and Corfu Channel Case (U.K. v. Alb.).

appear to be borne out by the UN Convention.[59] However, many downstream states do not necessarily agree.

Moreover, the International Court of Justice in the *Danube Case* referred only to the principle of equitable utilization when addressing the parties' respective rights to the uses and benefits of the river; the principle of prevention of harm figured only, although importantly, as a constraint on actions that would affect the environment of other states.

Regardless of its relationship to equitable utilization, the duty to prevent significant harm to other states is not absolute; it requires that a country exercise its best efforts to prevent harm. [60] Whether a state has complied with this obligation will thus be, in part, a function of its capability to do so. Presumably, therefore, developing countries would generally have more leeway in this regard than developed countries by virtue of the greater capacity of the latter to prevent harm to co-riparians.

## Rules concerning New Uses

Although it has been controversial in the past, today there is little doubt that customary international law requires a state planning a new use to provide notice thereof to other states that the use might adversely affect them.[61]

This rule applies to all projects that have the potential to change the regime of the watercourse in a way that would be prejudicial to other riparian states. In its classical conception it applies to projects (including both new uses and changes in existing uses) that may have adverse factual impacts upon other states. More recently it has been recognized that adverse legal effects should also be covered by the rule. Thus, for example, a planned project in a downstream state might, when implemented, make it impossible for an upstream state to implement a project of its own without running the risk that its project would result in its overall utilization being considered inequitable. Because of this possibility, notification should be provided to co-riparian states of all planned projects of significance, even if they do not have the potential for causing adverse factual effects in those states.

Once notification has been provided, the state in which the project is planned has a duty to consult with the potentially affected state or states. The planning and potentially affected states are expected to arrive at an equitable resolution of any differences between them with regard to the project.

## Rules concerning Pollution

The UN Convention provides that states sharing an international watercourse have an obligation to protect and preserve the watercourse's ecosystems.[62] While this obligation is not tied to harm to other states, it seems unlikely that a co-riparian would assert a violation unless it had suffered some harm. More specifically, states are required to prevent, reduce and control pollution that may cause significant harm to co-riparians. Like the obligation to prevent significant harm, this duty is one of due diligence.

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[59] See art. 7 of the UN Watercourses Convention, and especially para. 2 of that article. United Nations, Convention on the Non-navigational Uses of International Watercourses, G.A. Res 51/299, U.N. Doc. A/RES/51/229 (Jul. 8, 1997) available at http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf

[60] Article 7 of the UN Convention requires states to "take all appropriate measures" to prevent harm to other states.

[61] Stephen McCaffrey, The Law of International Watercourses, Oxford University Press (2001).

[62] United Nations, Convention on the Non-navigational Uses of International Watercourses, G.A. Res 51/299, U.N. Doc. A/RES/51/229 (Jul. 8, 1997), article 20.

## The Special Case of Shared Groundwater in the 1997 UN Watercourses Convention

According to McCaffrey, the rules discussed above apply to all components of an international watercourse system, including groundwater.[63] However, in view of the different characteristics of groundwater, the rules may apply somewhat differently. The UNILC has produced 19 draft articles for the management and utilization of transboundary aquifers. Those articles are currently under review and represent and UNILC's effort to interpret and, where appropriate, progressively develop international law on the subject. However, this is a developing area of the law and therefore it is not clear to what extent the existing rules, or their application, differ in the case of groundwater.

According to McCaffrey, it does seem possible to arrive at certain general conclusions:

First, the obligation of equitable and reasonable utilization applies equally to surface and groundwater. Second, the obligation to prevent significant harm may be somewhat more stringent in the case of groundwater because of the greater importance of prevention where it is concerned; harm occasioned through an aquifer often takes longer to remedy than in the case of surface water. This is particularly the case with pollution, which may cause contamination of an aquifer that cannot be remedied for many years, if at all. And third, the special characteristics of groundwater make close cooperation between states sharing it particularly important. Prior notification, the sharing of data and information on a regular basis, and where possible, the establishment of joint management mechanisms take on greater significance with regard to shared groundwater.[64]

[63] Stephen McCaffrey, The Law of International Watercourses, Oxford University Press (2001).
[64] Stephen C. McCaffrey, The International Law Commission Adopts Draft Articles On Transboundary Aquifers, Am.J.Int'l.L. 272-294 at 272 (2009).


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## International Groundwater Law

Despite the importance of groundwater as a source of water,[65] the legal regime surrounding groundwater is markedly small. While there are over 400 international agreements regarding transboundary rivers or lakes, there are only seven agreements for five transboundary aquifers.[66] As set out in the discussion that follows, growing understanding and recognition of the close relationship between ground and surface waters have led to efforts to codify general legal principles and rules regarding groundwater.

Early efforts to formally address transboundary groundwater resources under international law are seen in the *1966 Helsinki Rules* and the *1986 Seoul Rules*, which emphasized the connection between ground and surface waters.[67] The *United Nations Convention on the Law of the Non-navigational Uses of International Watercourses* includes 'related groundwater' in its definition of watercourses, but this definition is limited and does not include other categories of groundwater.[68] In 2002 the UNILC included shared natural resources, including groundwater, in its program of work.[69] Between 2003 and 2008 the Special Rapporteur produced five reports, and the Draft Articles were presented to the UN General Assembly in 2008.[70] Some key terms defined in the Draft Articles are:

"Aquifer": a permeable water bearing geological formation underlain by a less permeable layer and the water contained in the saturated zone of the formation;

"Aquifer System": a series of two or more aquifers that are hydraulically connected;

"Recharging Aquifer": an aquifer that receives a non-negligible amount of contemporary water recharge;

"Discharge Zone": the zone where water originating from an aquifer flows to its outlets, such as a watercourse, a lake, an oasis, a wetland or an ocean.[71]

These are technical definitions that utilize the language and science of hydrogeology, as groundwater is generally not well understood.[72] However, it is notable that the Draft Articles concern "aquifers", and not "groundwater".[73] This emphasis on rock formation follows from the fact that many groundwater-related problems result from the aquifer itself, such as water pollution caused by pollutants in the geological strata, or compaction and the resulting changes in the storage

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[65] Excluding water locked in polar ice, groundwater makes up 97% of the Earth's fresh-water. See Kerstin Mechlem, Moving Ahead in Protecting Freshwater Resources: The International Law Commission's Draft Articles on Transboundary Aquifers, Leiden J Int L, 801–821 at 802 (2009).

[66] These are the 2007 Convention relative á la protection, á l'utilisation, á la réalimentation et au suivi de la nappe souterraine franco-suisse du Genevois, (which replaces a 1977 agreement), two short technical agreements related to the Programme for the Development of a Regional Strategy for the Utilization of the Nubian Sandstone Aquifer System, 1992 Agreement on the Establishment of a Joint Authority for the Study and Development of the NSAS, a technical agreement on the Establishment of a Consultation Mechanism for the Northwestern Sahara Aquifer System, The Memorandum of Understanding relating to the setting up of a Consultative Mechanism for the management of the Lullemeden Aquifer System, and the 2010 Agreement for the Guarani Aquifer.

[67] Development Law Service, FAO Legal Office, *Sources of International Law, Some General Conventions, Declarations, Resolutions and Decisions adopted by International Organizations, International Non-Governmental Institutions, International and Arbitral Tribunals on International Water Resources*, FAO Legislative Study 65, Rome 1998 at 293 and 320 as found at ftp://ftp.fao.org/docrep/fao/005/w9549E/w9549e04.pdf

[68] Stephen C. McCaffrey, The International Law Commission Adopts Draft Articles On Transboundary Aquifers, Am.J.Int'l.L. 272-294 (2009).

[69] Stephen C. McCaffrey, The International Law Commission Adopts Draft Articles On Transboundary Aquifers, Am.J.Int'l.L. 272-294 (2009).

[70] Stephen C. McCaffrey, The International Law Commission Adopts Draft Articles On Transboundary Aquifers, Am.J.Int'l.L. 272-294 (2009).

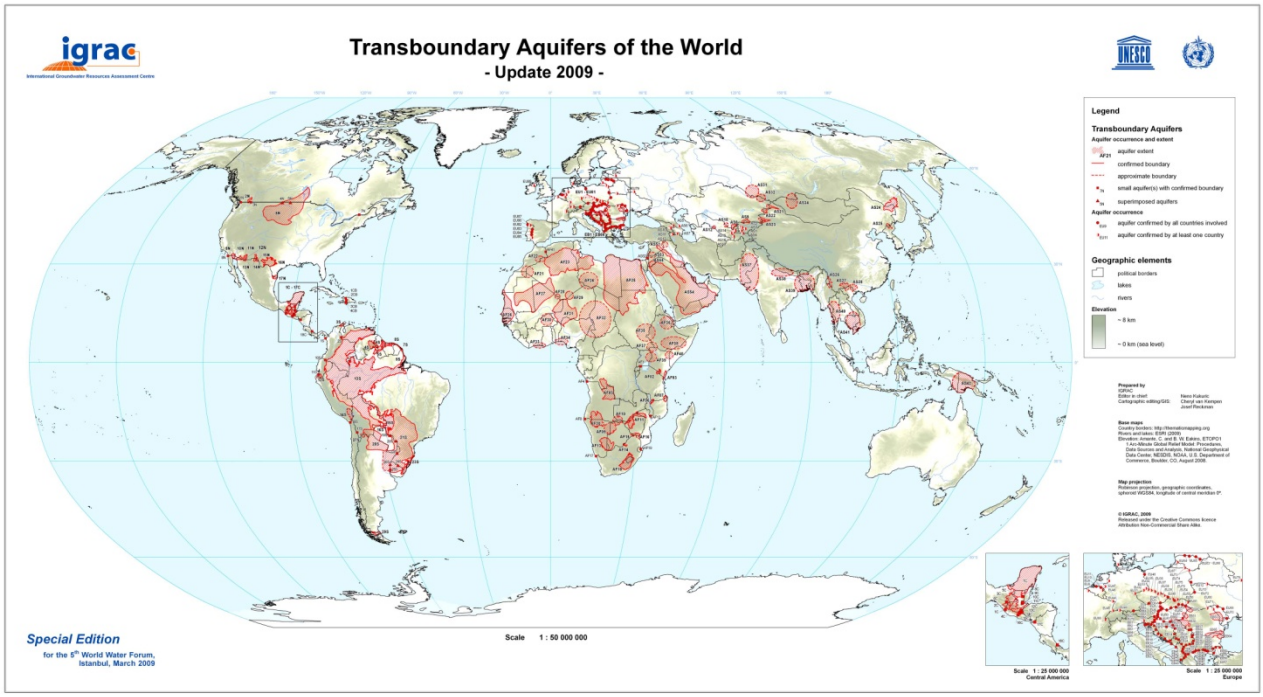
71 United Nations, Draft Articles on the Law of Transboundary Aquifers, 63rd Sess., Supp. No. 10, Article 2 (2008).

72 Stephen McCaffrey, The Law of International Watercourses, Oxford University Press (2001).

73 The Draft Articles (Article 2) define aquifer as "… permeable water-bearing geological formation underlain by a less permeable layer and the water contained in the saturated zone of the formation."

capacity of the rock. The scope of the Draft Articles is limited to transboundary aquifers. It does not include domestic aquifers that contribute to transboundary surface waters.[74] This limitation was deliberate, and intended to reduce overlap with the Watercourses Convention,[75] which includes groundwater that is part of an international watercourse system under its scope.[76] In spite of these efforts, a certain degree of overlap between the Watercourses Convention and the draft articles does appear to exist,[77] and should the draft articles be developed into a binding instrument, they will have to be harmonized with the Convention.[78]

Figure 2. Transboundary Aquifers of the World[79]




The draft articles encompass the utilization of transboundary aquifers, other activities that have or are likely to have an impact on those aquifers, and measures for their protection, preservation, and management. Four general rules of international law that govern a state's use and protection of transboundary aquifers appear in the Draft Articles:

- Equitable and reasonable utilization;
- No significant harm;
- Duty to cooperate;
- Respect for state sovereignty.

[74] The Draft Articles (Article 2)define transboundary aquifer as "…an aquifer or aquifer system, parts of which are situated in different States."

[75] United Nations, Convention on the Non-navigational Uses of International Watercourses, G.A. Res 51/299, U.N. Doc. A/RES/51/229 (Jul. 8, 1997) available at http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf.

[76] Yamada, Chusei. UNILC Special Rapporteur, *Addendum to Shared Natural Resources: First Report on Outlines*, U.N. Doc. A/CN.4/533/Add.1 (2003).

[77] McCaffrey, Stephen C.. *The Law of International Watercourses* (2001); Eckstein, Gabriel E. Eckstein, Commentary on the U.N. International Law Commission's Draft Articles on the Law of Transboundary Aquifers, Colo. J. Int'l Envtl. L. & Pol'y 538-610 (2007) .

[78] Gabriel E. Eckstein, Commentary on the U.N. International Law Commission's Draft Articles on the Law of Transboundary Aquifers, Colo. J. Int'l Envtl. L. & Pol'y 538-610 (2007).

[79] International Groundwater Resources Assessment Center, *available at* http://www.igrac.net

The first three principles follow the main principles of international water law, as outlined in the UN Watercourses Convention. The fourth, the principle of sovereignty, is a new addition, and its prominence in the draft articles has been a point of controversy.[80]

The following paragraphs provide a brief overview of these general rules and some of their implications.

[80] Stephen C. McCaffrey, The International Law Commission Adopts Draft Articles On Transboundary Aquifers, Am.J.Int'l.L. 272-294 (2009).

## General Rules of Law concerning International Groundwater

### Equitable and Reasonable Utilization

Like the *UN Watercourses Convention*,[81] and following the basic principles of international water law, states are obligated to utilize groundwater resources in an equitable and reasonable manner. This entails a cost-benefit analysis of relevant factors with the view of maximization of benefits over the long term.

Though the concept of sustainable use is not explicitly mentioned in the Draft Articles,[82] it is evoked through this emphasis on long-term benefits,[83] and through obligations that enhance the principle of equitable and reasonable utilization. The Draft Articles require states to establish (individually or jointly) an overall utilization plan that takes into account both present and future needs of aquifer states (including alternative water sources).[84] This provision is noteworthy in that few countries have undertaken planning such as this.[85] Furthermore, it prevents states from "utiliz[ing] a recharging transboundary aquifer or aquifer system at a level that would prevent continuance of its effective functioning,"[86] thus recognizing the fragility of aquifer systems.[87]

### No Significant Harm

Following the UN Watercourses Convention, and reflecting the general principle of *sic utere tuo ut alienum non laedas* in international law, the Draft Articles obligate aquifer states to take all measures to prevent their utilization from causing significant harm to other aquifer states.[88] Harm is considered significant if it is more than detectable but it does not necessarily have to rise to the level of serious or substantial harm.

The application of this principle to international water law continues to be controversial, particularly in relation to the principle of equitable and reasonable utilization.[89] Furthermore, several factors unique to groundwater, among them the often considerable delays between activities and manifestation of harm, the fragility of aquifer systems in relation to surface waters, and the extreme difficulty in restoring polluted aquifers, adds further complexity to the establishment of "significant harm."

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[81] See United Nations, Convention on the Non-navigational Uses of International Watercourses, G.A. Res 51/299, U.N. Doc. A/RES/51/229 (Jul. 8, 1997) as found at http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf

[82] Kerstin Mechlem, Moving Ahead in Protecting Freshwater Resources: The International Law Commission's Draft Articles on Transboundary Aquifers, Leiden J Int L, 801–821 at 812 (2009).

[83] Gabriel E. Eckstein, Commentary on the U.N. International Law Commission's Draft Articles on the Law of Transboundary Aquifers, Colo. J. Int'l Envtl. L. & Pol'y 538-610 (2007) at 566.

[84] See United Nations, Draft Articles on the Law of Transboundary Aquifers, 63rd Sess., Supp. No. 10, Article 4, note c.

[85] Gabriel E. Eckstein, Commentary on the U.N. International Law Commission's Draft Articles on the Law of Transboundary Aquifers, Colo. J. Int'l Envtl. L. & Pol'y 538-610 (2007) at 567.

[86] See United Nations, Draft Articles on the Law of Transboundary Aquifers, 63rd Sess., Supp. No. 10, Article 4.

[87] Gabriel E. Eckstein, Commentary on the U.N. International Law Commission's Draft Articles on the Law of Transboundary Aquifers, Colo. J. Int'l Envtl. L. & Pol'y 538-610 (2007).

[88] United Nations, Draft Articles on the Law of Transboundary Aquifers, 63rd Sess., Supp. No. 10, Article 6.

[89] Stephen C. McCaffrey, The International Law Commission Adopts Draft Articles On Transboundary Aquifers, Am.J.Int'l.L. 272-294 at 272 (2009).

## Duty to Cooperate

The duty to cooperate, particularly in the case of shared resources, is a widely accepted principle of international law.[90] Cooperation may include such activities as regular exchange of data and information, notification of planned activities, negotiation of disputes, scientific and technical cooperation. Within the context of international environmental law it may also include protection and preservation of ecosystems, and prevention, reduction and control of pollution.

Given the fragility of aquifer systems and the general lack of knowledge about them, cooperation is imperative in the effective management of transboundary water systems. It is often realized through the creation of joint mechanisms for cooperation, such as commissions, authorities, or other institutional organizations. These institutions are intended to facilitate cooperation, and by ensuring an ongoing process of technical exchanges, are often able to reduce potential for conflict.[91]

## State Sovereignty

Of the principles included in the Draft Articles, the principle of state sovereignty has been the most controversial. The principle of sovereignty was not included in the UN Watercourses Convention, and some argue that the application of this principle to international water law is regressive,[92] as it reopens the possibility for states to claim absolute sovereignty over the portion of transboundary surface waters within their territories.[93]

In the case of surface waters, through the decisions of the ICJ in the *Gabčíkovo - Nagymaros Project* case,[94] the UN Watercourses Convention, the principle of 'community of interest' applies to non-navigational uses of international watercourses. The principle of community of interest is based on the concept that states that share an interest in a resource form a "community" based on that shared interest, and that such interest is incompatible with the concept of a sovereign claim over shared freshwater resources.[95]

The concept of state sovereignty as applied to international groundwater resources is challenging for the same reason that it has been rejected in surface water international law: water is dynamic. As McCaffrey explains:

> *If the subject matter being regulated is an immovable part of the territory of states, it is only natural to conceive of states as having "sovereignty" over it. But if the subject matter is something that moves from one state to another, from underground to surface, from surface to atmosphere, from atmosphere back to surface, and so on in the hydrologic cycle, the notion that states have sovereignty over it seems a far from perfect match.*[96]

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[90] Gabriel E. Eckstein, Commentary on the U.N. International Law Commission's Draft Articles on the Law of Transboundary Aquifers, Colo. J. Int'l Envtl. L. & Pol'y 538-610 (2007)

[91] erstin Mechlem, Moving Ahead in Protecting Freshwater Resources: The International Law Commission's Draft Articles on Transboundary Aquifers, Leiden J Int L, 801–821 (2009) at 812.

[92] Stephen C. McCaffrey, The International Law Commission Adopts Draft Articles On Transboundary Aquifers, Am.J.Int'l.L. 272-294 (2009) at 272.

[93] Stephen C. McCaffrey, The International Law Commission Adopts Draft Articles On Transboundary Aquifers, Am.J.Int'l.L. 272-294 at 272 (2009) at 291.

[94] Case Concerning the Gabčíkovo-Nagymaros Project (Hungary v. Slovakia), Judgment, 1997 I.C.J. 92 (Sept. 25), ¶ 147.

[95] Stephen C. McCaffrey, The International Law Commission Adopts Draft Articles On Transboundary Aquifers, Am.J.Int'l.L. 272-294 (2009) at 288-289.

[96] Stephen C. McCaffrey, The International Law Commission Adopts Draft Articles On Transboundary Aquifers, Am.J.Int'l.L. 272-294 (2009) at 286.

**International Large Marine Ecosystem (LME) Law**

Large Marine Ecosystems (LMEs) are relatively large ocean areas – approximately 200 000 $km^2$ or greater – adjacent to continents, and characterized by distinct bathymetry, hydrography, productivity, and trophic relationships. Based on these criteria, 64 distinct LMEs have been identified around the coastal boundaries of the Atlantic, Indian and Pacific Oceans. As they encompass coastal areas, LMEs are sites of high productivity, producing about 80% of the annual world's marine fisheries, but are also centres of significant biodiversity loss, coastal ocean pollution and nutrient over enrichment, habitat degradation, and overfishing.[97]

Part of the increasingly dominant 'ecosystem paradigm' approach to managing the environment and natural resources, the LME concept is a multidisciplinary, though mainly science-based, approach to the management of marine ecosystems as a whole. While there are numerous transboundary marine agreements that are useful in dealing with the marine environment, the LME approach consists of five modules, based on socio-economic, governance and natural science (productivity, fish and fisheries, pollution and ecosystem health) indicators.[98] Developed by Kenneth Sherman and Lewis Alexander,[99] the LME approach has been increasingly adopted by governments since 1984.[100] It is closely linked to the work of the Global Environment Facility (GEF), which has endorsed the LME approach since its formal launch in 1995 as a means of capacity-building, establishing comprehensive and integrated environmental management approaches, and addressing transboundary environmental issues throughout the world. GEF has supported over 15 LME projects, and now over 132 countries cooperate to support the LME approach.[101]

[97] Large Marine Ecosystems of the World, The Large Marine Ecosystem Approach to the Assessment and Management of Coastal Ocean Waters: Introduction to the LME Portal, *available at* http://www.lme.noaa.gov/index.php?option=com_content&view=article&id=47&Itemid=28

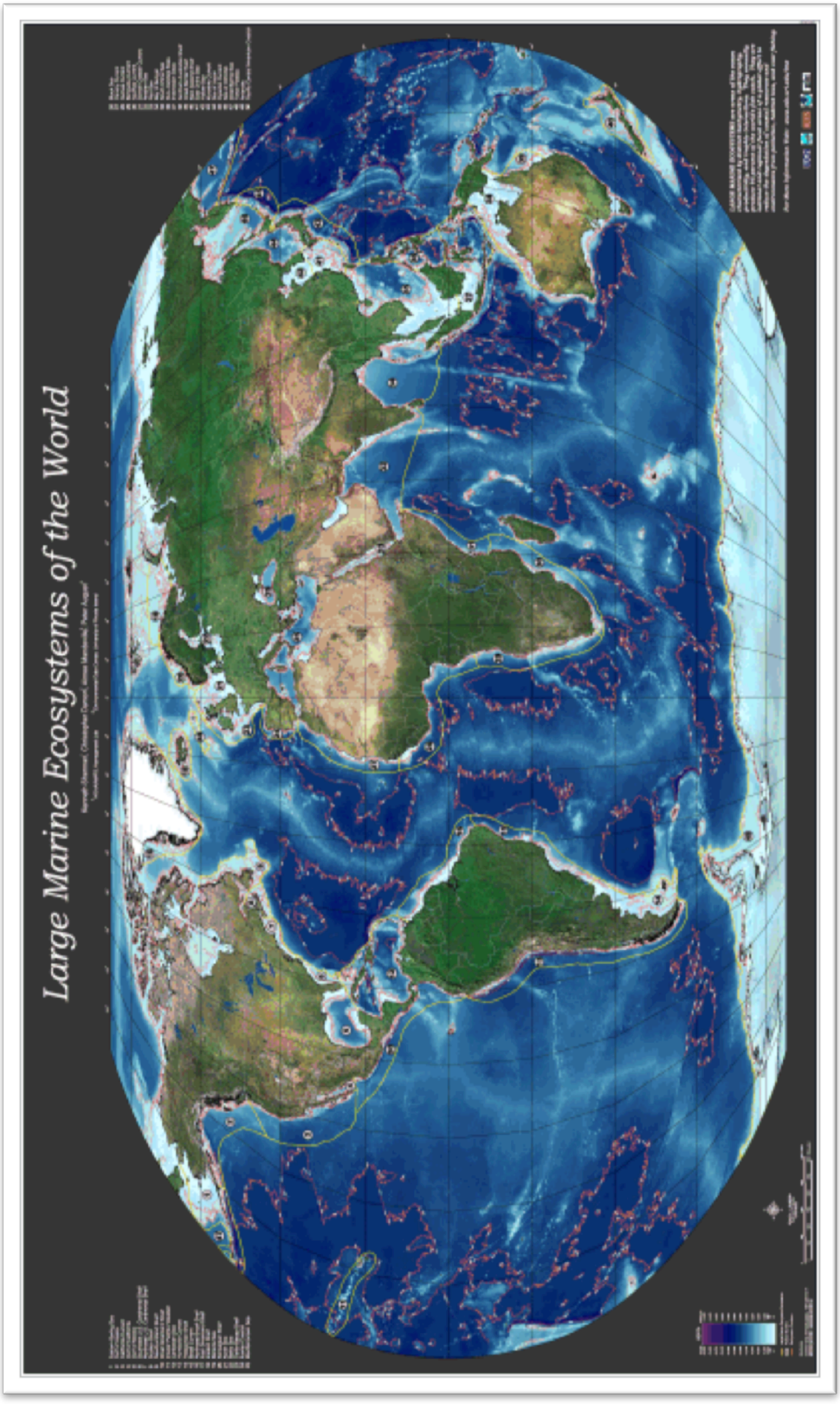
[98] Stephen B. Olsen et al., A Handbook on Governance and Socioeconomics of Large Marine Ecosystems (2006).

[99] Stephen B. Olsen et al., A Handbook on Governance and Socioeconomics of Large Marine Ecosystems (2006).

[100] Sustaining the World's Large Marine Ecosystems (Kenneth Sherman et al. eds., 2009).

[101] Alfred M. Duda & Kenneth Sherman, A New Imperative For Improving Management Of Large Marine Ecosystems, 45 Ocean & Coastal Mgmt. 797 (2002).

Figure 3. Large Marine Ecosystems Of The World[102]




[102] Food and Agriculture Organization of the United Nations, available at http://www.fao.org/. as found at http://www.fao.org

## Large Marine Ecosystems under International Law

The Large Marine Ecosystem (LME) approach is an emerging one in international waters management. However, in spite of gaining widespread political acceptance as a desirable means through which to manage shared resources, the concept does not currently have formal status under international law. The nature of the LME approach, with its emphasis on environment and natural resource management at the ecosystem level (as opposed to the national level) does not fit well with traditional international law, which focuses on the behaviour of states. In fact, the LME approach demonstrates one way in which cooperation over international environmental concerns may be achieved in the absence of binding international agreements.[103]

Though there is no explicit international agreement regarding LMEs, as part of marine states' territories, they are, in principle, governed by the traditional *Law of the Sea*. The traditional *Law of the Sea*, dating from the 17th century, was based on the principle of freedom of the seas. This focused on the assumption that international waters were *res nullius*, or belonging to no nation or person, and on the assumption of inexhaustible sea resources.[104] However, these assumptions lost their validity through developments in technology and uses of the sea, and the concept of regulated use of the high seas has developed, through both national legislation and international treaties,[105] the most important of which is the *Third United Nations Convention on the Law of the Sea of 1982 (UNCLOS III)*, which came into force in 1994 and has been signed and ratified by over 160 states.

UNCLOS III endorses concepts favourable to the LME approach, among them the responsibility to protect the marine environment, reduce pollution and conserve living marine resources.[106] However, it does not address them explicitly. Additionally, the primacy of state sovereignty means that the LME approach will most likely remain voluntary. This does not mean that the LME approach will be unsustainable over the long term, rather, the lack of binding international agreements regarding LMEs may simply indicate an incompatibility of international law with the LME approach.[107] Numerous other declarations and other non-binding agreements support the notion of ecosystems-based management, including *Agenda 21* (1992), the *Jakarta Mandate on Marine and Coastal Biodiversity* (1995), the *Johannesburg World Summit on Sustainable Development* (2002) and others.[108] Furthermore, as a practical matter and as evidence of state practice, the LME approach is increasingly being adopted by states as a means to ensure sustainability of marine environment resources.[109]

## Large Marine Ecosystems Approach – General Concepts

### Long-Term Sustainability

The fundamental goal of ecosystems-management and the LME approach is to ensure the sustainability of marine resources over the long term. This encompasses general environmental principles such as the principle of intergenerational equity and sustainable development. The

[103] Bradley Karkkainen, Marine Ecosystem Management & A Post-Sovereign Transboundary Governance, 6 San Diego Int'l L.J. 113 (2004).
[104] E. Somers, Legal Constraints and Options for Total Ecosystem Management of Large Marine Ecosystems, *in* Large Marine Ecosystems of the Indian Ocean (K. Sherman et al. eds., 1998).
[105] E. Somers, Legal Constraints and Options for Total Ecosystem Management of Large Marine Ecosystems, *in* Large Marine Ecosystems of the Indian Ocean (K. Sherman et al. eds., 1998)
[106] See UNCLOS III, Part V, Sec. 2; Part x, Sec. 2-3; Part XII as found at http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf
[107] Bradley Karkkainen, Marine Ecosystem Management & A Post-Sovereign Transboundary Governance, 6 San Diego Int'l L.J. 113 (2004).
[108] Hanling Wang, Ecosystem Management and Its Application to Large Marine Ecosystems: Science, Law, and Politics, 35 Ocean Dev. & Int'l L. 41 (2004).
[109] Hanling Wang, Ecosystem Management and Its Application to Large Marine Ecosystems: Science, Law, and Politics, 35 Ocean Dev. & Int'l L. 41 (2004).

introduction by UNCLOS III of the concept of the oceans as the common heritage of mankind supports this long-term outlook with respect to marine areas.

## Precautionary Approach

A second important concept in the LME approach is the precautionary approach, the concept that caution must be taken in situations that pose serious or irreversible harm to human societies or the environment.[110] In the case of LMEs, the precautionary approach also holds that there is a mandate to act in the face of uncertainty.[111] LMEs, like all ecosystems, are complex, and general knowledge of LMEs is considered particularly limited.[112] In both cases, the anticipated benefits of action must be weighed against the probable costs of inaction, with consideration for establishing a baseline proof level to justify action to reduce hazards, promotion of environmentally sound practices and risk reduction, and early hazard reduction.[113] The precautionary approach is commonly employed when addressing fisheries in LMEs.[114]

## Adaptive Management

The final key element of the LME approach is the concept of adaptive management. Adaptive management entails "learning by doing," in that policies and programmes are considered experiments, and change is expected.[115] The LME approach is designed to incorporate adaptive management through its five module indicators, which are to be used to measure changes in the LME's state as a result of policy changes and initiatives.[116] Given the uncertainty surrounding LMEs, the flexibility of adaptive management, with its emphasis on monitoring and assessment, enables decision-makers to make choices that reflect the current status of the environment.

[110] tephen B. Olsen et al., A Handbook on Governance and Socioeconomics of Large Marine Ecosystems (2006).
[111] Alexander, L.. *Large Marine Ecosystems: A new focus for marine resources management*. 17 Marine Policy. 186 (1993).
[112] Hanling Wang, Ecosystem Management and Its Application to Large Marine Ecosystems: Science, Law, and Politics, 35 Ocean Dev. & Int'l L. 41 (2004).
[113] Stephen B. Olsen et al., A Handbook on Governance and Socioeconomics of Large Marine Ecosystems (2006).
[114] Sustaining the World's Large Marine Ecosystems (Kenneth Sherman et al. eds., 2009).
[115] Lawrence Juda & Timothy Hennessey, Governance Profiles and the Management and Use of Large Marine Ecosystems, 32 Ocean Dev. & Int'l L. 43 (2001).
[116] Sustaining the World's Large Marine Ecosystems (Kenneth Sherman et al. eds., 2009).

# CHAPTER 3

## Governance Of International Waters

The term "good governance" is being increasingly used in development literature. In an international waters context, governance is defined as the process of decision-making and the process by which decisions are implemented (or not implemented). Six aspects of good governance in an international waters context are: benefit sharing, data and information sharing and exchange, dispute resolution, funding, resilience, and institutional architecture. These represent the best combination of where the need was perceived to be greatest, and where various lessons learned and experiences were perceived to be reasonably available.

The peer reviewed scholarly academic publications that were researched and written on these topics are as follows:[117]

Hearns, Glen S., Richard K. Paisley and Taylor W. Henshaw, Institutional Architecture and the Good Governance of International Transboundary Waters, (accepted for publication Elsevier Environmental Development (2013))

Paisley, Richard Kyle and Taylor Henshaw, International Waters, Good Governance and Data and Information Sharing and Exchange (accepted for publication Indiana International and Comparative Law Journal) (2013)

Paisley, Richard Kyle and Taylor Henshaw, Transboundary Governance of the Nile River Basin: Past, Present and Future. 7 Elsevier Environmental Development 59. (2013)

Hearns, Glen and Richard Kyle Paisley, Lawyers Write Treaties, Engineers Build Dikes, Gods of Weather Ignore Both: Making Transboundary International Waters Agreements Relevant, Flexible and Resilient in a Time of Global Climate Change. 6 Golden Gate Univ. Environmental Law Journal 259 (2013)

Bailey, Megan. Gakushi Ishimura, Richard Kyle Paisley and U. Rashid Sumaila, Present and Future Allocation Approaches for Internationally Shared Fish Stocks. Marine Policy 40 (2013) 124–136. (2013)

Paisley, Richard Kyle, A River Runs Through Us: The Columbia River Treaty is a Model of International Co-operation but it Could Soon Expire. Volume Feb. / March Canada's History Magazine 48 (2013)

McCaffrey, Stephen C., Richard Kyle Paisley, Lynette de Silva, and Aaron Wolf, Transboundary River Governance in the Face of Uncertainty: The Columbia River Treaty in 2014 and Beyond: International Experiences and Lessons Learned in The Columbia River Treaty Revisited: Transboundary River Governance in the Face of Uncertainty, Oregon State University Press (2012)

Paisley, Richard Kyle and John Shurts. Columbia River Treaty: Past, Present and Future. In Bakker, Karen, Emma Norman and Alice Cohen. Water Without Borders: Canada, the U.S. and Shared Water. University of Toronto Press (2013)

Paisley, Richard Kyle and Alex Grzybowski. Lessons Learned from Recent Experience with Governance of International Freshwater, International Groundwater and International Large Marine Ecosystems: Dispute Resolution. Proceedings of Water Law: Through the Lens of Conflict: Colloquium of the University of New England and the Australian Centre for Agriculture and Law. (2011)

[117] Please see internationalwatersgovernance.com for complete transcripts of the articles or click on the links below.

Eckstein, Gabriel (ed.), Stefano Burchi, Maaria Solin Curlier and Richard Kyle Paisley. The Greening of Water Law: Managing Fresh Water Resources for People and the Environment. UNEP Division of Environmental Law and Conventions, Nairobi, Kenya (2010)

Grzybowski, Alex, Stephen C. McCaffrey and Richard Kyle Paisley. Beyond International Water Law: Successfully Negotiating Mutually Beneficial Agreements for International Watercourses. 22 Pacific McGeorge Global Business & Development Law Journal 139 (2010)

# CHAPTER 4

# Negotiations And Conflict Resolution

The objective of this chapter is to build a common vocabulary and understanding of conflict dynamics, analysis and negotiation techniques. It will also provide the opportunity to apply this learning in a variety of increasingly sophisticated and complex negotiation simulation exercises including those involving international watercourses.

Each section of this chapter is a separate learning unit and contains multiple sections which detail key ideas or skills that are needed by decision makers, negotiators, or third party neutrals.

## Introduction

Negotiation is one of the most common approaches used to make decisions and manage disputes. Negotiation occurs between spouses, parents and children, managers and staff, employers and employees, professionals and clients, within and between organizations and between agencies and the public. Negotiation is a problem-solving process in which two or more people voluntarily discuss their differences and attempt to reach a joint decision on their common concerns. Negotiation requires participants to identify issues about which they differ, educate each other about their needs and interests, generate possible settlement options and bargain over the terms of the final agreement. Successful negotiations generally result in some kind of exchange or promise being made by the negotiators to each other. The exchange may be tangible, such as money, a commitment of time or a particular behaviour, or intangible, such as an agreement to change an attitude or expectation or an apology.

Negotiation is the principle way that people redefine an old relationship that is not working to their satisfaction or establish a new relationship where none existed before. Because negotiation is such a common problem-solving process, it is in everyone's interest to become familiar with negotiating dynamics and skills. This chapter is designed to introduce you to some basic concepts of negotiation and to present procedures and strategies that generally produce more efficient and productive problem solving.

Negotiation is important in the context of international water law. International watercourses can be either a source of cooperation or conflict. The very process of reaching an understanding creates a stabilizing and more transparent atmosphere. Negotiation alone serves to widen political participation, build political stability, and spread confidence between the basin states. Even where the parties fail to reach a definite agreement or agree only to share information or exchange data, negotiation can lead to increased trust and confidence. Cooperation on transboundary water issues catalyzes regional cooperation which is important to the resolution of many serious water problems. This can then pave a way for cooperation in other domains, such as politics, economics, and environmental conservation. Negotiation and transboundary water agreements can help countries move away from the detrimental view that water conflicts are a zero-sum game. If negotiation is successful, each party will benefit.

## Conditions for Negotiation

A variety of conditions can affect the success or failure of negotiations. According to an article in the July 30th, 2006 edition of the New York Times:

*The Basics: When the Table Itself is a Negotiating Ploy*[118]

> *When Secretary of State Condoleezza Rice met in Rome last week with European and Middle Eastern diplomats to discuss the Israeli-Hezbollah conflict, the talks sputtered over a few words. Ms. Rice wanted the diplomats' communiqué to urge governments to "work immediately" for a cease-fire, while most of the other negotiators wanted it to urge work toward an "immediate cease-fire." The dispute, which was resolved in Ms. Rice's favor after an hour or so, wasn't the first time that diplomatic negotiations have hinged on small details. Many of them have nothing to do with language. Here are some examples.*

| STICKING POINT | EXAMPLE | WHAT HAPPENED |
|---|---|---|
| Shape of Table | 1969 Vietnam War Peace Talks | • Months of discussion over merits of a round versus a square table.<br>• The compromise: a round table flanked by smaller square tables. |
| Speaking Time | 1991 Mid East Peace Talks | • Israel objected to both Jordan and Palestine leaders of joint delegation getting 45 minutes each for opening speeches. |
| Venue | 2001 Israeli Palestine Truce Talks | • Two sides spent weeks arguing over choice of Egypt or Erez crossing between Israel and Gaza. |
| | 2006 Sri Lanka Peace Talks | • Government and Tamil rebels disagreed over numerous proposed sites, including Japan, Oslo and Sri Lanka's main airport. |
| Seating Arrangements | 1648 Peace of Westphalia | • Delegates took six months to decide who would enter the negotiating room first. |
| | 1994 Irish Peace Talks | • Manoeuvring over who would sit next to Gerry Adams of Sinn Fein, the IRA political wing. |

[118] Henry Fountain, The Basics; When the Table Itself Is a Negotiating Ploy, N.Y. Times, July 30, 2006.

The following conditions generally make success in negotiations more likely:

*Identifiable parties who are willing to participate*

The people or groups who have a stake in the negotiations must be identifiable and willing to sit down at the bargaining table if productive negotiations are to occur. If a critical party is either absent or unwilling to commit to good faith bargaining, the potential for agreement will decline.

*Interdependence*

For productive negotiations to occur, the participants must be dependent upon each other to have their needs met or interests satisfied. The participants need either each other's goodwill, or restraint of negative action, for their interests to be satisfied. If one party can get his/her needs met without the cooperation of the other, there will be little impetus to negotiate.

*Readiness to negotiate*

People must be ready to negotiate for dialogue to begin. When participants are not psychologically prepared to talk with the other party or parties, when adequate information is not available or when a negotiation strategy has not been prepared, people may be reluctant to begin the process.

*Means of influence or leverage*

For people to reach an agreement over issues about which they disagree, they must have some means to influence the attitudes and/or behaviour of another negotiator. Often influence is seen as the power to threaten or inflict pain or undesirable costs, but this is only one way to encourage another to change. Asking thought provoking questions, providing needed information, seeking the advice of experts, appealing to influential associates of a party, exercising legitimate authority or providing rewards are all means of exerting influence in negotiations. Negotiation is one of the most common approaches used to make decisions and manage disputes.

*Agreement on the issues and some interests*

People must be able to agree upon some common issues and interests for progress to be made in negotiations. Generally, participants will have some issues and interests in common and others that are of concern to only one party. The number and importance of the common issues and interests influence whether negotiations begin and terminate in agreement. Parties must have enough issues and interests in common to commit themselves to a common decision-making process.

## *Will to settle*

For negotiations to succeed, participants have to want to settle. If continuing a conflict is more important than settlement, or if maintaining the conflict is useful to one or more parties, then negotiations are doomed to failure. Often parties want to keep conflicts going to preserve a relationship (a negative one is better than no relationship at all), to mobilize public opinion or support in their favour or to maintain a conflict relationship which gives meaning to their lives. These factors promote continued division and work against settlement. The negative consequences of not settling must be more significant and greater than those of settling for an agreement to be reached.

*Unpredictability of outcome*

People negotiate because they need something from another person. They also negotiate because other means of resolution are unpredictable as to outcome. For example, if by going to court, a person has a 50/50 chance of winning, he or she may decide to negotiate rather than take the risk of losing. Negotiation is more predictable than court because if negotiation is successful, the party will at least win something. Chances for a decisive and one sided victory need to be unpredictable or minimal for parties to enter into negotiations.

*A sense of urgency and deadline*

Negotiations generally occur when there is some pressure or urgency to reach a decision. Urgency may be imposed by either external or internal time constraints of potential negative or positive consequences if settlement is or is not reached. External constraints include: court dates, imminent executive or administrative decisions, or predictable changes in the environment. Internal constraints may be artificial deadlines selected by a negotiator to enhance the motivation of another to settle.

For negotiations to be successful, the participants must jointly feel a sense of urgency and be aware that they are vulnerable to adverse action or loss of benefits if a timely decision is not reached. If procrastination is advantageous to one side, negotiations are less likely to occur, and if they do, there is less impetus to settle.

*No major psychological barriers to settlement*

Strong emotions, feelings about another party and psychological readiness to negotiate can sharply affect a person's ability to bargain with another party. Psychological barriers to settlement must be lowered if successful negotiations are to occur.

*Issues must be negotiable*

For successful negotiation to occur, negotiators must believe that there are acceptable settlement options open to them as a result of participation in the process. If negotiations appear to have only win/lose settlement possibilities so that a party's needs will not be met as a result of participation, he/she will be reluctant and, in fact, will have little reason to enter into dialogue.

## *The people must have the authority to decide*

For a successful outcome, participants must have the authority to actually make a decision. If they do not have a legitimate and recognized right to decide, or if a clear ratification process has not been established, negotiations will be limited to information exchange.

*A willingness to compromise*

Not all negotiations require compromise. On occasion, an agreement can be reached which meets all the participants' needs and does not require a sacrifice on any party's part. In other disputes, compromise, or willingness to have less than 100 percent of needs or interests satisfied, may be necessary for the parties to reach a satisfactory conclusion. Where the physical division of assets, strong values or principles preclude compromise, negotiations are not possible.

*The agreement must be reasonable and implementable*

Some settlements look good regarding substance, but may be impossible to implement. Participants in negotiations must be able to establish a realistic and workable plan to carry out their agreement if the final settlement is to be acceptable and hold over time.

*External factors favourable to settlement*

Often factors external to negotiations inhibit or encourage participants regarding settlement. Views of associates or friends, the political climate of an institution, public opinion, or economic conditions may foster agreement or continued turmoil. Some external conditions can be managed by negotiators while others cannot. Favourable external conditions for settlement should be developed whenever possible.

*Resources to negotiate*

Participants in negotiations must have the interpersonal skills necessary for bargaining and, where appropriate, the money and time to engage fully in procedure dialogue. Inadequate or unequal resources may block the initiation of negotiations or hinder settlement.

# Positional Bargaining

## What Is Positional Bargaining?

Positional bargaining is a negotiation strategy in which a series of positions, alternative solutions that meet particular interests or needs, are selected by a negotiator, ordered sequentially according to preferred outcomes and presented to another party in an effort to reach agreement. The first, or opening position, represents that maximum gain hoped for or expected in the negotiations. Each subsequent position demands less of an opponent and results in fewer benefits for the person advocating it. Agreement is reached when the negotiators' positions converge and they reach an acceptable settlement range.

## When Is Positional Bargaining Often Used?

- When the resource being negotiated is limited (time, money, psychological benefits).
- When a party wants to maximize his/her share in a fixed-sum pay-off.
- When the interests of the parties are not interdependent, are contradictory or are mutually exclusive.
- When current or future relationships have a lower priority than immediate substantive gains.

## Attitudes of Positional Bargainers

1. Resource is limited.
2. Other negotiator is an opponent - be hard on him/her.
3. Win for me means a loss for you.
4. Goal is to win as much as you can.
5. Concessions are a sign of weakness.
6. There is a right solution - mine.
7. Be on the offensive at all times.

## How To Do Positional Bargaining

1. Set your target point: the solution that would meet all your interests and results in complete success for you. To set the target point, consider:

- Your highest estimate of what is needed. (What are your interests?)
- Your most optimistic assumption of what is possible.
- Your most favourable assessment of your bargaining skill.

2. Make your target point into your opening position.

3. Set your bottom linear resistance point: the solution that is the least you are willing to accept and still reach agreement. To identify your bottom line, consider:

- Your lowest estimate of what is needed and still acceptable to you.
- Your least optimistic assumption of what is possible.
- Your least favourable assessment of your bargaining skill relative to other negotiators.
- Your Best Alternative To A Negotiated Agreement (BATNA).

4. Consider possible targets and bottom lines of other negotiators.

- Why do they set their targets and bottom lines at these points? What interests or needs do these positions satisfy?
- Are your needs or interests and those of the other party mutually exclusive?
- Will gains and losses have to be shared to reach agreement, or can you settle with both receiving significant gains?
- Consider a range of positions between your target point and bottom line.
- Each subsequent position after the target point offers more concessions to the other negotiator(s) but is still satisfactory to you.
- Consider having the following positions for each issue in dispute:
    - Opening position.
    - Secondary position.
    - Subsequent position.
    - Fallback position (yellow light that indicates you are close to bottom line; parties who want to mediate should stop here so that the intermediary has something to work with).
    - Bottom line.

5. Decide if any of your positions meet the interests or needs of the other negotiators.

   How should your position be modified to do so?

6. Decide when you will move from one position to another.

7. Order the issues to be negotiated into a logical (and beneficial) sequence.

8. Open with an easy issue.

9. Open with a position close to your target point.

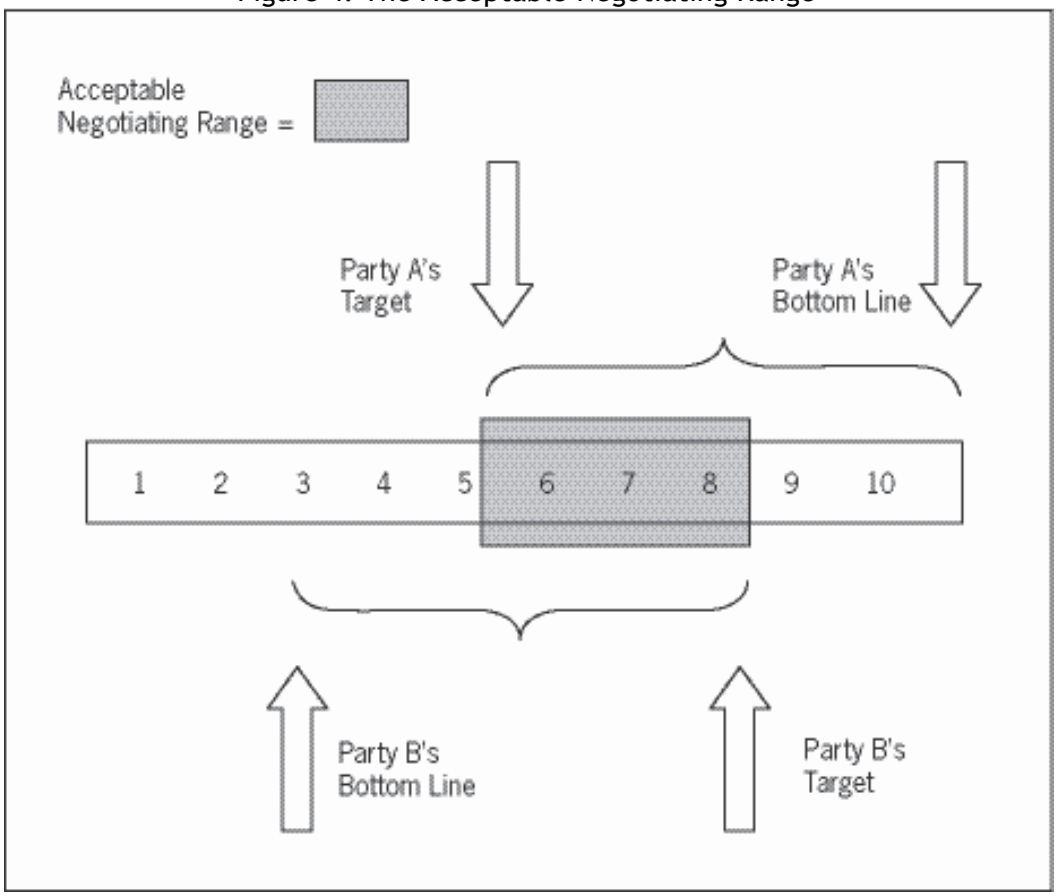
- Educate the other negotiators so they understand why you need your solution and why your expectations are high.
- Educate them about the need to raise or lower their expectations.

10. Allow other side to explain their opening position.

11. If appropriate move to other positions that offer other negotiators more benefits.

12. Look for a bargaining range: the spectrum of possible settlement alternatives, any one of which is preferable to impasse and no settlement.

Figure 4. The Acceptable Negotiating Range




13. Compromise on benefits and losses where appropriate.

14. Look for ways positions can be modified to meet all negotiators' interests. Formalize agreements in writing.

## Characteristic Behaviours of Positional Bargainers

1. Initial large demand - high or large opening position used to educate other party about what is desired or identify how far they will have to move to reach an acceptable settlement range.
2. Low level of disclosure - secretive and non-trusting behaviour to hide what settlement range and bottom line are. Goal is to increase benefits at expense of other.
3. Bluffing - strategy used to make negotiator grant concessions based on misinformation about the desires, strengths, or costs of another.
4. Threats - strategy used to increase costs to another if agreement is not reached.
5. Incremental concessions - small benefits awarded to gradually cause convergence between negotiators' positions.
6. Hard on people and problem - often other negotiator is degraded in process of hard bargaining over substance. This is a common behaviour that is not necessarily a quality or desirable behaviour in positional bargaining.

**Costs and benefits of positional bargaining**

| COSTS | BENEFITS |
|---|---|
| • Often damages relationships. | • May prevent premature concessions. |
| • Inherently polarizing (my way, your way). | • Is useful in dividing or compromising on the distribution of fixed-sum resources. |
| • Cuts off option exploration. | • Does not require trust to work. |
| • Often prevents tailor-made solutions. | • Does not require full disclosure of privileged information. |
| • Promotes rigid adherence to positions. | |
| • Obscures a focus on interests by premature commitment to specific solutions. | |
| • Produces compromise when better solutions may have been available. | |

# Interest-based Bargaining

## What Is Interest-based Bargaining?

Interest-based bargaining is a negotiation strategy that focuses on satisfying as many interests or needs as possible for all negotiators. It is a problem-solving process used to reach an integrative solution rather than distributing rewards in a win/lose manner. It is not a process of compromise.

## When Is Interest-based Bargaining Used?

- When the interests of the negotiators are interdependent.
- When it is not clear whether the issue being negotiated is fixed-sum (even if the outcome is fixed-sum, the process can be used).
- When future relationships are a high priority.
- When negotiators want to establish cooperative problem-solving rather than competitive procedures to resolve their differences.
- When negotiators want to tailor a solution to specific needs or interests.
- When a compromise of principles is unacceptable.

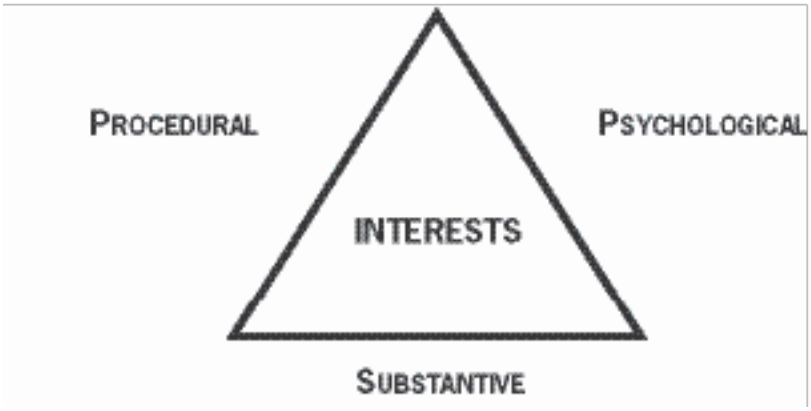
## Attitudes of Interest-based Bargainers

- Resource is seen as not limited.
- All negotiators' interests must be addressed for an agreement to be reached.
- Focus on interests not positions.
- Parties look for objective or fair standards that all can agree to.
- Belief that there are probably multiple satisfactory solutions.
- Negotiators are cooperative problem-solvers rather than opponents.
- People and issues are separate. Respect people, bargain hard on interests.
- Search for win/win solutions.

## How to Conduct Interest-based Bargaining

1. Interests are needs that a negotiator wants satisfied or met. There are three types of interests:
    i. Substantive interests—content needs (money, time, goods or resources, etc.)
    ii. Procedural interests—needs for specific types of behaviour or the "way that something is done."
    iii. Relationship or psychological interests—needs that refer to how one feels, how one is treated or conditions for ongoing relationship.

Figure 5. Triangle of satisfaction




2. Identify the substantive, procedural and relationship interests/needs that you expect to be satisfied as a result of negotiations. Be clear on:
    i. Why the needs are important to you.
    ii. How important the needs are to you.

3. Speculate on the substantive, procedural and relationship interests that might be important to the other negotiators.
    i. Assess why the needs are important to them.
    ii. Assess how important the needs are to them.

4. Begin negotiations by educating each other about your respective interests.
    i. Be specific about why interests are important.
    ii. If other negotiators present positions, translate them into terms of interest. Do not allow other negotiators to commit to a particular solution or position.
    iii. Make sure all interests are understood.

5. Frame the problem in a way that it is solvable by a win/win solution.
    i. Remove egocentricity by framing the problem in a manner that all can accept.
    ii. Include basic interests of all parties.
    iii. Make the framing congruent with the size of the problem to be addressed.
    iv. Identify general criteria that must be present in an acceptable settlement.
    v. Look for general agreements in principle.
    vi. Identify acceptable objective criteria that will be used to reach more specific agreements.

6. Generate multiple options for settlement. Far too often the 'obvious' choices are discussed, while other creative and possibly better alternatives are left off the table. Ensure that the best option is reviewed by doing the following:
    i. Present multiple proposals.
    ii. Make frequent proposals.
    iii. Vary the content.
    iv. Make package proposals that link solutions to satisfy interests.
    v. Make sure that more than two options are on the table at any given time.
    vi. Utilize Integrative Option Generating Techniques
        a. Expand-the-pie-ways that more resources or options can be brought to bear on the problem.
        b. Alternating satisfaction—each negotiator gets 100 percent of what he/she wants, but at different time.
        c. Trade-offs—exchanges of concessions on issues of differing importance to the negotiators.
            - Consider two or more agenda items simultaneously.
            - Negotiators trade concessions on issues of higher or lower importance to each.
            - Each negotiator gets his/her way on one issue.
        d. Integrative solutions—look for solutions that involve maximum gains and few or no losses for both parties.
        e. Set your sights high on finding a win/win solution.

7. Separate the option generation process from the evaluation process.

8. Work toward agreement.
    i. Use the Agreement in Principle Process (general level of agreements moving toward more specific agreements).
    ii. Fractionate (break into small pieces) the problem and use a Building Block Process.
    iii. Agreements on smaller issues, which when combined, form a general agreement.
    iv. Reduce the threat level.
    v. Educate and be educated about interests of all parties.
        a. Ensure that all interests will be respected and viewed as legitimate.
        b. Show an interest in their needs.
    vi. Do not exploit another negotiator's weakness.
    vii. Demonstrate trust.
        a. Put yourself in a one down position to other on issues where you risk a small, but symbolic loss.
        b. Start with a problem-solving rather than competitive approach.
        c. Provide benefits above and beyond the call of duty.
    viii. Convey to other negotiators that they have been heard and understood.
        a. Listen and restate content to demonstrate understanding.
        b. Listen and restate feelings to demonstrate acceptance (not necessarily agreement).
        c. Listen and restate feelings to demonstrate understanding of intensity.

**Costs and Benefits of Interest-based Bargaining**

| COSTS | BENEFITS |
|---|---|
| • Requires some trust | • Produces solutions that meet specific interests. |
| • Requires negotiators to disclose information and interests. | • Builds relationships. |
| • May uncover extremely divergent values or interests. | • Promotes trust. |
| | • Models cooperative behaviour that may be valuable in future. |

## Making the Transition from Positional to Interest-based Bargaining

Interest-based bargaining is a better option for avoiding and mitigating conflict. It places parties in positive and amicable positions rather than negative and confrontational ones. Focusing on interests tends to allow greater possibilities for agreement. Generally, positions do not usually allow for the possibility of alternatives other than the one presented. Interest-based bargaining can help build and maintain relationships, while positional bargaining is often detrimental to relations.

The following steps can aid in the transition from positional to interest-based bargaining:

1. Ignore positions and keep on talking.
2. Do not ask for specific solutions early in the negotiations.
3. Do not respond to positions with counter positions.
4. Ask whether the problem has to be solved in a win/lose manner. State that you want to look for a solution that will be advantageous to all parties.
5. Ask why a position is important to a party. Try to identify underlying issues.
6. Conduct trial-and-error hypothesis testing to indirectly identify interests.
7. Verbalize and make interests explicit.
8. Separate substantive, procedural and psychological interests contained in a stated position.
9. Look for general principles behind positions to which both parties can agree.
10. Reframe problem as a search for means to satisfy interests rather than a way to persuade the other party to agree to a position.
11. Reframe the problem to emphasize commonality of interests or the possibility of joint gain.
12. Separate the problem from the people involved.
13. Ask for principles by which to evaluate positions offered.
14. Respond with several counter positions and suggest that all merit further investigation to see how they meet the parties' interests.
15. Do not negotiate the use of interest-based bargaining procedures using positional bargaining tactics.

## Stages of Negotiation

**Stage 1: Evaluate and Select a Strategy to Guide Problem Solving**

- Assess various approaches or procedures—negotiation, facilitation, mediation, arbitration, court, etc.—available for problem solving.
- Elect an approach.

**Stage 2: Make Contact with Other Party or Parties**

- Make initial contact(s) in person, by telephone or by mail.
- Explain your desire to negotiate and coordinate approaches.
- Build rapport and expand relationship.
- Build personal or organizational credibility.
- Promote commitment to the procedure.
- Educate and obtain input from the parties about the process that is to be used.

**Stage 3: Collect and Analyze Background Information**

- Collect and analyze relevant data about the people, dynamics and substance involved in the problem.
- Verify accuracy of data.
- Minimize the impact of inaccurate or unavailable data.
- Identify all parties' substantive, procedural and psychological interests.

**Stage 4: Design a Detailed Plan for Negotiation**

- Identify strategies and tactics that will enable the parties to move toward agreement.
- Identify tactics to respond to situations peculiar to the specific issues to be negotiated.

**Stage 5: Build Trust and Cooperation**

- Prepare psychologically to participate in negotiations on substantive issues.
- Develop a strategy to handle strong emotions.
- Check perceptions and minimize effects of stereotypes.
- Build recognition of the legitimacy of the parties and issues.
- Build trust.
- Clarify communications.

**Stage 6: Beginning the Negotiation Session**

- Introduce all parties.
- Exchange statements which demonstrate willingness to listen, share ideas, show openness to reason and bargain in good faith.
- Establish guidelines for behaviour.
- State mutual expectations for the negotiations.
- Describe history of problem and explain why there is a need for change or agreement.
- Identify interest and/or positions.

**Stage 7: Define Issues and Set an Agenda**

- Together identify broad topic areas of concern to people.
- Identify specific issues to be discussed.
- Frame issues in a non-judgmental neutral manner.
- Obtain an agreement on issues to be discussed.
- Determine the sequence to discuss issues.
- Start with an issue in which there is high investment on the part of all participants, no serious disagreement and a strong likelihood of agreement.
- Take turns describing how you see the situation. Participants should be encouraged to tell their story in enough detail that all people understand the viewpoint presented.
- Use active listening as well as open-ended and focusing questions to gain additional information.

**Stage 8: Uncover Hidden Interests**

- Probe each issue, one at a time or together, to identify interests, needs and concerns of the principal participants in the dispute.
- Define and elaborate interests so that participants understand the needs of others as well as their own.

**Stage 9: Generate Options for Settlement**

- Develop awareness about the need for options from which the final settlement will be created.
- Review needs of parties which relate to the issues.
- Generate criteria or objective standards that can guide settlement discussions.
- Look for agreements in principle.
- Consider breaking issues into smaller, more manageable issues and generating solutions for sub-issues.
- Generate options either individually or through joint discussions.
- Use one or more of the following procedures:

    a. Expand the pie so that benefits are increased for all parties.
    b. Alternate satisfaction so that each party has his/her interests satisfied, but at different times.
    c. Trade items that are valued differently by parties.
    d. Look for integrative or win/win options.
    e. Brainstorm.
    f. Use trial-and-error generation of multiple solutions.
    g. Try silent generation in which each individual develops privately a list of options and then presents his/her ideas to other negotiators.
    h. Use a caucus to develop options.
    i. Conduct position/counter-position option generation.
    j. Separate generation of possible solutions from evaluation.

**Stage 10: Assess Options for Settlement**

- Review the interests of the parties.
- Assess how interests can be met by available options.
- Assess the costs and benefits of selecting options

**Stage 11: Final Bargaining**

Final problem solving occurs when:

- One of the alternatives is selected.
- Incremental concessions are made and parties move closer together.
- Alternatives are combined or tailored into a superior solution.
- Package settlements are developed.
- Parties establish a procedural means to reach a substantive agreement.

**Stage 12: Achieving Formal Settlement**

- Agreement may be a written memorandum of understanding or a legal contract.
- Detail how settlement is to be implemented - who, what, where, when, how - and write it into the agreement.
- Identify "what ifs" and conduct problem solving to overcome blocks.
- Establish an evaluation and monitoring procedure.
- Formalize the settlement and create enforcement and commitment mechanisms:

    a. Legal contract.
    b. Performance bond.
    c. Judicial review.
    d. Administrative/executive approval.

## Preparing to Negotiate

Satisfactory performance in negotiation, as in many other social interactions, requires preparation. Just as good athletes, musicians, parents, public speakers, military officers, lawyers or planners spend hours practicing, designing strategies and refining their skills, so too must good negotiators.

Since the content and dynamics of negotiations vary considerably from situation to situation, it is not always easy to identify what should be considered in order to adequately prepare. The following topics or tasks have been identified by numerous negotiators as critical variables in preparing to meet others at the bargaining table. Consideration of these items will help you to be more successful in planning and implementing negotiations.

- **What are your needs and interests?** To negotiate successfully, you need to identify your needs and interests. Interests fall into three categories: substantive, procedural, and psychological. Take time to identify your interests and to assess how strongly you are committed to them.
- **Who are the people or parties that you need to negotiate with to satisfy your interests**? Negotiators should identify the people with whom they must make a deal to get their needs met. Negotiators should consider principal parties (either individuals or groups) who must be motivated at the bargaining table for an agreement to hold, and secondary parties, interested people or groups who will be affected by the decision but are neither principal actors nor have the capacity to change a negotiated settlement.
- **What are the substantive, procedural and psychological interests of the other primary and secondary parties?** To reach an agreement in negotiation, the solution must, at the least, meet the minimal needs of all the principal parties. To formulate proposals, you need to know these interests.
- **Given the needs and interest of the parties, decide if the problem is negotiable. Are the needs totally incompatible?** Are the parties totally independent of each other, so that the satisfaction of needs is not dependent on the cooperation of one another? If the two preceding questions are true, negotiations will have a very low probability of succeeding. If they are not true, continue assessing the possibilities of negotiation.
- **What means of influence do you have to persuade the other party to meet your needs?** Consider the forms of negotiator power: control of the process, communication, data, experts, use of authority, associates, rewards and coercion. Determine the benefits and costs of using each form of influence.
- **Given the interests of all the parties, what will be the issues or statement of the problems that need to be discussed?** For example, if your interests regarding the development of a condominium unit near your single family home are privacy, minimal noise, low level of traffic and protection from bright street lamps, and the developer's interests are to build the project in a cost effective manner, the issues become: (1) how to build the project at a reasonable cost and maintain visual privacy of neighbours; and (2) how to cut down on noise coming from the multifamily dwelling, avoid traffic flow through the neighbourhood and limit the direction and intensity of lighting for the project.
- **Do you and the other primary parties have (or will have) the authority to negotiate a binding settlement?** Will your superiors authorize you to negotiate on their, or the organization's, behalf? What is the ratification process for an agreement reached at the bargaining table? lf you do not have the authority to negotiate, who does? Should someone else be at the table? Ask the same questions for each of the principal parties.

- **Have any of the parties taken positions on the issues?** A position is a particular solution that meets the needs of a party but not necessarily the needs of the other negotiators. People adhere to positions because they meet interests. Determine what interests the position is meant to satisfy. Are there ways to meet the interests other than the stated position?
- **How important are the issues and interests to each of the parties?** Which are they least likely to change? Are there any issues that might be trusted or dropped?
- **What events or dynamics will make it harder for you or for other parties to negotiate?** Consider court dates, past interactions, lack of information, laws, internal organizational policies or the political or economic climate. What can you do to change these dynamics and reverse negative trends?
- **What events or dynamics encourage negotiations and promote settlement?**
- **What settlement options on each issue might go into a "mutually acceptable" proposal?** A mutually acceptable proposal is designed to meet your needs as well as those of other negotiators. It will be presented as a way for all parties to have at least some of their needs met.
- **What should be the physical setting for the negotiations? Should they be face-to-face, over the telephone, conducted on a one-on-one basis or in a large group?** What should be the shape of the room, the table, size of chairs, etc.?
- **How can a conciliatory tone that promotes a positive relationship with other negotiators be established at the beginning of the session?** Consider introductions, conciliatory remarks, room set-up, refreshments, etc.
- **How should you organize your team?** Consider whether the team is a horizontal one (made up of members with equal power or authority) or a vertical team (someone has authority to decide for team members). Decide who the spokesperson will be.
- **What negotiation strategy should you use?** Decide if you want to use positional or interest-based bargaining.
- **How will you open negotiations?**
    - Who will do the opening statement?
    - What will be covered: history of the issue, need for change, interests to be met, possible solutions?
    - How will a positive tone be established?
    - Which party will talk first? Is there merit in letting another party talk first?
    - How will the agenda be developed? Do you have a proposed order for items to be discussed?
    - What issue(s) do you want to talk about first? What issue(s) will be easier to get an agreement on?
    - Consider negotiating ground rules and procedures early in the first session (or even before the first meeting).
    - What unforeseen turn of events, other negotiators' strategies or external factors could affect the negotiations? Develop contingent strategies for possible problems that might develop in the negotiations.

The “Conflict Analysis” chart is an abbreviated version of the questions listed above. It can be filled out as a means of preparing for negotiations.

## CONFLICT ANALYSIS AND STRATEGY DESIGN

| **PEOPLE/ PARTIES** (Primary and Secondary) | **POSITIONS** (Verbalized Substative Preferences) | **ISSUES** (Problem Statements of Agenda Items) | **INTERESTS** (Substantive Procedural and Psychological) | **IMPORTANCE/ SALIENCE** (Substantive Procedural and Psychological) | **POWER** (Means of Influence) | **DYNAMICS** (Historical Development Promoting Escalation or De-escalation) | **WILL TO SETTLE** (Benefits, Costs and Alternatives to Negotiation) | **SETTLE-MENT OPTIONS** (Options that Meet Mutual Needs) | **STEPS FOR SETTLE-MENT** |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

## Opening Statements for Negotiators

Opening statements are brief speeches or monologues made by the disputing parties which outline the basic premises of the negotiations. The following outline is designed to help disputants be more effective in their opening.

**Purpose:**

- To make face-to-face introductions.
- To establish a positive tone.
- To educate the parties about the negotiation process.
- To reach an agreement on standards of behaviour.
- To obtain a commitment to begin the process.

**Procedure:**

1. **Introduce yourself and other parties.**
2. **Welcome the negotiator(s)** and affirm their willingness to discuss the issues or negotiate a settlement. Make a conciliatory statement that sets a positive tone, but does not make a concession.
3. **Review why people are there** in neutral terms.
4. **Explain how you perceive the negotiation process.** Is it:
    i. An attempt by the parties to reach their own agreement through discussions or negotiations?
    ii. An opportunity for all parties to gain benefits?
    iii. Voluntary?
5. **Describe the problem-solving process that you propose to use:**
    i. Each person will talk and describe the situation.
    ii. Topics for discussion will be mutually agreed upon.
    iii. An agenda will be developed jointly.
    iv. All needs will be examined.
    v. Agenda items will be discussed one-by-one.
    vi. The parties will look for solutions that are mutually satisfactory.
    vii. The agreement will be written down and formalized according to parties' desires.
6. **Agree on the use of private meetings** (caucus), breaks, or time to consult with other parties.
7. **Identify procedural guidelines** that will help them promote efficient negotiation.
8. **Ask and/or answer questions** regarding process.
9. **Obtain a commitment** to begin the process from each party.

## Procedural Openings and Issues in Negotiation

### Why Open with a Focus on Procedure?

On occasion, parties may want to open negotiations by focusing on negotiation procedures rather than beginning with substantive discussions. There is an advantage to this focusing on procedures:

- Enables the parties to establish rules for interaction that may provide more predictability and security.
- Provides a jointly developed order for the negotiations to which all parties are committed.
- Allows the parties to practice decision making as a team.
- Provides information about attitudes, behaviour and trustworthiness of other parties.
- Allows parties to practice joint decision making on issues that are neither substantively critical nor emotionally charged.
- Provides an opportunity to build "habits" of agreement.
- Is a concrete achievement demonstrating that agreement is possible and that the situation is not hopeless.

### What Procedural Issues are Addressed?

- How the agenda will be developed.
- The speaking order of the parties.
- The time frame, schedule and duration of the negotiations.
- How information will be exchanged between the parties.
- How proprietary information will be handled.
- How legal rights or administrative mandates will be recognized.
- The limits of confidentiality.
- Acceptable behaviour regarding personal attacks, attribution of motivation, respect for values and emotional displays.
- Determination of who will represent interest groups.
- Decision-making authority of each party.
- Role of substitutes or observers.
- Role of task forces or subcommittees.
- Size of negotiation teams.
- The consensus decision-making process.
- Negotiation procedures to be used.

## Negotiator Power and Influence

Negotiators try to change each other's behaviour, attitudes or opinions by exercising a variety of means of influence. Listed below are techniques that are frequently used to change the mind of another negotiator. Each party usually has the potential to use some or all of these techniques. The desirability, however, of exercising them must be weighed against the goals of the negotiations and the potential positive or negative impact of their use on the other party or parties.

A negotiator's power is relative and depends upon the particular people, problem and external situation. A very powerful negotiator in one situation may be extremely weak in another. An important aspect of negotiation beyond the scope of this manual is the dynamic of different power positions and the significance of cultural differences when negotiating. The power held by any one party and how it is exercised can significantly affect the way negotiations are handled and their outcomes.

Exercise of influence may be either non-directive or directive. The negotiator may create a situation where the other party has lots of positive and acceptable options, or narrow their choices so that another must choose from very limited alternatives.

Generally, the more coercive the power exercised at the table (and the narrower the options available to a party), the more resistance to cooperation there will be from the party toward whom the coercion is directed. Less directive and more cooperative means of influence should be tried before resorting to coercion or actions that could damage the relationship with another negotiator.

**Means of Influence**

1. Management of the Negotiation Process.
    i. Planning a cooperative and informative opening.
    ii. Sequencing of the stages of negotiation.
    iii. Ordering the agenda.
    iv. Placing an easily solved item at the beginning of the session.
    v. Managing the problem-solving steps to be used on each agenda item.
    vi. Assisting the other party to make the transition from positional to interest-based bargaining.

2. Management of Communication Within and Between the Parties.
    i. Managing behavioural communication through active listening, reframing and congruent sending.
    ii. Assisting parties to move from extreme positions by softening the specificity, timing and consequences of their demands.
    iii. Managing the structure of communications by determining if the negotiations are to be held directly by the parties, through intermediaries, in joint session or caucus, in the whole group or small working committees, face-to-face, by letter or by telephone.

3. Management of Body Language and Physical Setting.
    i. Demonstrating attentive, concerned and open body language.
    ii. Showing dissatisfaction, frustration, intransigence.
    iii. Establishing the shape of the negotiating table and seating arrangements.
    iv. Arranging for a room of appropriate size for desired results.
    v. Providing caucusing space.
    vi. Locating negotiations in a neutral space or one favourable to a particular party's interests.

4. Management of the Timing.
    i. Deciding when negotiations will be proposed and started.
    ii. Determining how long the negotiations as a whole and individual sessions win will last.
    iii. Imposing, modifying and removing deadlines.
    iv. Controlling the timing of information exchange.
    v. Managing the time when offers are made (or accepted).
    vi. Designing the timing of implementation.

5. Management of Information Exchanged Between Parties.
    i. Identifying what information is needed.
    ii. Requesting information.
    iii. Asking why a proposal is important to another party.
    iv. Making general suggestions.
    v. Making specific suggestions.
    vi. Presenting concrete proposals or offers.
    vii. Referring other parties to sources of information or experts.

6. Management of Associates.
    i. Identifying and encouraging associates of other parties to influence them.
    ii. Inhibiting associates' influence on other parties by minimizing contact or value of information.
    iii. Creating doubt about accuracy of associate's opinion or data.

7. Management of Experts.
    i. Making experts available to build your case.
    ii. Casting doubt on experts who present information contrary to your case.
    iii. Referring other parties to substantive, procedural or psychological experts.

8. Management of Authoritative Power.
    i. Appealing to law, regulation or common practice.
    ii. Asking for support of people in authority.
    iii. Arranging for institutional mandate for your position.
9. Management of Habit.
    i. Asking for a continuation of past practice.
    ii. Appealing to transition.

10. Management of Other Parties' Doubt.
    i. Questioning validity or applicability of another party's arguments.
    ii. Testing the reasons of another party's proposals or ideas.
    iii. Posing hypothetical problems that might result from a particular solution.
    iv. Exploring another party's best alternative to a negotiated agreement (BATNA).
    v. Exploring another party's worst alternative to a negotiated agreement (WATNA).
    vi. Exploring another party's most likely alternative to a negotiated agreement (MLATNA).

11. Management of Rewards and Benefits for Other Parties.
    i. Providing indirect rewards for cooperation or agreement (respect, benefits to be received upon final agreement, symbolic or small rewards).
    ii. Providing direct rewards (substantive benefits, favourable timing of settlement, of receipt of benefits).

12. Management of Coercive Influence.
    i. Imposing physical hardship or discomfort: location of negotiation setting, timing of meetings, duration of meetings (marathons).
    ii. Imposing psychological coercion: intimidation, humiliation.
    iii. Imposing substantive coercion: court costs, delay costs, other threats.
    iv. Imposing procedural coercion: deadlines, threats to withdraw.

13. Management of Resources.
    i. Marshalling your resources—money, people and skills—to enhance your influence in negotiations.
    ii. Weakening other party's resources to lower the amount of influence they have in negotiation.

(Photo: Julie Remy)

# CHAPTER 5

# Experiential Learning Exercises

## Purpose, Value and Scope

Simulations have been employed successfully in international relations courses since the late 1950s. However, recently there has been a renewed interest in simulations as interactive teaching tools that capture the dynamics of change in the international system. These tailored role play simulations offer several benefits, including:

- By focusing on simpler (but still accurate) representation of the challenges participants will face when they try to apply methods learned in training, they can see more clearly the individual and organizations capabilities that need to be developed.
- By playing assigned roles (often quite distinct from their real life roles), participants can develop a better awareness and appreciation for the perspectives of others with whom they may need to negotiate or interact.
- By using carefully crafted role play simulations (as opposed to exclusively case studies or other teaching scenarios) facilitators can ensure that every trainee will be forced to confront particular negotiation puzzles or challenges.
- By participating in well managed debriefings, participants will be able to tie the general lessons of a role play exercise to the specific needs of their organization and allow them to formulate a follow up action agenda.

They can also be an effective tool because they engage students and make them active participants in the learning process. The objective of these simulations is not to train students to be professional negotiators, but rather to provide a solid grounding which will enable them to better understand the process of international negotiation. These simulations are meant to connect the information discussed in this manual and apply it to practical and realistic situations. In applying the knowledge gained to realistic international scenarios, future negotiators can practice implementing strategies in a comfortable and constructive atmosphere. **Further instructions, solutions and discussion questions can be found in the accompanying Teacher's Manual.**

**Simulation Exercise # 1: The "Tree"**

**Objectives/Major Lessons:**

- Power of option creation.
- Power of interest based negotiation techniques.

**General Instructions:**

The exercise which follows provides a "hands on" introduction to the art of interest-based negotiation. This exercise is a simple negotiation between two neighbours over the future of a tree straddling the property line between their adjacent properties. Among other things this exercise is designed to illustrate the advantages while negotiating of focusing on "interests" rather than "positions."

**Parties to the Negotiation:**

1. Neighbour #1
2. Neighbour #2

**Simulation Exercise #2: Positions vs Interests**

**Objectives/Major Lessons**

The objective of this exercise is to determine the difference between positions and interests. Positions do not allow for many options other than the one expressed. This makes negotiation difficult as there is only one option available. Interests allow for a far greater range of options to meet the interests in order to form acceptable agreements.

For example, the statement “this dam will be run to maximize power production” does not allow for any other possibility but to operate the dam. In contrast, “I want to secure my crop from drought to have a stable income” expresses an interest and indeed answers the fundamental question why it is important. The goal of securing crops may be accomplished in many ways, from irrigation to fertilizer to crop rotation etc. The idea that the fundamental interest is to secure income allows for even more options as it opens up the possibility of micro-financing, cooperative systems, new credit unions, agreements on crop prices and so on. All these can be part of an agreement in terms of meeting the interests of the negotiating parties.

Focusing on interests tends to allow greater possibilities for agreement. Interests express the concerns and needs of one party without restricting or obligating the other party. The actions which result from the agreement will likely demand certain compromises from all parties; however, the point is that they are not ‘imposed.’

Generally, positions either impose actions or restrict opportunities for other parties. They are thus much more restrictive than interests. Positions do not usually allow for the possibility of alternatives other than the one presented.

**From Positions to Interests**

To get to interests simply ask, “Why is that important”? Eventually, usually within a couple of answers, interests begin to emerge.

For example:

Position: “We must run this Dam to optimize power.” Question: “Why is that important?”

Answer: “Because we need cheap energy to develop.”

Interest: The need for cheap energy allows exploration of other possibilities to obtain cheap energy or to create more energy efficient industries.

**Simulation Exercise # 3: The "Prisoner's Dilemma" Exercise**

**Objectives/Major Lessons**

The objective of the exercise is to illustrate that cooperation and trust will generate greater overall gains. Lack of trust or wanting to "win" will result in one team beating the other, but not necessarily gaining as many points as through cooperation.

This game derives its name from the plight of two prisoners who are kept in different cells and are interrogated. Each of them is confined with two courses of action (strategies), which each must take simultaneously or without knowing the other's choice. They can either "cooperate," i.e., choose a strategy that will make them both better off, or separately "defect," choose a strategy that maximizes one's payoff, notwithstanding the other's loss. In the class PD game, the strategies are to cooperate by not confessing to having committed the offense of armed robbery, or to defect by confessing and thus giving testimony against the other player. If they remain silent (cooperate), they will each receive a one-year sentence for the illegal possession of weapons, as the police will have no evidence of robbery; if one confesses (defects) and the other remain silent (cooperate), the first is pardoned and the latter gets a ten-year sentence; if both confess (defect), they both get a five-year sentence. PD is an example of a situation that derives two rational actors to choose a Pareto-inferior outcome: faced with the two strategies, each player has a dominant strategy - to defect - no matter what strategy the other one chooses. Even if they agree beforehand to cooperate, neither has an incentive to keep the agreement.

This is a so-called "social trap" exercise, in which long-term maximization requires unenforced mutual trust where significant short-term gains are possible by breaking that trust. Communication must be implicit and is hence highly ambiguous and subject to misinterpretation, usually by the projection of negative and adversarial intentions that don't actually exist.

The exercise highlights the frequency with which we make imprecise and inadequately supported assumptions, suggesting the importance of making and keeping assumptions explicit and testing them periodically.

The difference between reacting to the other side's moves (or one's perception of what those moves mean, or will be), and acting purposefully to influence the other side to (re)act constructively, is easily illustrated by comparing the experience of different teams. The monetary variation tends to be dramatic between cooperative and competitive games, and analysis usually suggests that to establish the former some team has to take a risk.

The danger of self-fulfilling assumptions is also illustrated. Parties can turn cautious competitors into the cutthroat adversaries they fear by proceeding with preemptive ruthlessness.

**General Instructions:**

Participants' sole objective is to do the best they can to develop a high level of benefit from a series of eight transactions. Participants are to play either an X or a Y and, depending on other participants' choices, a payoff is awarded each round. Only before rounds 5 and 8 are players allowed to confer with each other.

This exercise is played in eight quick rounds. Players are grouped. Explanation of the exercise should take no more than five minutes. The eight rounds should take about 15 minutes, while debriefing can take from 30 to 45 minutes.

The group of people that you are sitting with will undertake a series of transactions with a similar group seated somewhere else in the room. These might be thought of as simulations of the transactions that might go on between governments, organizations, department, family units or individuals.

In this simulation, one of the groups will be called the **RED GROUP**, and the other will be called the **BLUE GROUP**. There may be several RED GROUPS and BLUE GROUPS at work at the same time, but you will be dealing with only one of these other groups.

In a series of eight transactions between the RED GROUP and the BLUE GROUP, the objective will be to do the best that you can to develop a high level of benefit from the transactions. The results of these transactions will be represented by an accumulating numerical sum that will depend upon what each of the two groups decide to do in a transaction.

In each of the eight transactions, each group will decide on a message to send to the other group - a message being one of these three sets of symbols:

XX or XY or YY

In formulating a message, neither of the groups will know what the other has decided to send. Except as specified below, there will be no communication between the groups. A neutral "messenger" who is not a member of either group will carry the messages between the groups. Several minutes will be allowed for each group to decide upon its message in each transaction.

When the messages have been exchanged, the two sets of two symbols will be combined to form a four letter transaction which determines the value of each group's contribution to the transaction, as follows:

| **IF THE COMBINED TRANSACTION IS:** | **THEN YOUR GROUP'S RESULT IS :** |
|---|---|
| 4 Xs | - 10 for each X in your group's message |
| 3 Xs and 1Y | + 10 for each X in your group's message |
| | - 30 for each Y in your group's message |
| 2 Xs and 2Ys | + 20 for each X in your group's message |
| | - 20 for each Y in your group's message |
| 1 X and 3 Ys | + 30 for each X in your group's message |
| | - 10 for each Y in your group's message |
| 4 Ys | + 10 for each Y in your group's message |

**For example:**

If the RED GROUP sent xx as a message, and the BLUE GROUP sent XY as a message, the combined messages would form the transaction XXXY.

The result of XXXY is that each group gets a + 10 for each X in its two letter message, and -30 for each Y in its two letter message.

The RED GROUP, having sent XX as its message, receives a value of +20 in this transaction: (+10) for each X = (+20).

The BLUE GROUP, having sent XY as its message, receives a value of -20 in this transaction: (+ 10) for the X and (-30) for the Y = (-20).

The exception to the "no communication" rule is that, prior to the exchange of messages in the fifth and eighth transactions, an additional time will be allotted for a single representative from each group to meet (if the groups agree to do so) to discuss whatever group members have instructed these representatives to talk about. The meeting of these two representatives will be at some place out of the sight and hearing of the RED GROUP and the BLUE GROUP.

After the meetings of representatives have been held (if they are held), the groups will exchange messages in the usual manner. However, the results of the fifth transactions will be multiplied by five (5), and the results of the eighth transaction will be multiplied by ten (10).

1) Calculate the value of the transaction for your group from the two letters in the message that **you** sent to the other group.

A period of five minutes will be given for you to read these instructions and discuss them with the members of your group. No additional instructions, or interpretations of these instructions, will be given.

Your group, or your group's representative to the discussions in the fifth and eighth transactions, may be watched by an "observer." This person may also watch the work of the other group. The observer is not permitted to discuss his/her observations on the simulation until the general discussion period at the end of the exercise.

Your cooperation in adhering to the time limits in this exercise will be greatly appreciated.

| | | RED GROUP | | |
|---|---|---|---|---|
| | | XX | XY | YY |
| BLUE GROUP | XX | XXXX | XXXY | XXYY |
| | XY | XYXX | XYXY | XYYY |
| | YY | YYXX | YYXY | YYYY |

| TRANSACTION | RED GROUP DECISION | BLUE GROUP DECISION | RESULTS | |
|---|---|---|---|---|
| | | | THIS TRANSACTION | CUMULATIVE |
| #1 | | | | |
| #2 | | | | |
| #3 | | | | |
| #4 | | | | |
| #5 | | | X5 | |
| #6 | | | | |
| #7 | | | | |
| #8 | | | X10 | |

## Simulation Exercise # 4: The Vancouver River Part One[119]

### Objectives/Major Lessons

- Application of the principles of international water law.
- Insight into litigation over international waters.

### Background

Originating in a high mountain range studded with glaciers and flowing southwesterly some 2000 miles to the ocean, the Vancouver River has always been a life sustaining source of water for the State of Upstream and the Republic of Downstream.

However, beginning about twenty years ago, global climate change apparently caused the Vancouver River to shrink to half its normal size, leading to forced water rationing in both countries and resulting in crop failures, food shortages and related misfortunes.

Upstream sought to rectify this problem by constructing, with foreign capital, a large dam in Upstream on the Vancouver River. According to Upstream, the dam would make possible the recovery of arable land lost through decertification, the development of irrigated "green belts" and the generation of rural hydroelectric power. However, this action, together with a greater diversion of water for irrigation than originally had been planned, appeared to lead to rapidly increased decertification in Downstream and a consequent major decline in a certain river fish upon which Downstream diets historically have depended. Additionally, it caused a decline in the quality of the river water to Downstream because of increased pesticide use and run-off in Upstream's newly created "green belts."

Downstream now demands that the flow of the Vancouver River be restored to its normal level and that Upstream take steps to remedy the pesticide problem. Upstream has responded that the current river flow is critical to the success of its green belt irrigation program and has dismissed the suggestion that the use of pesticides damages the health of Downstream citizens.

In the face of threats of military action on Downstream's part, representatives from Downstream and Upstream have agreed to meet.

### General Instructions

The basic fact pattern used in Simulation Exercise # 4 will be used in two related simulation training exercises.

In Simulation Exercise # 4 the fact pattern will be used to reinforce the practical application of the principle of equitable utilization in international water law. The same fact pattern will then subsequently be used to try to illustrate the advantages and disadvantages of litigation versus negotiation as techniques for helping to resolve international water law disputes.

[119] This simulation exercise was adapted and modified from an exercise originally developed by Professor L. Guruswamy.

**Issues to Resolve**

Assume both Upstream and Downstream each have a team of three individuals representing them (as designated by the instructor).

Each team has been instructed to prepare and present an argumentative legal brief before a mixed arbitral panel of international law experts answering the following question:

Has Upstream violated international law by diminishing the quantity and quality of the flow of the Vancouver River to Downstream?

**Parties to the Negotiation**

There are 6 parties to this simulation:

Upstream

- **Red** – Foreign Minister of Upstream. Red is not a lawyer but it is important for her that Upstream not be seen to be violating international law. Prior to becoming Foreign Minister, Red was a senior commander in the Upstream armed forces.
- **White** – Deputy Minister of Water Resources for Upstream and a career civil servant. White was hired from Canada because of her success in negotiating agreements between Canada and the United States to equitably share downstream benefits on international rivers.
- **Blue** – international law advisor to Upstream and best friends with the Upstream Foreign Minister. Blue is experienced in overcoming every possible obstacle, by whatever means necessary, to achieve Upstream objectives on time and on budget.

Downstream

- **Stripes** – Foreign Minister of Downstream. Stripes is angered and saddened by the way Downstream has been treated by Upstream in the past. Stripes is known to be very pragmatic. Stripes envisions the future of Downstream as one of self-sufficiency and growth. She is determined to see Downstream prosper. Stripes is openly suspicious of Dots.
- **Dots** – Deputy Minister of Environment for Downstream and a career civil servant. Dots has never forgotten how Upstream treated Downstream in a similar negotiation involving a different River over 20 years ago. More recently, Dots has unsuccessfully tried to contact officials at Upstream many times with problems relating to the Vancouver River. Dots feels that this is the perfect opportunity to right the historic wrongs that have been perpetrated by Upstream. Dots intends to resign from the civil service and run against Stripes in the next election.
- **Dashes** – international law advisor to Downstream and a career civil servant. Stripes has heard great things about Dashes involvement in other negotiations and has personally asked Dashes to help out with these negotiations.

**Logistics**

**10 MINUTES: INTRODUCE**

---Review basic Fact Pattern.

---Objective of the Game.

---Scenario and role descriptions.

---Description of role preparation.

**50 MINUTES: PREPARE**

---Players read instructions by themselves.

---Players complete Issue Chart provided in confidential instructions.

---Players meet in same role groups.

---Trainers available to answer questions.

**90 MINUTES: NEGOTIATE INTERNALLY**

---Upstream and Downstream each prepare for negotiations with each other.

---Don't share Confidential Instructions!

---Be Prepared.

**90 MINUTES: NEGOTIATE EXTERNALLY**

---Upstream and Downstream negotiate.

---Don't share Confidential Instructions!

---Reach an Agreement, if you can.

**60 MINUTES: DEBRIEF**

---Review of Outcomes: Who Got What?

---Discussion and Lessons Learned.

**Background Materials**

Perhaps the simplest theory regarding transboundary rivers is that an upper riparian State has total sovereignty over the waters in its territory and that it may divert or pollute them regardless of the consequences to the lower riparian. In 1895, U.S. Attorney General Harmon argued that upper riparians such as the United States had no obligation toward lower riparians such as Mexico in respect of rivers like the Rio Grande.[120]

Harmon cited as authority Justice Marshall's opinion in an early United States Supreme Court case involving quite another matter, namely jurisdiction over a foreign vessel within United States territory. In that case, Justice Marshall said "the jurisdiction of the nation within its own territory is necessarily exclusive and absolute."[121]

However, concerning Harmon's doctrine, Anthony D'Amato has written:

> *It is an extremely dubious proposition to rely upon the arguments of governments, expressed either through their attorneys or foreign officers, rather than their acts. So far as diversion of rivers is concerned, many bilateral treaties have appeared since 1895 that regulate water uses in international drainage basins, and over a hundred such treaties are operative today.*[122]

What has the United States done since Attorney General Harmon's 1895 opinion as regards transboundary rivers involving Canada and Mexico? Some of the history has been written by Griffin.[123]

*Rio Grande*

Mexico protested to the United States in 1895 the diversion of the Rio Grande River to the detriment of existing Mexican uses. It claimed that its inhabitants had established a right to use the river's waters hundreds of years prior to the time that settlers in Colorado began to use them. Notwithstanding, Attorney General Harmon issued his opinion that the United States had no obligation to share the water with Mexico or to pay damages for injury in Mexico caused by diversions in the United States.

On the other hand, the United States did agree with Mexico to refer the matter to the then existing United States-Mexican International Boundary Commission for a report. That Commission reported in 1896 that Mexico had been wronged, that a treaty should settle the matter and that Mexico should waive all claims for past damages if the treaty divided the use of waters equally between the two countries. Mexico said it would enter into the recommended treaty, but various delays and counterproposals came up on the American side. Finally, after increasing Mexican protests, the United States signed a treaty in 1906 agreeing to deliver to Mexico 60,000 acre feet of water annually without cost to Mexico.[124]

It is clear that the treaty is not based upon the common recognition by the two governments of the Harmon opinion as it preserves the formal legal position of each. The treaty recites that the delivery of water by the United States is not a recognition by it of any Mexican claim to water or future claims arising from diversions in the United States. Moreover, the United States' draft treaty

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[120] The Opinion of the Attorney General Judson Harmon, 21 Op. Att'y Gen. 274 (1895).
[121] *Schooner Exchange v. McFaddon*, 11 U.S. (7 Cranch) 116, 3 L. Ed. 287 (1812).
[122] Anthony A. D'Amato, The Concept of Custom in International Law 134 (1971).
[123] William L. Griffin, The Uses of Waters of International Drainage Basins Under Customary International Law, 53 Am.J.Int'l.L. 50 (1959).
[124] Convention Providing for the Equitable Distribution of the Waters of the Rio Grande for Irrigation Purposes, U.S.-Mex., May 21, 1906, 34 Stat. 2953; William L. Griffin, The Uses of Waters of International Drainage Basins Under Customary International Law, 53 Am.J.Int'l.L. 50 (1959) at 51-52.

contained a phrase that its action in entering into the treaty "is prompted only by considerations of international comity," but this phrase was omitted from the treaty as signed.

*Canada and US*

Potential friction between the United States and Canada was averted by a treaty in 1909 that differentiated between "boundary waters" (along which the US-Canadian boundary runs) and other waters such as transboundary rivers.[125] Each country was given equal rights in respect of boundary waters, with future uses of such waters being made subject to the approval of an international joint commission. But in the negotiations leading to the treaty, the United States refused to give jurisdiction to the joint commission over future uses of waters other than the boundary waters, preferring instead to leave it to the treaty to give each country "exclusive jurisdiction and control" over such waters within its territory. However, an exception was made with respect to dams or other obstructions which would raise the level of the water on the other side of the boundary. Here it was agreed that approval of the joint commission would be required. As Griffin notes at this point, "discussion was made of the fact that this limits the freedom of action of each country with respect to waters wholly within its territory."[126]

Griffin also points out that "no internal memoranda of the United States negotiators, nor United States correspondence with Canada, has been found containing any mention of the Harmon opinion."[127] Moreover, in explaining the treaty to the Canadian House of Commons, the Canadian Minister of Public Works said that the Canadian Government did not frame the treaty on the theory expressed by Attorney General Harmon of the United States.

*Colorado River*

Use of the waters of the Lower Colorado River was the subject of discussions between Mexico and the United States throughout the 1930s. Eventually, a treaty signed in 1944 obliged the United States to deliver 1.5 million acre feet of the Colorado to Mexico annually, i.e., twenty-five times the original acre feet.[128] The treaty dealt also with the lower Rio Grande, allocating the water and providing for joint construction of agreed works. As summarized by Griffin, "The cost of diversionary works is prorated in proportion to the benefits received by each country, and the costs of hydro-electric works are shared equally." [129]

*Ganges Agreement*

Another example of a transboundary river agreement is the November 5, 1977 Agreement between Bangladesh and India on the Sharing of the Ganges' Waters.[130] The agreement came after a quarter-century of protracted negotiations. India had constructed a barrage on the River Ganges at Farakka (eleven miles upstream from its border with Bangladesh) which diverted waters of the Ganges into feeder canals and rivers within India. Bangladesh contended that, since June 1975, because of the diversion, the lean season in Bangladesh was beginning three months earlier and consequently causing great hardship. India, in response, claimed that the need for the Farakka Barrage was

[125] See Treaty Relating to the Boundary Waters and Questions Arising Along the Boundary Between the United States and Canada, U.S.-Can., Jan. 11, 1909, 36 Stat. 2448.
[126] William L. Griffin, The Uses of Waters of International Drainage Basins Under Customary International Law, 53 Am.J.Int'l.L. 50 (1959).
[127] William L. Griffin, The Uses of Waters of International Drainage Basins Under Customary International Law, 53 Am.J.Int'l.L. 50 (1959).
[128] See Treaty Relating to the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande, and Supplementary Protocol signed November 14, 1944, U.S.-Mex., 3 U.N.T.S. 313.
[129] William L. Griffin, The Uses of Waters of International Drainage Basins Under Customary International Law, 53 Am.J.Int'l.L. 50 (1959).
[130] See the November 5, 1977 Agreement between Bangladesh and India on the Sharing of the Ganges' Waters: Agreement on Sharing of the Ganges Waters at Farakka and on Augmenting its Flow (with Schedule), Bangl.-India, Nov. 5, 1977.

recognized as far back as 1865 and that it was intended to save from extinction the Port of Calcutta and the vast industrial complex it serves. On the basis of equitable sharing, India argued, it should be free to divert the waters and Bangladesh should be prohibited from claiming, as it did, the river's "natural flow." Judging from the 1977 agreement, however, India modified its Harmon-like approach somewhat. While Bangladesh did not succeed at its original claim of 49,000 cusec[131] at all times, it was guaranteed, per a schedule annexed to the treaty, between 35,000 and 58,000 cusec depending on the week and month specified. Additionally the Agreement provided for a Joint Committee to assure its implementation and a Joint Rivers Commission to mediate disputes. Other noteworthy provisions included the following:

Article III

*The waters released to Bangladesh at Farakka under Article I shall not be reduced below Farakka except for reasonable uses of waters, not exceeding 200 cusecs, by India between Farakka and the point on the Ganges where both its banks are in Bangladesh.*

Article VIII

*The two Governments recognize the need to cooperate with each other in finding a solution to the long-term problem of augmenting the flows of the Ganges during the dry season.*

Article IX

*The Indo Joint Rivers Commission established by the two Governments in 1972 shall carry out investigation and study of schemes relating to the augmentation of the dry season flows of the Ganges, proposed or to be proposed by either Government with a view to finding a solution which is economical and feasible. It shall submit its recommendations to the two Governments within a period of three years.*

Article X

*The two Governments shall consider and agree upon a scheme or schemes, taking into account the recommendation of the Joint Rivers Commission, and take necessary measures to implement it or them as speedily as possible.*

Article XII

The provisions of the Agreement will be implemented by both parties in good faith. During the period for which the Agreement continues to be in force in accordance with Article XV of the Agreement, the quantum of waters agreed to be released to Bangladesh at Farakka in accordance with this Agreement shall not be reduced.

*Lake Lanoux Arbitration (France v. Spain)*[132]

This arbitration arose out of the *Treaty of Bayonne of 1866* between France and Spain pursuant to which Spain was assured a right to the natural flow of the river Carol, an outlet of Lake Lanoux situated in French territory on the southern slopes of the Pyrenees and fed by streams that originate in and flow through French territory only. After flowing approximately 25 kilometres from Lake Lanoux through French territory, the Carol crosses the Spanish frontier at Puigcerda and continues to flow through Spain for about 6 kilometres before joining the river Segre, which ultimately flows into the river Ebro. A French proposal to use Lake Lanoux for hydroelectric purposes was objected to by Spain on the ground that, if carried out, it would change the natural flow of the Carol and thereby violate the Treaty of Bayonne. The hydropower scheme was to divert the waters from the Carol River

[131] *Cusec* is a measure of flow rate and is one cubic foot per second (28,317 liters per second). It is generally used in measuring flow of water in rivers.
[132] Lake Lanoux Arbitration (Fr. v. Spain), 24 I.L.R. 101, 127-130, 140 (1957), 12 U.N.R.I.A.A. 281, 306-308, 316 (1964).

to a holding dam and power generating complex and then return the waters to the river before it entered into Spain.

The Arbitral Tribunal voted in favour of France, finding that its development scheme, though substantial, would not breach the Treaty because it would provide the previous quantity[133] of water to Spain. Spain further argued, however, that customary international law required France to negotiate an agreement with Spain before effectuating its hydroelectric plan. According to Spain, customary international law sanctions not only the equality of rights of co-riparians but also the necessity of prior agreement among co-riparians whenever a substantial alteration of a transboundary system of waters is contemplated. The Tribunal, acknowledging that the *Treaty of Bayonne* should be interpreted taking into account "international common law," concluded as follows:

THE TRIBUNAL (Petrén, President; Bolla, De Luna, Reuter, De Visscher):

> *II. …To admit that jurisdiction in a certain field can no longer be exercised except on the condition of, or by way of, an agreement between two States, is to place an essential restriction on the sovereignty of a State, and such restriction could only be admitted if there were clear and convincing evidence. Without doubt, international practice does reveal some special cases in which this hypothesis has become reality; thus, sometimes two States exercise conjointly jurisdiction over certain territories (joint ownership, co-imperium, or condominium); likewise, in certain international arrangements, the representatives of States exercise conjointly a certain jurisdiction in the name of those States or in the name of organizations. But these cases are exceptional, and international judicial decisions are slow to recognize their existence, especially when they impair the territorial sovereignty of a State, as would be the case in the present matter.*
>
> *In effect, in order to appreciate in its essence the necessity for prior agreement, one must envisage the hypothesis in which the interested States cannot reach agreement. In such case, it must be admitted that the State which is normally competent has lost its right to act alone as a result of the unconditional and arbitrary opposition of another State. This amounts to admitting a "right of assent", a "right of veto", which at the discretion of one State paralyses the exercise of the territorial jurisdiction of another.*
>
> *That is why 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. Thus, one speaks, although often inaccurately, of the "obligation of negotiating an agreement." In reality, the engagements thus undertaken by States take very diverse forms and have a scope which varies according to the manner in which they are defined and according to the procedures intended for their execution; but the reality of the obligations thus undertaken is incontestable and sanctions can be applied in the event, for example, of an unjustified breaking off of the discussions, abnormal delays, disregard of the agreed procedures, systematic refusals to take into consideration adverse proposals or interests, and, more generally, in cases of violation of the rules of good faith.*
>
> *States are today perfectly conscious of the importance of the conflicting interests brought into play by the industrial use of international rivers, and of the necessity to reconcile them by mutual concessions. The only way to arrive at such compromises of interests is to conclude agreements on an increasingly comprehensive basis. International practice reflects the conviction that States ought to strive to conclude such agreements; there*

[133] It is interesting to note that while the 'quantity' was the same, there was no guarantee that the 'quality' would be the same.

*would thus appear to be an obligation to accept in good faith all communications and contracts which could, by a broad comparison of interests and by reciprocal good will, provide States with the best conditions for concluding agreements.*

*But international practice does not so far permit more than the following conclusion: the rule that States may utilize the hydraulic power of international watercourses only on condition of a prior agreement between the interested States cannot be established as a custom, even less as a general principle of law.*

*As a matter of form, the upstream State has, procedurally, a right of initiative; it is not obliged to associate the downstream State in the elaboration of its schemes. If, in the course of discussions, the downstream State submits schemes to it, the upstream State must examine them, but it has the right to give preference to the solution contained in its own scheme provided that it takes into consideration in a reasonable manner the interests of the downstream State.*

The Lake Lanoux Tribunal held that, although the State Parties had failed to reach agreement, France had sufficiently involved Spain in the preparation of its development scheme.

**Additional Background Materials**


1. The 1997 UN Watercourses Convention.
2. World Bank Operational Policies (OP 7.50): Projects on International Waterways and Bank Procedures (BP 7.50): Projects on International Waterways.
3. The Helsinki Rules (Campioni Consolidation).
4. Commentary to the Helsinki Rules on the Uses of the Waters of International Rivers, ILA Report of the Fifty—Second Conference, Helsinki 1966, at 484, 484-505 (1966, 1987): Arts. J-xl,
5. "The Convention on the Protection and Use of Transboundary Watercourses and International Lakes," done at Helsinki, Finland, on 17 March 1992 ("Helsinki Convention").
6. Paisley, Richard Kyle., "Adversaries into Partners: International Water Law and Down Stream Benefits", 3 (2) Melbourne Journal of International Law 280 (2002).
7. Caponera, Dante A., "The Role of Customary International Water Law", in Water Resources Policy for Asia 365, 367-68, 372, 380-81 (M. Ali, G. Radosevich & A. Khan eds., 1985).
8. Sadoff, Claudia W. and David Grey, "Beyond the river: the benefits of cooperation on international rivers", 4 Water Policy 389-403 (2002).
9. Grzybowski, Alex, Stephen C. McCaffrey, & Richard K. Paisley (2010). Beyond International Water Law: Successfully Negotiating Mutual Gains Agreements For International Watercourses, Pac. McGeorge Global Bus. & Dev. L.J. 139.

**Discussion Questions**

1. **Is the multifactor test of the 1997 UN Watercourses Convention adequate to the task of resolving disputes relative to the sharing of international rivers? Why? Or why not?**

Currently, there may be no duty under international law requiring co-basin States to seek the optimum rational development of common water resources on a basin-wide scale. It has been inferred from the decision in the Lake Lanoux Arbitration for example, that there is no duty to attempt forms of water utilization that would lead to an optimal use of the waters considering all the interests involved. Nevertheless, a principle of optimal use, requiring co-basin state(s) to cooperate in making the most economically efficient use of a transboundary river and its resources, is today emerging due in part to the pressure of increased demand for water by an ever growing world population.

There is presently growing recognition of a need to develop international watercourse resources on a multi-State basis, and in recognition of their common interest co-basin state(s) are increasingly entering into joint planning and development agreements governing international drainage basins.[134]

The Treaty between the United States and Canada Relating to the Cooperative Development of Resources of the Columbia River Basin,[135] which authorized the United States to construct a hydroelectric dam on Canadian territory for energy production and flood control purposes on condition of recompense to Canada in the form of both hydroelectric power and dollars, is an especially noteworthy case in point. It is an excellent example of how one co-basin State (a lower riparian) with the resources to make optimal use of a river's potential was allowed by another co-basin State (an upper riparian) to exploit the latter's river jurisdiction to the benefit of both States to a degree greater than either could have obtained independently.

2. **Should international law impose a duty of optimal use on co-basin state(s)? Why? Why not?**

When manipulating river systems for flood-control, irrigation, hydroelectric, and other praiseworthy purposes, governmental authorities and private contractors do not always take adequately into account the potential consequences of their environmental intervention. For example, in the simulation case, Upstream's dam resulted in a "major decline in a certain river fish upon which Downstream diets historically have depended." In this context, consider the following remarks of Dr. Jimoh Omo Fadaka:[136]

> *What happens when we dam the flow of a great river and create an immense body of water where there was none before?*

Not enough thought was given to this question in the 1950s and 1960s as dozens of big dams went up from Pakistan to Ghana, Egypt to Brazil. Dams were praised for their image of instant progress, and as a catalyst for exponential economic growth. Dams can serve to generate energy, provide water for livestock, irrigate crops, control floods, and create a reliable water supply for further development and settlement.

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[134] See the November 5, 1977 Agreement between Bangladesh and India on the Sharing of the Ganges' Waters: Agreement on Sharing of the Ganges Waters at Farakka and on Augmenting its Flow (with Schedule), Bangl.-India, Nov. 5, 1977. See also the July 3, 1978 Draft Treaty for Amazonian Cooperation, reprinted in 17 Int'l Legal Materials 1045 (1978).

[135] Treaty Relating to Cooperative Development of the Water Resources of the Columbia River Basin, U.S.-Can., Jan. 17, 1961, 15 U.S.T. 1555.

[136] See The Misuse of Science and Technology, Doc. No. 17, presented at World Future Studies Conference on Science and Technology and the Future, Berlin (May 8-10, 1979).

In the past few years, however, big dam owners the world over have begun to compare notes[137] and discover that when a dam is put in place, aspects of the river system are altered: the water's chemistry, populations of indigenous flora and fauna; the lifestyle and culture of surrounding human populations; the fertility and salinity of the soil downstream; and the pressure on the earth's crusts effecting the tendency to seismic activity in the form of earthquakes and landslides.

It has been found that Egypt's Aswan High Dam project (producing 10,000 million kilowatt-hours yearly) has had several effects in the region such as eliminating vital nutrients maintaining fish stocks, contributing to the shrinking of lakes, and concentrating insecticides, herbicides and molluscides which produce massive fish kills. In addition, the fertile Nile Delta, which is constantly eroded by the wash of the river and attack from the sea, is no longer protected by the sediment which used to be carried down the river prior to the dam being built.

Lake Nasser, which covers the Sudanese town of Wadi Halfa, was designed to store some 35.2 billion gallons and reach capacity by 1970. However it is only half full and may never reach capacity. Evaporation alone takes 3.3 billion gallons of water a year from the lake, 50 per cent more than the engineers' original estimate. Moreover, Lake Nasser's entire 300 mile western bank is porous Nubian sandstone, which can absorb more quantities of water. Altogether the Lake is losing about one-third of the water flowing into it (6.6 billion gallons yearly).

Egyptians are no longer threatened by the Nile's yearly floods; however, in benefiting from that safety, they no longer receive the 100 million tons of fertile silt that was deposited yearly and is now gathering on the bottom of Lake Nasser. All six million of Egypt's cultivated acres will soon require much more fertilizer than prior to the construction of the Dam, amounting to upwards of $100 US million.

Egypt loses 18,000 tons of sardines a year because of the dam's effects on the Nile's silt deposition. Also, the heavy use of water in irrigation projects and their generally poor drainage systems have caused a rise in underground water levels and a consequent accumulation of soil salts. This accumulation has forced Egypt to start installing underground drains on the million waterlogged acres of the delta. It is the most ambitious drainage project in the world, costing more than $180 US million.

Where super-dams have gone up in Africa and Asia, the reservoir lakes and irrigation canals have brought a dramatic increase in water borne diseases. The surfaces of lakes and canals offer superb breeding conditions for malarial mosquitoes.

The decision of a State to build a dam, "super" or otherwise, can unmistakably have vast ramifications for itself and its neighbours.

### 3. Is there any role for international law to play in the initial decision?

Or is international law called upon too late to do much good? Would it be possible in such situations to require an assessment procedure that includes impact analyses before at least major environmental initiatives are undertaken?[138]

Over the years, many developing countries such as Upstream have been concerned that the growing interest of the economically developed nations in international environmental protection will, because of the cost of such protection, impact negatively upon their economic development. Indeed, believing that most of the world's environmental problems are caused by the industrialized countries, many have viewed the imposition of international environmental controls upon them as a

[137] World Commission on Dams, Dams and Development: A New Framework for Decision-making, (Nov. 2000).
[138] For instructive insights, see Jan Schneider, World Public Order of the Environment: Towards an International Ecological Law and Organization (1979); George Appelbaum, Controlling the Environmental Hazards of International Development, 5 Ecology L.Q. 321 (1972).

form of neocolonialism. Since the 1972 United Nations Conference on the Human Environment in Stockholm, however, "[t]hird World governments and international development assistance agencies have devoted an increasing amount of attention to pollution problems…and to analyzing the environmental impacts of development projects."[139]

On the other hand,

> *[w]hile there is no question that the level of awareness about environmental problems has increased markedly in developing countries... it is quite another matter to conclude that these countries are actually moving closer to alleviating the problems. Indeed, the contrary may be true. Industrial pollution is worsening in most developing countries in spite of all the new policies, regulations, and governmental agencies. Although this is to be expected in countries which are only now undergoing rapid industrial growth, the air and water quality in Ankara, Mexico City, São Paulo, Seoul, Bangkok, and numerous other places in the developing world, appears to be worse than in comparable urban areas in developed countries.*
>
> *Of perhaps even greater significance for human welfare and long term economic development, there is little evidence in the developing world that the serious rural environmental problems of soil erosion, decertification, and deforestation are being reversed. Many developing nation governments continue to clear-cut forests and perpetuate policies and incentives that lead to massive losses of fertile agricultural soils, even when they are aware that such policies turn once productive lands into deserts. These forms of environmental degradation are often exacerbated by the poverty of millions of people who must eke out a living by overtaxing already fragile natural resources. In the longer term, natural resources depletion by governments and impoverished individuals is likely to cause even greater human poverty and suffering and to hamper severely economic development in the rural sections of developing countries.*[140]

4. **What kind and degree of environmental responsibility should be imposed upon developing and other countries in their pursuit of economic development?**

Also, what kind of responsibility should be imposed on international, national, and private lending institutions that help to finance development projects? Or upon public and private contractors that carry the projects out?

Should persons responsible for the planning, financing, and implementation of development projects be held individually responsible for failing to safeguard against environmental harms that could reasonably result from the development projects they plan, finance, and carry out? If so, to what extent? If not, why not?

[139] Jeffrey Leonard & David Morell, Emergence of Environmental Concern in Developing Countries: A Political Perspective, 17 Stan. J. Int'l L 281, 283 (1981).
[140] Jeffrey Leonard & David Morell, Emergence of Environmental Concern in Developing Countries: A Political Perspective, 17 Stan. J. Int'l L 281, 283 (1981).

**Simulation Exercise # 5: The Vancouver River Part Two**

**Objectives/Major Lessons:**

- Importance of first resolving intra team conflict.
- Power of agenda control.
- Potential power of interest based approach.

**General Instructions**

This simulation exercise begins with the identical fact pattern as the simulation exercise done previously in Negotiation Simulation Exercise # 4.

Three key differences between this exercise and Negotiation Simulation Exercise # 4 are as follows:

First, the resolution of this exercise should be attempted using "interest based" negotiation techniques rather than using a strictly legal approach.

Second, unlike Exercise # 4, this exercise will have teams who will also have "internal" as well as "external" differences of interests, and therefore may require a significant internal problem solving negotiation within each team before any subsequent "external" problem solving negotiation can take place.

Third, unlike Exercise # 4, this exercise may include an optional "third party neutral" who may attempt to facilitate a resolution of the conflict.

**Parties to the Negotiation**

There are six parties to this negotiation as follows:

Upstream:

- **Red** – Foreign Minister of Upstream. Red is not a lawyer but it is important for her that Upstream not be seen to be violating international law. Prior to becoming Foreign Minister, Red was a senior commander in the Upstream armed forces.
- **White** – Deputy Minister of Water Resources for Upstream and a career civil servant. White was hired from Canada because of her success in negotiating agreements between Canada and the United States to equitably share downstream benefits on international rivers.
- **Blue** – International law advisor to Upstream, an independent consultant and best friends with the Foreign Minister of Upstream. Blue is experienced in overcoming every possible obstacle, by whatever means necessary, to achieve Upstream objectives on time and on budget.

Downstream:

- **Stripes** – Foreign Minister of Downstream. Stripes is angered and saddened by the way Downstream has been treated in the past. However, Stripes is known to be very pragmatic. Stripes envisions the future of Downstream as one of self-sufficiency and growth. She is determined to see Downstream prosper. Stripes is openly suspicious of Dots.
- **Dots** – Deputy Minister of Environment for Downstream and a career civil servant. Dots has never forgotten how Upstream treated Downstream in a similar negotiation involving a different River over 20 years ago. More recently, Dots has unsuccessfully tried to contact officials at Upstream many times with problems relating to the Vancouver River. Dots feels that this is the perfect opportunity to right the historic wrongs that have been perpetrated by Upstream. Dots intends to resign from the civil service and run against Stripes in the next national election.
- **Dashes** – International law advisor to Downstream and a career civil servant. Stripes has heard great things about Dashes involvement in other negotiations and has personally asked Dashes to help out with these negotiations.

**Issues to Resolve**

Assume both Upstream and Downstream each have a team of three individuals representing them (as designated by the instructor).

Each team has been instructed to negotiate with the other team with a view towards reaching an agreement that will resolve the disputes between the parties over the Vancouver River.

A neutral facilitator may be assigned to assist the parties.

Any agreement reached must have the full support of both the parties.

**Logistics**

**10 MINUTES: INTRODUCE**

---Review basic Fact Pattern.

---Objective of the Game.

---Scenario and role descriptions.

---Description of role preparation.

**50 MINUTES: PREPARE**

---Players read instructions by themselves.

---Players complete Issue Chart provided in confidential instructions.

---Players meet in same role groups.

---Trainers available to answer questions.

**90 MINUTES: NEGOTIATE INTERNALLY**

---Upstream and Downstream each prepare for negotiations with each other.

---Don't share Confidential Instructions!

---Be Prepared.

**90 MINUTES: NEGOTIATE EXTERNALLY**

---Upstream and Downstream negotiate.

---Don't share Confidential Instructions!

---Reach an Agreement, if you can.

**60 MINUTES: DEBRIEF**

---Review of Outcomes: Who Got What?

---Discussion and Lessons Learned.

**Simulation Exercise #6: Chelsea – Arsenal negotiation simulation**

**Objectives/Major Lessons**

- Familiarize participants with basic principles of international groundwater law
- Enable participants to successfully negotiate a best practices data and information sharing and exchange agreement in an international groundwater situation

**General Instructions**

Chelsea and Arsenal face a "water crisis" brought on by extreme water quality and quantity problems. This situation is largely a result of unsustainable agricultural activities in the borderlands separating the two countries. The two nations' leaders recognize the need to address jointly issues concerning the protection of shared underground aquifers and the use of agrichemicals and biotechnology in the region.

Chelsea lies directly north of Arsenal. Surface water consists of two rivers flowing through both countries. The flow pattern of both rivers—from north to south—gives Chelsea residents the desired access to "headwaters" but leaves downstream users in Arsenal with less and poorer quality water. With an average annual rainfall of 10 inches or less, and only two major rivers, border inhabitants are heavily dependent on groundwater for most of their water needs.

Two years ago, the Presidents of Arsenal and Chelsea met to discuss increasing groundwater tensions in the borderlands. At the close of the meeting, the leaders issued a joint communiqué that instructed the authorities responsible for international environmental affairs of their countries to prepare a sustainability plan designed to protect water in the border region. Since then, the Arsenal Environment Department (AED) and the Chelsea Department of External Affairs (CDEA) have been working together to organize a joint summit to negotiate the framework of such a plan beginning, they hope, with a data and information sharing and exchange agreement. Originally the summit was scheduled for January of the next year. However, due to public concern regarding persistent organic pollutants (POPs), the summit was rescheduled for six months earlier than planned. Due to the accelerated schedule, summit staff have not had time to collect everything participants would like prior to making decisions. However, on the positive side, individuals and organizations have not had time to become entrenched in their positions, leaving a great deal of negotiating room.

In the midst of planning for the summit, a new crisis emerged. An Arsenal Academy of Science study was released that found 53 percent of 200 groundwater wells tested in the Arsenal state of Midfield contain more than the maximum contaminant level of POPs, including popular herbicides used on a wide range of crops. Duda, the Governor of Midfield, called on the Arsenal federal government to convene the summit as soon as possible to discuss the issue. Governor Duda contends that the problem is a result of Chelsea chemical misuse. Duda has been widely quoted in the newspapers as saying, "Arsenal is the victim of irresponsible agrichemical use by Chelsea farmers — they don't follow our strict standards and we're the ones who lose" and has publicly committed his administration "to wage war against foreign polluters."

Regrettably existing international agreements do not provide the means to resolve the numerous disputes, including this most recent battle between Governor Duda and the Chelsea farmers.[141] It is for this reason that today's summit is convened. The small group selected to participate in the summit has no official constitutional authority. Summit recommendations will require formal ratification by the Chelsea and Arsenal legislative and executive authorities. Summit participants have been selected for two reasons. First, participants are expected to represent a good cross-section of those groups and individuals in the sustainability debate, and, therefore, summit discussions and conclusions should reflect the public interest. Second, the organizations invited to participate are fully capable of mustering public and government support for summit recommendations — a critical factor to ensure the implementation of those recommendations.

**The Importance of Groundwater**

In the Arsenal-Chelsea border region, most groundwater, which is defined as any of the various forms of water lying beneath the surface, is captured in one of several large aquifers. An aquifer is an underground bed of porous rock or soil that carries or holds water. Although there are significant differences between groundwater and surface water, they are frequently linked. For example, contamination of surface water can contribute to the contamination of groundwater.

Residents in both Arsenal and Chelsea are extremely dependent on groundwater for basic drinking water; one study estimates that 87 percent of residents within 100 miles of the border rely solely on groundwater. Overall, 72 percent of Chelsea residents consume groundwater while 64 percent of Arsenal residents consume groundwater. Chelsea is a less industrialized nation than Arsenal and the difference in industrial development affects water-use patterns. Chelsea border cities use less water than their Arsenal counterparts; lower levels of water consumption are the practical consequence of fewer water-intensive industries, less adequate potable water systems, and less intensive domestic use. Agriculture accounts for 85 percent of all water use in the border lands. Ninety-four percent of agricultural water is used for irrigation, two percent for domestic use, and four percent for livestock. Some areas require irrigation to grow crops; in others, irrigation supplements rainfall. In all cases, the use of irrigation has resulted in higher and more consistent yields than would otherwise be achieved.

[141] Two existing agreements already impose limited obligations on Arsenal and Chelsea regarding groundwater development. In 1954, Arsenal and Chelsea signed the Water Rights Treaty. The treaty was struck after extensive withdrawals of water from the Cold and Blue Rivers by Chelsea left water users in Arsenal with insufficient water supplies. Although the treaty was not developed with groundwater in mind, both countries regard it as the legal authority under which they should operate. The treaty commits each nation to consult the other on its plans for future groundwater development. In 1992, Arsenal and Chelsea also joined 98 other countries in signing the International Conference on Water and the Environment. Known as the "Dublin Statement," this document supports two fundamental principles: water should be treated as an economic resource, and water-use decision making should be delegated to the lowest appropriate level of government.

**Issues for Summit Consideration**

The underground aquifers that run beneath Arsenal and Chelsea have degraded to the point where residents on both sides of the border are advised to boil water before drinking unless well tests determine that such precautions are unnecessary. Arsenal citizen groups and international environmental organizations are imploring government officials to restrict farming practices.

In addition to pleas for improved water quality, borderland residents are asking government officials to address two other problems. First, at current consumption levels, the very existence of the water supply is in jeopardy. A vigorous border "pumping war" began three years ago after farmers found themselves unable to adequately irrigate crops. Rather than heeding the experience as a warning sign, residents in both countries now pump more water than ever before in order to draw their "fair share." Wasteful and inefficient use has become the norm, salinization is on the rise, and quantities will not last without serious adjustments in agricultural practices.

**Technical Constraints**

A number of technical problems haunt policymakers trying to resolve borderland water problems. First and foremost, there is inadequate knowledge concerning the quantity and location of groundwater resources along the border. In order to forecast groundwater supplies, it is necessary to know the depths of the aquifers and the amount of water that can be withdrawn without threatening the sustainability of the aquifer. While partial maps of the aquifers have been developed by various groups over the last 10 years, no map is universally accepted nor has anyone mapped the entire region. Second, the information that has been developed is often disputed because there are no uniform statistics on groundwater in Arsenal and Chelsea, hindering direct comparison. Within Arsenal, there is also debate as to which data, state or federal, is the most reliable. Third, there are few established water quality standards. The standards that do exist are ambiguous as to the "correct" risk levels that government agencies must enforce. Several sets of standards are used in the borderlands: the Arsenal Academy of Science (AAS) level, the Arsenal Environmental Department's maximum contaminant level, the Chelsea suggested no adverse response level, and several different state risk levels. Fourth, current water testing techniques are inadequate. Sampling and monitoring groundwater is particularly expensive (as high as US $1,000 per sample). Several classes of chemicals are difficult to isolate or detect, let alone measure. Testing techniques are complex, time-consuming, sensitive to interference from other compounds, and variable in result. Scientists debate what constitutes a representative sample and how many samples must be taken before meaningful statements on large volumes of groundwater can be made. Most importantly, ineffective testing makes it difficult to establish the back- ground quality of the aquifers and therefore to assign responsibility for contamination.

**Meeting Co-Chairpersons**

The summit will be co-chaired by the representatives from CDEA and AED. They have been chosen because they are the highest ranking governmental spokespeople. The co-chairs have been asked to meet prior to the start of the summit in order to discuss process issues and to develop a proposed format for summit discussions.

**Country Caucuses**

Prior to the start of formal summit negotiations, there will be an opportunity for Chelsea and Arsenal federal governments to briefly caucus with their fellow citizens. This is the only scheduled caucus at any time throughout the negotiations. However, summit participants have a right to request additional caucuses of any sort. However, *approval is required from all participants* in order to break from the formal summit proceedings into smaller caucuses.

**Time Budgeting**

Various "decision items" are on the agenda that is supposed to result in a data and information sharing and exchange agreement, making this a very ambitious meeting. Participants are expected to budget their time carefully so that all decision items are given due consideration before the summit is adjourned.

**Agenda Organization**

Summit staff have grouped various options and decisions that summit participants have been asked to address. In many cases, the options presented are not mutually exclusive. In fact, participants may find that several options listed under any one "decision" in combination could prove most effective in solving groundwater problems. The various decision items may be discussed in any order determined by the participants.

**Inventing Options**

Chelsea and Arsenal federal employees have attempted to identify known options under each decision item for consideration by participants. However, it is likely that additional options not identified in these instructions will emerge in the course of discussion. Thus, summit participants are encouraged to approach the negotiation process with creativity and flexibility.

**Cost Estimates**

Summit participants must consider the financial cost of various options. Budget constraints are apparent in Chelsea, and Arsenal has only moderate budget flexibility. Farmers report that their profit margins do not afford expensive new innovations and tax payers complain about subsidizing agriculture. To help guide the choice of options, summit staff have compiled rough estimates of the costs for each proposal. These estimates reflect the financial costs to government only. It is important for summit participants to realize that under most options private sector individuals will also bear significant financial costs.

**Voting Procedures**

Participants are expected to reach agreement on all decision items. A two-thirds vote is required for approval of any decision. However, participants should strive for consensus whenever possible. Any lingering animosity, tension, or unresolved issues will haunt the formal ratification process in Arsenal and Chelsea and hinder implementation.

**Formal Ratification**

Any agreement on data and information sharing and exchange proposed by summit participants will necessarily be submitted to the Arsenal and Chelsea governments for formal ratification.

**Consequences of Not Coming to Agreement**

There are several known consequences of failing to reach agreement on a data and information sharing and exchange agreement at this summit. They include:

- ***Further Resource Degradation:*** "If you can't measure it you can't manage it." Farmers will continue to overuse and abuse water in an effort to obtain their fair share.
- ***Trade War:*** Continuing tension between Arsenal and Chelsea over groundwater is expected to erupt into a serious trade war that will affect all major industries, with severe economic consequences for both sides. It will also overshadow upcoming bilateral negotiations on telecommunications piracy, intellectual property rights, and biodiversity prospecting.
- ***Political Leadership:*** Elections are approaching for Governor Duda and the President of Chelsea. Failing to reach a good settlement at the summit may affect their popularity at the polls.

**The Parties to the Negotiation**

In an effort to keep negotiations manageable, private, and flexible, various individuals have been invited to this summit.

The task before participants is to draft a prototype data and information sharing and exchange agreement as a prelude to a comprehensive borderland groundwater management plan to be shared later with the public and with legislative bodies for formal ratification. The summit organizers have both sent representatives. Midfield Governor Duda is among the participants and is the official host of the summit, which is being held in Midfield. The other attendees have been selected in an effort to obtain a diverse group, representative of the major interests involved in borderland water disputes. The parties are:

***1. Arsenal Environmental Department (AED) :*** This federal agency has a mandate to preserve the environmental integrity of the nation's natural resources and to coordinate and support state environmental protection efforts. However, Arsenal federal law delegates significant environmental authority to the states, including the principal responsibility for law enforcement. This uneasy federal-state partnership has created some conflict in water management. Prior to the meeting today, AED and Governor Duda have had several disagreements concerning appropriate standards for groundwater protection.

***2. Chelsea Department of External Affairs (CDEA):*** CDEA is the federal agency that regulates international agricultural and natural resource issues. Unlike Arsenal, Chelsea law vests primary authority for all aspects of food and environmental laws, regulations, and standards with the federal government. During the last decade, the main objective of CDEA has been to increase agricultural production for export.

***3. Governor Duda:*** Duda is the governor of Midfield, one of three Arsenal states that sit along the Arsenal-Chelsea border. Duda has been a good friend to the farm interests of his state, whom he credits with securing his last two re-elections. Duda's conflict with the AED representative is professional as well as personal. He is also angry with CDEA for allowing Chelsea farmers continued use of POPs banned three years ago in Midfield.

***4. Save Our Planet coalition (SOPC):*** SOPC is a coalition of environmental interest groups based in Chelsea and Arsenal. SOPC was formed specifically to organize around borderland water issues and to link environmental groups in order to share information and resources. SOPC has called for an international ban on POPs as well as severe restrictions on water use. SOPC has organized effective media campaigns, and polls show that its credibility is high with residents on both sides of the border.

***5. Mining Forever (MINEFOR):*** MINEFOR is a consortium of mining companies based in both Arsenal and Chelsea. MINEFOR was established to promote mining and to educate the public regarding the benefits of mining.

***6. Arsenal Farm Association (FARM):*** FARM is the major farm and agricultural industry organization in ARSENAL. Its members include farmers, agrichemical companies, farm machinery suppliers, and wholesale food suppliers. FARM is intent on securing the same rights for its members that Chelsea farmers enjoy. FARM is opposed to any additional restrictions on

Arsenal farmers and believes that farmer's already bear an inordinate amount of the burden for environmental remedies.

***7. Trade Alliance of Chelsea (TRADE):*** TRADE is an industry group based in Chelsea that has formed around a series of border trade issues with Arsenal. Its primary objective is to increase Chelsea exports to Arsenal.

**Issues to Resolve**

Summit participants are asked to make various decisions with a view towards obtaining a sustainable data and information sharing and exchange agreement. Under each of the decision items, the policy options known to summit staff have been described briefly. Because this agenda was distributed prior to the summit, staff expect that participants will bring additional information and analyses of these options to enrich summit discussions.

As a preliminary step, participants should reach a threshold agreement regarding how they will approach the process. In doing so, participants should keep in mind that it may be appropriate to make trade-offs to reach an agreement as a whole, rather than making decisions on each individual issue. In other words, it may be appropriate to "buy into" the whole agreement even if individual aspects of the agreement may not be universally accepted.

Types of data and information

Transboundary water resources management, which is based on principles of integrated water resources management, usually requires interventions to integrate socio-economic, environmental and technical/engineering issues, and is therefore usually dependent on broad types of data and information requirements spanning a wide spectrum of thematic categories. The more and bigger the conservation and management objectives, usually the greater variety and detail of data and information required, and usually the higher the cost. There can also be security and proprietary issues associated with certain types of data and information. Examples of types of data and information to share and exchange include: land use, well data, core descriptions, ground-water quality analyses, and pumping records.

Real time or historical information

Historical information is usually subject to less controversy than real time information. Real time data can often be significantly more expensive as well as have security and proprietary issues. On the other hand, real time information such as satellite monitoring can be invaluable in certain circumstances such as flooding.

Custodianship of Data/Information

The data/information that are being compiled from various sources for the planning/implementation of various current and possible future projects/programs can be systematically archived and made available for use by countries in their cooperative management. This may require a central database of “mutually agreed” data/information, which is maintained and managed by an appropriately mandated institution, which becomes the custodian of the database. On the other hand, there may be reluctance by some interests to empower a new institution especially where knowledge is perceived as power.

Access to “third parties”

An important question to be addressed by a data and information sharing and exchange agreement is the provision of access to potential users other than governments of the riparian states entering into the agreement. Should the agreement limit its scope to governing exchange/sharing of data/information among the riparian states only? Or should it also deal with the question under what circumstances and modalities access to data/information be granted to “third parties,” which may include academic/research institutions, NGOs, UN agencies, private institutions?

Finance and costs

What are the circumstances under which data and information should be paid for and by whom? A good starting point may be the ILC Draft Articles on Transboundary Aquifers pursuant to which exchange of "readily available" data is at no cost to the requesting riparian state. If the data is not "readily available" then its production is contingent upon the payment of reasonable costs by whoever makes the request. Does this make sense in all circumstances? How much of a stumbling block is the term "readily available" likely to be in practice?

Verification and compliance

While the agreement may not wish to deal with specific details of what standards are to be used, it should probably clarify who shall be responsible for verification and compliance of data/information and for standardizing data formats and similar issues. Is a verification and compliance strategy necessary and/or desirable in all circumstances?

Adaptivity

How can the agreement be "adaptive" with regard to emerging technologies and such issues as climate change?

Sustainability

How can "sustainability," including financial sustainability, of the agreement be ensured? What is the fuel that will keep it running and maintain the parties' interests in continuing to implement it, and indeed modify and enhance it? This needs to be achieved by ensuring that the agreement adequately addresses the various fundamental interests of the parties.

Dispute resolution

Is a dispute resolution clause necessary and or desirable? If so then should dispute resolution be directed primarily at the local level or are there advantages and disadvantages to trying to invoke international dispute resolution? Does the mere existence of a dispute resolution clause act as a disincentive to have disputes?

COUNTRY INFORMATION

| | Chelsea | Arsenal |
|---|---|---|
| **Population:** | 6.4 million | 52 million |
| **GDP:** | US$14 billion | US$560 billion |
| **Ethnic Group:** | Mixed Spanish and Indian descent, 95%. | Mixed European Stock, 48%;<br>Spanish, 26%;<br>Other, 26% |
| **Religions:** | Roman Catholic: 78%;<br>Mennonite, Protestant, Other: 22% | Roman Catholic: 34%;<br>Protestant: 42%;<br>Jewish: 10%;<br>Other : 14% |
| **Languages:** | Spanish, English | English, Spanish |
| **Education:** | Years compulsory—7;<br>Attendance— 60%;<br>Literacy—54% | Years compulsory—12;<br>Attendance—82%;<br>Literacy—70% |
| **Health:** | Infant mortality rate—86.2/1,000 | Infant mortality rate—24/1,000 |
| **Life Expectancy:** | 56 years | 72 years |
| **Work Force:** | Agriculture—45%;<br>Industry and commerce—26%;<br>Service—19%;<br>Government---10% | Agriculture—26%;<br>Industry and commerce-41 %;<br>Service—23%;<br>Government—6% |
| **Government Type:** | Constitutional with powerful executive branch | Constitutional with strong state governments |
| **Suffrage:** | Required of all adults 18 and older | Universal over age 20 |
| **Central Gov't Budget:** | US$1.2 billion | US$75 billion |
| **Trade:** | Exports—US$2.5 billion; Imports—US$2.0 billion | Exports—US$60.1 billion;<br>Imports—US$63 billion |

**Constructing a Water Budget**

*Hydrologic Fundamentals*

Policymakers need to obtain some essential information about borderland groundwater if we hope to achieve sound management of the resource. First, we need to determine, to the best of our ability, how much groundwater exists. Second, we need to decide on an acceptable withdrawal rate or yield.

Often we hear scientists and water engineers refer to the "hydrologic cycle." The hydrologic cycle is no more than a summary of flows in the natural water system. It involves a constant transfer of water from land and sea to the atmosphere and back again.

"Aquifers" are permeable layers of underground gravel or sand that serve as conduits for groundwater flow. Most are large enough to be considered "storage reservoirs."

Scientists believe that, left undisturbed, most groundwater reservoirs remain in equilibrium; that is, over time, recharge to the system equals discharge, and no net change in groundwater occurs. This input-output concept is described in the "principle of continuity." This principle is defined as follows:

> *Under natural conditions, previous to the development of wells, aquifers are in a state of approximate equilibrium. Discharge by wells is thus a new discharge superimposed over a previously stable system, and it must be balanced by an increase in recharge of the aquifer, or by a decrease in the old natural discharge, or by a loss of storage in the aquifer, or by a combination of these.*[142]

Many water planning text books suggest a simple equation to determine the input-output flow for groundwater systems:

> *Change in groundwater storage, is the net sum of interflow, groundwater flow into and out of the region, groundwater that emerges as surface water, evaporation, and transpiration of the groundwater system.*

The equation gives us what is known as a "water budget." A water budget serves a purpose similar to a bank book; it gives a record of deposits, withdrawals, and net balance. A water budget is an important analytical tool for measuring the flow and net balance of water over time within a region. However, a water budget is difficult to construct for real-world situations. For example, in most groundwater systems, replenishment and discharge are not uniform over time and space— the hydrogeology is not homogeneous, and pumping stresses are unevenly distributed. Such conditions make the solutions to groundwater problems complex and heavily dependent upon professional judgment and experience.

Ideally, summit participants would know how much water entered and left the borderland groundwater system. We would be able to plug numbers into our groundwater flow formula, figure out water availability, and determine an acceptable rate of water withdrawal. Unfortunately, we have not

[142] U.S. Department of Interior, U.S. Geological Survey, Water Resources Division, Groundwater Branch, Groundwater Hydraulics Notes, No. 34 (1957).

joint-scientific panel to collect this data. Their calculations are expected to take another eight to twelve months to complete, but we will soon have the raw data we need. In the meantime, summit participants are asked to choose among basic principles of groundwater management. Although we are waiting on definitive data, there are several important things that we do know: the general location and depth of our aquifers, the permeability of our soil, and, most importantly, that our withdrawal rates are well beyond the capacity of aquifer recharge rates.

**Definitions**

Proprietary: ownership over; possession rights to.

**Background Materials**

- Nile data and information sharing and exchange interim procedures
- Columbia Data and Information sharing Agreement
- Mekong data and information sharing and exchange protocol
- UNECE Guidelines on Monitoring and Assessment of Transboundary Groundwaters

**10 MINUTES: INTRODUCE**

---Review basic Fact Pattern.

---Objective of the Game.

---Scenario and role descriptions.

---Description of role preparation.

**50 MINUTES: PREPARE**

---Players read instructions by themselves.

---Players complete Issue Chart provided in confidential instructions.

---Players meet in same role groups.

---Trainers available to answer questions.

**90 MINUTES: NEGOTIATE INTERNALLY**

---Upstream and Downstream each prepare for negotiations with each other.

---Don't share Confidential Instructions!

---Be Prepared.

**90 MINUTES: NEGOTIATE EXTERNALLY**

---Upstream and Downstream negotiate.

---Don't share Confidential Instructions!

---Reach an Agreement, if you can.

**60 MINUTES: DEBRIEF**

---Review of Outcomes: Who Got What?

---Discussion and Lessons Learned.

**for discussion purposes only.**

## 1.0 Preamble

The Council of Ministers of Water Affairs of the Nile Basin Countries, Nile-COM, in its meeting of 27-28 July 2009, Alexandria, Egypt.,

Considering that under the umbrella of the Nile Basin Initiative (NBI) the Nile Basin countries have developed a Shared Vision (Shared Vision) to achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile Basin water resources;

Recognizing that this Shared Vision can be preserved and nurtured primarily through joint cooperative efforts;

Desirous to maintain and enhance their friendly and cooperative relations and achieve mutual benefit from their Shared Vision;

Acknowledging that the sharing and exchange of data and information is instrumental to the achievement of the Shared Vision;

Hereby agree to these interim procedures (Interim Procedures) as follows:

## 2.0 Acronyms and Definitions

### 2.1 Acronyms

- ENTRO: the Eastern Nile Technical Regional Office;
- NBI: Nile Basin Initiative
- NELSAP-CU: the Nile Equatorial Lake Subsidiary Action Programme Coordination Unit;
- NFPI: National Focal Point Institution;
- NILE COM: NBI Council of Ministers;
- NILE SEC: NBI Secretariat;
- NILE TAC: NBI Technical Advisory Committee;

- Data: representation of facts, in a formalized manner, suitable for communication, interpretation or processing;
- Information: processed, refined, interpreted and displayed data;
- Data and information exchange: reciprocal transfer of data and information between Nile Basin countries;
- Data and information quality: attribute of data and information between Nile Basin countries;
- Data and information sharing: the act of possessing data and information or using in common with others;
- Existing measures; interventions existing before or from an earlier time;
- Interim Procedures: the provisional procedures with limited duration and scopes as determined hereunder;
- NILE SEC: For the purpose of the Interim Procedures, Nile-SEC includes NBI projects and programs and subsidiary entities such as NELSAP-CU and ENTRO;
- River basin monitoring system: a collection of equipment, methods and institutional setup used for river basin monitoring;
- Third party: any entity other than the entities directly involved in these Procedures on data and information sharing and exchange.

## 3.0 Objective

The objective of these Interim Procedures is to facilitate the successful implementation of NBI projects and programs.

## 4.0 Scope

4.0.1 NBI countries, upon request from NBI projects and programs shall make available through the NILE SEC readily available data and information on existing measures and on the condition of water and other related resources of the Nile Basin, necessary to facilitate the successful preparation and implementation of NBI projects and programs and where possible in a form or format that best facilitates utilization.

4.0.2 To facilitate the systematic archiving, maintenance and dissemination of data and information collected through the implementation of these Interim Procedures, Nile Basin countries hereby establish a Shared Regional Knowledgebase comprised of data and information on existing measures and on the conditions of the water and other related resources of the Nile Basin.

4.0.3 The Shared Regional Knowledgebase shall include:

- Data and information provided by Nile Basin countries;
- Data and information generated through the implementation of NBI programs and projects;
- Data and information compiled by NBI from appropriately referenced public domain sources.

4.1.1 These Interim Procedures apply to data and information considered necessary to successfully implement NBI projects and programs.

4.1.2 Examples of the categories of data and information covered by these Interim Procedures include the following:

i. Meteorological: such as historical time series data on precipitation, temperature, evaporation, transpiration and other climatic variables;
ii. Water Resources and Uses: such as historical hydrometric data (river flow, stages), sediment discharges, water uses, data on characteristics of existing water related infrastructure (such as reservoirs, irrigation networks, hydropower generation schemes, etc.), water demand data, reservoir operational rules, agricultural information, bathymetry of lakes, reservoirs, characteristics of groundwater aquifers;
iii. Ecological/Environmental data and information: such as wildlife and fisheries, wetland characteristics, pollution sources, nature reserves, water quality parameters;
iv. Basin physical characteristics: such as land use and/or land cover, basin topography, drainage networks, soil erosion;
v. Socio-economy: such as population distribution;
vi. Any other categories of data and information considered necessary to successfully implement NBI projects and programs.

## 4.2 Costs and Finance

4.2.1 NBI member countries shall provide free of charge readily available and relevant data and information necessary to successfully implement NBI projects and programs.

4.2.2 If a NBI member country is requested to provide data and information necessary to successfully implement NBI projects and programs that is not readily available, it shall employ its best efforts to comply with the request, within a reasonable time, but may condition its compliance upon payment, by the requesting entity, of the costs of collecting and, where appropriate, processing such data or information.

4.2.3 The funding required for the periodic review and adjustment of these Interim Procedures shall be covered by the NILE SEC.

4.2.4 The funding required for maintaining the Shared Regional Knowledgebase shall be covered by the Nile-Sec.

## 4.3 Access to Shared Regional Knowledgebase

4.3.1 Access to the Shared Regional Knowledgebase shall be for purposes related to NBI programs and projects.

4.3.2 Access to the Shared Regional Knowledgebase by Nile Basin countries is free of charge.

4.3.2 Access to the Shared Regional Knowledgebase by third parties shall be granted as per guidelines to be developed by the NILE SEC and approved by the NILE TAC.

## 4.4 Data Quality

implement NBI projects and programs shall make its best efforts to ensure the quality of the data and information it provides.

4.4.2 The NILE-SEC, shall develop and, upon approval by the Nile-TAC, implement recommendations for establishing and maintaining the quality of data and information that has been provided by Nile Basin countries and other data and information that shall be included in the Regional Knowledgebase.

4.4.3 The NILE-SEC shall develop and, upon approval by the Nile-TAC, implement recommendations for establishing and maintaining systems for the proper archiving, retrieval, dissemination and processing of data and information necessary for the successful implementation of NBI projects and programs.

## 4.5 Data Exchange Formats

4.5.1 Formats for data and information sharing and exchange shall be identified and developed. The formats shall be promoted by the NILE SEC.

## 4.6 Implementation Arrangements

The implementation arrangement comprises the Nile-TAC, Nile-Sec, and the National Focal Point Institutions.

### 4.6.1 Roles and Responsibilities of the NILE TAC

The roles and responsibilities of the NILE TAC in implementing these Interim Procedures shall include:

4.6.1.1 Serving as the supervising body for the implementation of these Interim Procedures;

4.6.1.2 Reviewing information and updates on the status of implementation of these Interim Procedures and providing recommendations for improvement.

### 4.6.2 Roles and Responsibilities of the NILE SEC

The roles and responsibilities of the NILE SEC in implementing these Interim Procedures shall include:

4.6.2.1 Serving as the custodian of the Shared Regional Knowledgebase;

4.6.2.2 Developing and implementing guidelines to facilitate the implementation of these Interim Procedures;

4.6.2.3 Monitoring and evaluating implementation of these Interim Procedures and providing recommendations for improvement;

4.6.2.5 Researching and preparing such reports as may be needed to keep the NILE TAC informed on significant developments, alternative considerations, progress, and operations;

4.6.2.6 Any other such additional matters the NILE TAC shall consider appropriate.

### 4.6.3 Roles and Responsibilities of the National Focal Point Institution

In each of the NBI member countries the Ministry responsible for water affairs shall be the NFPI responsible for all matters relating to these Interim Procedures relevant to the respective Party.

The roles and responsibilities of the NFPI in implementing these Interim Procedures shall include:

4.6.3.1 Availing data and information as per the request of NBI projects and programs;

4.6.3.2 Designating a contact person for the implementation of these Interim Procedures and communication to the NILE SEC;

4.6.3.3 Facilitating access to the Shared Regional Knowledgebase.

## 5.0 Final Clauses

5.1 Without prejudice to clause 4.2.1 of these Interim Procedures, NBI countries shall endeavor to implement the Interim Procedures within the framework of their national legislations.

5.2 These Interim Procedures shall enter into force immediately upon being confirmed by a Minute of the NILE COM.

5.3 These Interim Procedures shall remain in force until further notice from the NILE COM.

5.4 These Interim Procedures shall be reviewed by the NILE TAC on a periodic basis, at least annually.

*Appendix A*

*Introduction to the Committee Terms of Reference*

The Columbia Treaty between Canada and the United States of America relating to cooperative development of water resources of the Columbia River Basin was jointly signed by the heads of the respective Governments on January 17, 1961. Final ratification of the Treaty occurred when Canada Ratified the Treaty on September 16, 1964.

**Article XIV**
Arrangements for Implementation contains:

- In addition to the powers and duties dealt with specifically elsewhere in the Treaty, the powers and duties of the entities include:

- The establishment and operation of a hydrometeorological system as required by Annex A.

**Annex A**
**Principles of Operation states:**

A hydrometeorological system, including snow courses, precipitation stations and streamflow gauges will be established and operated, as mutually agreed by the entities and in consultation with the Permanent Engineering Board, for use in establishing data for detailed programming of flood control and power operations. Hydrometeorological information will be made available to the entities in both countries for immediate and continuing use in flood control and power operations. In March of 1965, an International Task Force on Hydrometeorological Network, Columbia River Treaty was appointed to recommend establishment and operation of the Hydrometerological Network and procedures for exchange of information between the two Entities. Each of the Entities was guided by the following instructions:

A. In collaboration with the respective Section of the task force, participate in the following activities:

1. Recommend additions to the present Hydro-meteorological network to provide information essential to the operation of the Treaty storage to achieve the benefits contemplated by the Treaty which will:

    a. Provide current data on reservoir and streamflow conditions.

    b. Provide sufficient information for forecasting streamflow on a long range (seasonal), medium range (10 days to a month or two), and short-range (up to 10 days) basis to meet the operational criteria of each project.

2. Recommend establishment and operation of a communication system for timely reporting of all hydrometeorological factors to meet operational and forecasting requirements. This system should utilize existing facilities where possible, and new facilities should be recommended where needed.

facilities to ensure peak network efficiency.

4. Prepare reports and recommendations to the entities from time to time as appropriate.

B. In addition, the Entities shall be responsible for the following:

1. Prepare such interim or supplemental reports as may be needed to adequately inform the Entities on significant developments, alternative considerations, and progress.
2. Coordinate activities as needed with the other task forces.
3. In developing the required network facilities, seek technical advice and obtain technical assistance, as necessary, from Canadian and other United States Agencies such as the Geological Survey, Soil Conservation Service, and the National Weather Service, as well as within your own agencies, B.C. Hydro and Power Authority, the Bonneville Power Administration, and the Corps of Engineers.
4. Provide the Entities with copies of all correspondence, reports and drafts of reports, minutes of meetings, and distribution of all material. The International Task Force was in operation from 1965 through September 19, 1968. During this period, recommendations were prepared and subsequently adopted by the Entities with the concurrence of the Permanent Engineering Board. These recommendations established the basic hydrometeorological network of stations required by the Entities under the Treaty to provide data necessary for the operation of the Treaty projects. These were termed “Treaty Facilities.” The Entities agreed on October 23, 1967, to a definition for other hydrometeorological stations and communications not considered elements of the Treaty hydromet system but necessary for operational forecasting for the Columbia River. These were termed “Supporting Facilities.” On September 19, 1968, the United States and Canadian Entities agreed to abolish the Task Force. The Hydrometeorological Committee was established at the same time. The terms of reference that follow outline the responsibilities given to the Committee at that time. This document will be updated from time to time as changes occur in hydrometeorological requirements or facilities listings.

May 20, 1968

1 – GENERAL

The Columbia River Treaty Hydrometeorological Committee will be composed of representatives of each Entity. The Committee will recommend the establishment of the Columbia River Treaty Hydrometeorological System. This system (hereinafter called “Treaty Facilities”) and the Supporting Facilities thereto are defined in an agreement between the Canadian and United States Entities dated October 23, 1967, as follows:

Treaty Facilities:

The Columbia River Treaty Hydrometeorological System shall consist of new and existing streamflow and reservoir gauges, snow courses, meteorological stations, and other related hydrometeorological data-collecting facilities a plan for methods and frequency of reporting, and a communication system to provide information for the operation of Duncan, Arrow, Mica and Libby reservoirs. It shall include Hydrometeorological stations which provide operational and forecasting data relevant to the flow of the Columbia River at Birchbank, British Columbia, or at an equivalent streamflow gauge, and in addition certain key streamflow an reservoir gauges on the Columbia River downstream from Birchbank and [certain key streamflow and reservoir gauges] on the Clark Fork - Pend Oreille tributary.

All stations included in the System will be as agreed from time to time by the Entities in consultation with the Permanent Engineering Board.

Additions to or deletions from the System will be subject to mutual agreement by the Entities with the objective of assuring continued operation of the system.

Supporting Facilities:

It is desirable to identify other Hydrometeorological stations and communications, not considered as elements of the system, which provide information for operational forecasting for the Columbia River.

A list of the hydromet stations and communications referred to in (1) above will be maintained by the Entities and all elements included in the list will be identified as “supporting facilities.”

Each Entity will make reasonable effort to assure the continued operation of supporting facilities located in its own country.

Supplemental Data:

Available hydrometeorological data from any part of the Basin required by either Entity from time to time will be provided by the other Entity on request.

2 - COMPOSITION OF COMMITTEE

The Committee will be composed of a United States Section and a Canadian Section. The members of each Section will be designated by their respective Entity. One member of each Section will be formally designated as chairman of the Section.

3 - DUTIES OF THE COMMITTEE

The duties of the Committee will include the following, subject to modification and addition as may be deemed appropriate by the Entities from time to time.

i. Governing Treaty Facilities:

Review existing hydrometeorological facilities and where necessary recommend additions and improvements in order to develop a hydrometeorological system which will:

- Provide current data on reservoir streamflow conditions.
- Provide sufficient information for forecasting streamflow to determine operation of the Treaty projects.
- Recommend establishment of communication for timely reporting of hydrometeorological information to meet operation and forecasting requirements. Existing communication facilities should be used where adequate and new facilities should be recommended where needed.
- Recommend a plan for methods and frequency of reporting.
- Review the system from time to time and recommend additions or deletions of Treaty Facilities and to insure peak network efficiency.

ii. Governing Supporting Facilities:

Recommend other existing hydrometeorological stations and communications not considered as Treaty Facilities for inclusion by the Entities in a list of “Supporting Facilities.”

iii. Prepare annual reports reviewing the Committee’s activities for the preceding year and such other reports and recommendations to the entities from time to time as appropriate.

iv. In the event of any substantial disagreement between the United States Section, the Chairmen of the Canadian and United States Sections will immediately refer the matter to the respective Entities through the Manager, Canadian Entity Services and the Staff Coordinators for instructions.

v. Consult, and coordinate its work, with the Columbia River Treaty Operating Committee.

In addition, each Section will be responsible to its respective Entity for the following:

Prepare such interim or supplemental reports as may be needed to keep the appropriate Entity informed on significant developments, alternative considerations, progress, and operation of the Treaty Facilities and Supporting Facilities.

- Coordinate activities as needed with the appropriate Section of other Columbia River Treaty committees.
- In determining and reviewing the required Treaty Facilities and Supporting Facilities, seek technical assistance as necessary from other agencies in the appropriate country.
- Provide the appropriate Entity with copies of all correspondence, reports, and drafts or reports, minutes of meetings, and the distribution of all material.

**Procedures for Data and Information Exchange and sharing**

***PREAMBLE***

Recognizing the existing cooperation in data and information collection, exchange, sharing and management through the Mekong cooperation frameworks from 1957 to date; Affirming the imperative for operationalizing an effective, reliable and accessible data and information system for the Mekong River Commission (MRC) and its member countries to implement the *Agreement On The Cooperation For The Sustainable Development Of The Mekong River Basin*, signed in Chiang Rai, Thailand on 5th April 1995, hereinafter referred to as the "Mekong Agreement";

Pursuant to the Council Resolution on the Water Utilization Programme of 18th October 1999, and the Decision of the 13th Meeting of the Joint Committee of 8th March 2001,

***WE hereby approve the following procedures for data and information exchange and sharing:***

**1. Definition of Key Terms**

For the purpose of the present Procedures, the following terms shall mean, unless otherwise stated:

**Data**: representations of facts, in a formalized manner, suitable for communication, interpretation or processing.

**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.

**Information**: data interpreted, processed and refined, and then displayed by the competent authorities having ownership or possession thereof, which is required for exchange and sharing for the purpose of the implementation of the Mekong Agreement.

**Standards**: guidelines for data handling that are recognized as best practice in their relevant scientific or technical disciplines, with the objective to minimize the transaction costs of using data.

**2. Objectives**

The objectives of the undertakings under the present Procedures are to:

- Operationalize the data and information exchange among the four MRC member countries;
- Make available, upon request, basic data and information for public access as determined by the NMCs concerned; and
- Promote understanding and cooperation among the MRC member countries in a constructive and mutually beneficial manner to ensure the sustainable development of the Mekong River Basin.

**3. Principles**

In conformity with the provisions of the Mekong Agreement, the data and information exchange and sharing among the MRC member countries should be governed by the following principles:

subject to the laws and regulations in their respective countries, in particular concerning the national defense or security, and commercial-in-confidence and copy right protection, exchange, on a regular basis, data and information that are necessary to implement the Mekong Agreement;

- Data and information exchange and sharing, including the prioritization of information needs should be based on an efficient, equitable, reciprocal and cost effective manner.

- The data and information contained in the MRC-Information System that is maintained by MRCS (hereinafter referred to as "the MRCIS"), should be relevant, timely and accurate, and exist in established usable formats for MRC and its member countries through an appropriate network and communication system.

- Any additional and unavailable data and information that is required from time to time to facilitate MRC activities, programs and projects will be agreed by the MRC Joint Committee, including procedures and cost sharing arrangements for collecting the minimum necessary data at the lowest feasible cost in a timely and equitable manner.

**4. Data and Information Exchange and Sharing**

Each NMC and MRCS shall cooperate with one another in the following:

a. Supporting and promoting the implementation of the present Procedures;
b. Providing data and information to the MRCS, as appropriate and where applicable subject to the following requirements:

    - Major Groups/types of data and information required for implementation of the MRC program/activities and Mekong Agreement, inter alia:

        - Water Resources;
        - Topography;
        - Natural resources;
        - Agriculture;
        - Navigation and Transport;
        - Flood management and mitigation;
        - Infrastructure;
        - Urbanization/Industrialization;
        - Environment/Ecology;
        - Administrative boundaries;
        - Socio-economy; and
        - Tourism.

    - Standards to be determined by MRCS and approved by the Joint Committee, including but not limit to the format, standardization, classification, and acceptable level of data quality;
    - Delivery schedules; and
    - Modalities for exchange and sharing.

c. Endeavouring to provide, on a case-by-case basis, historical data required for the implementation of the Mekong Agreement.

Cost for collecting additional data and information other than those required for the implementation of the MRC projects, programs, and not available shall be borne by any requesting party.

## 5. Implementation Arrangements

The MRC Joint Committee shall oversee the effective implementation of the present Procedures as required by the Mekong Agreement.

### 5.1 Custodianship of MRC-IS

The MRC Secretariat shall be responsible, as custodian, for the following:

a. Obtaining and updating of required data and information;
b. Managing this on behalf of the Mekong River Commission (MRC);
c. Ensuring proper access to, and maintenance and quality of the data and information that meet the required standards;
d. Providing a recognized contact point for the distribution, transfer and sharing of the data and information;
e. Estimating and collecting cost incurred according to Section 4; and
f. Preparing the MRC guidelines on custodianship and management to be adopted by the MRC Joint Committee.

The obligations and responsibilities of users, on the use of the data and information shall be elaborated in the MRC guidelines on custodianship and management of the MRC-IS.

### 5.2 Reporting

Report will be made annually by the MRCS to the MRC Joint Committee and Council respectively as to the overall effectiveness of the present Procedures, the status of the MRC-IS and the suitability of the technical guidelines and standards for ensuring the protection and integrity of the data, information and systems and its accessibility and quality, as well as the remedial and rectifying measures taken, and recommendations for further guidance and direction, including modification and amendments of the Procedures and related guidelines, if any.

The present Procedures shall take effect among the member countries on the date of the signature by the MRC Council Members.

Adopted by the Council on 01 November 2001 at its Eighth Meeting in Bangkok, Thailand.

_____

**MRC Council Member for the Kingdom of Cambodia**

_____

**MRC Council Member for the Lao People's Democratic Republic**

_____

**MRC Council Member for the Kingdom of Thailand**

_____

**MRC Council Member for the Socialist Republic of Viet Nam**

**Simulation Exercise #7: Development of the Omega Waterbasin**

**Objectives/Major Lessons**[143]

- Reviewing an approach to benefit sharing
- Balancing interests of different parties through trade-off analysis
- Utilizing other methods for evaluation in addition to cost – benefit analysis. Not everything has to be reduced to dollar values to make decisions.
- Scientific and technical information are facts. If we feel things are important or not that is a 'value' judgement. Both 'facts' and 'values' are needed for decision making particularly with benefit sharing.

**Background**

The *Agreement for Sharing Benefits of Hydro-power Development in the Greater Omega Watershed* is a framework agreement outlining the countries' intention to cooperate over the development of water resources of the Omega watershed for mutual gain and "*enhance the welfare of the peoples of the region, environmentally, socially and economically.*" The countries conducted joint studies to assess the hydrology and geology of the area and agreed to build two new dams which were partially funded by the World Bank. One of the dams, in Alpha, is a large multi-year dam which generally governs how the flow in the Omega will run. The smaller dam in Delta was created for additional power and irrigation. The dams will likely have a negative effect on fisheries (former catch were 280 tn/yr), but will have a positive effect on irrigation, flood control and power generation. The question is how much negative effect on fish, or positive effect on power, or irrigation or flood control should there be in the operations?

The current negotiations are to determine the *Operations and benefit sharing Protocol* which will determine i) when and how flow should be released, and ii) how the benefits should be shared between the nations.

Geography

The Omega water-basin runs through the countries of Alpha, Beta and Delta (Figure 6). From its source in the highlands of Alpha, the Upper Omega River runs north and crosses the border into Beta where it runs for 250 km before emptying into Lake Pi, a large lake in the eastern part of Beta. Lake Pi drains north-east forming the lower Omega River. The Lower Omega crosses into Delta and flows towards the Sea of Mu. Another significant tributary of the Omega is the Sigma River which is entirely within the country of Beta. It originates in West uplands and flows east into Lake Pi.

The countries are in a semi-arid region with heavy rainfall in the late spring, and dry summers that can last well into autumn. The winters are cool with moderate rainfall. During the spring season the upper Omega River can supply as much as 40% of the flows that are experienced at

143 Must be used in conjunction with excel file (omega watershed) either on line or on a PC.

Theta and are thus primarily responsible for flood waters in the lower river. Figure XX shows the hydrological curve of the three rivers.

Figure 6. The Omega Watershed

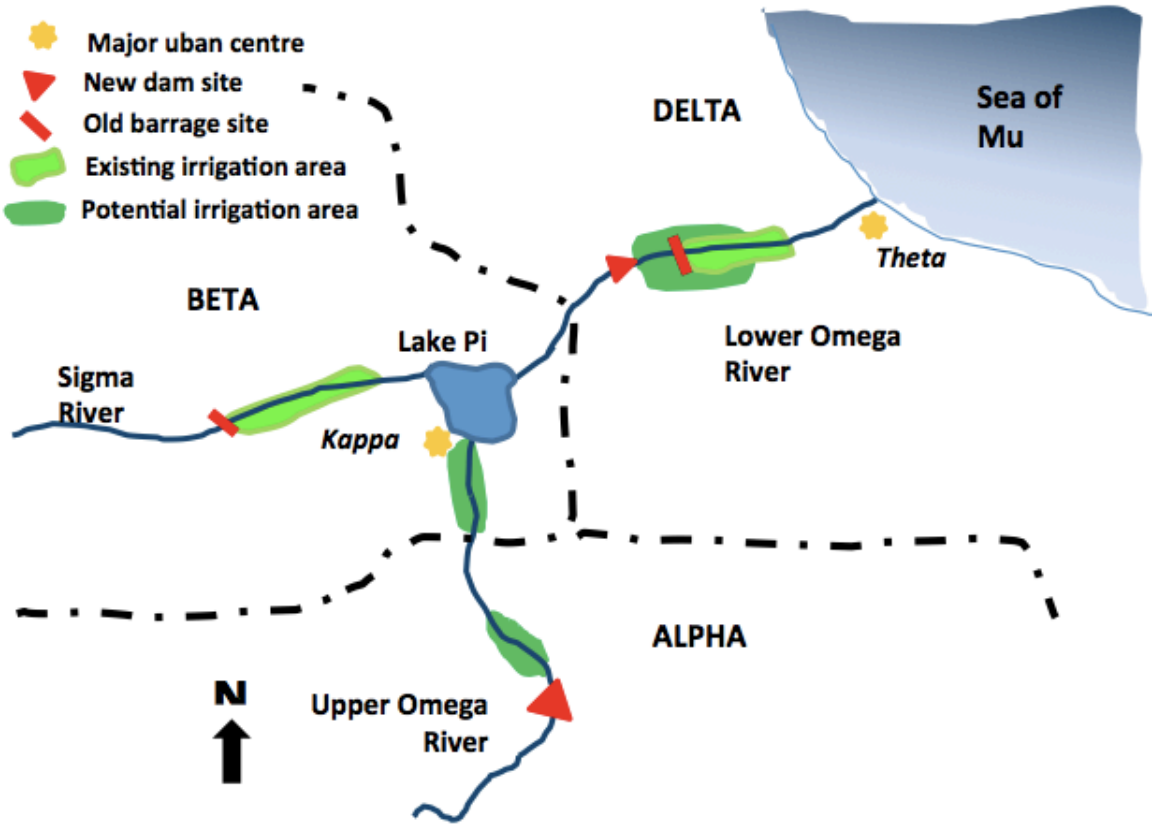
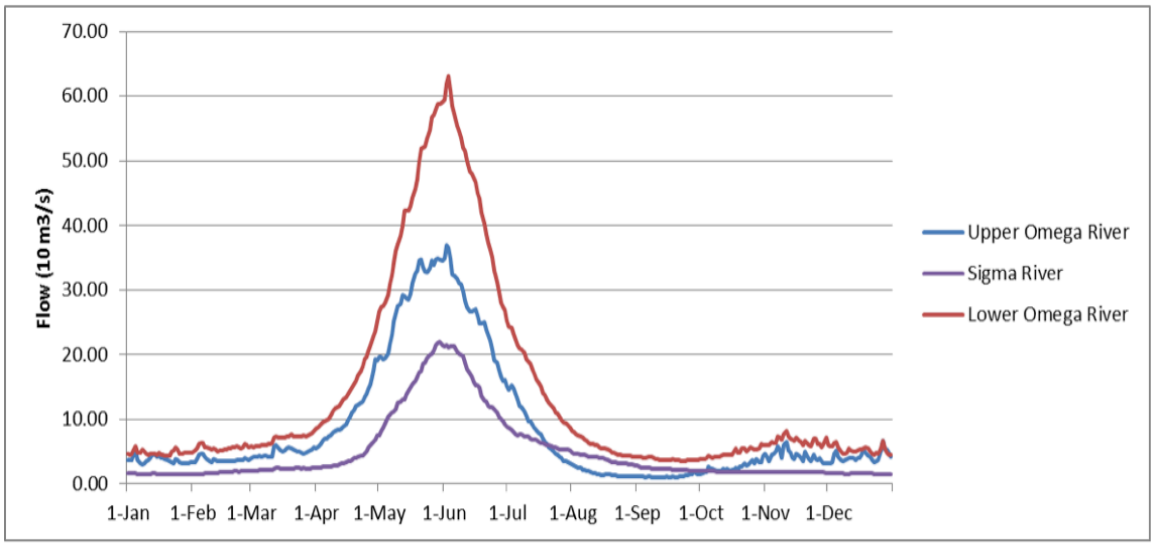


Figure 7. Hydrograph of Major Rivers in the Omega Watershed




**Demographics and economics**

The three countries of the region are developing their economies and are hoping to enhance their export earnings, as well as ensure that the needs of the local people are being met. They all agreed the dams were an opportunity to increase their economic activity, though they are aware that development of the rivers might have negative impacts to fish which they want to avoid as they are important for the local communities as well as commercial fishers.

*Alpha* – Is very mountainous and less developed and more remote than the other countries. It has a population of 20 million, most of whom live in the south east near their capital Phi (which is not in the Omega watershed) and is a port on the ocean. The Omega watershed, has a population of perhaps 2 million, and it is mostly rural. Alpha produces some oil in the south east, but it consumes all its production. It has an active mining industry in the mountains, primarily copper, zinc, and molybdenum. It also has fairly large coal reserves which it exports to neighbouring countries for their energy needs.

*Beta* – Has a population of 25 million most of who live in the Omega watershed and primarily around Kappa the capital. Kappa is situated on the Omega River where it enters Lake Pi. Agriculture is the main driver of the economy; however, there are fisheries (based in Lake Pi) are also industries and manufacturing. They produce oil in the south some of which is exported. The manufacturing consists primarily of agricultural based products such as cotton and textiles, preserved foods etc. Cattle and farming is also an important source of livelihood and income as well as a foreign currency earner.

*Delta* – has a population of 30 million about half of whom live in the Omega watershed and many in Theta which is a thriving commercial centre, fishing port, and manufacturing area. The other half live in the west which is the primary agricultural and resource based part of the country where they have substantial oil reserves as well as farming. Manufacturing includes textiles, machinery and processed food products, many of which come from Beta.

**General instructions**

There are 5 general scenarios which are to be considered by the negotiators. When the scenarios are being discussed (using sheet 4 of the excel sheet) negotiators must determine how the system should be optimized. If it is optimized for fish that means that benefits are100% placed towards fish. There will still be benefits for hydro-power, flood control, and irrigation as the dams have been built as multi-purpose dams.

| Scenario | Description |
|---|---|
| Optimise for Fish | The dams can be run to help simulate the natural flow of the river. Releasing most water between May and June when natural flooding occurs. Optimising for fish will benefit both the Nomlas and Enakok species. The Nomlas will be most sensitive to alterations in the hydrology. Delta derives most of the commercial benefit from fisheries. |
| Optimise for Power | The large dam in Alpha will produce the bulk of the power - as much as 85%. It is a multi-year storage facility. The medium sized dam in Delta will also produce power, But it has much less storage capacity. The power has its highest value when generated in cold months between November and March - for heating homes - industrial use pays less for energy, but they help supply jobs. |
| Optimise for Flood Control | The cities of Kappa and Theta have grown rapidly and urban planning has not kept pace with development. Consequently, many industries are situated near the river for shipping, and many residential areas have developed in the flood plain. Protecting again flood would prevent potential losses in buildings and allow for more intensive development of the flood plain. Optimising flood control means keeping the reservoirs lower in the winter to capture storms and drawing them low in March and April in anticipation of the late spring rains. |
| Optimise for Irrigation | Irrigation is an important aspect of the economies of the region, particularly Beta. Many workers and businesses are linked to agriculture, and with the development of irrigation there has been a boom in spinoff industries and food processing. Additional irrigation provides possibilities of increasing revenues from export markets. Water releases to optimise irrigation happen from June to October. |
| Mix of interests. | Balancing the interests of the different sectors to find the "best" overall way to operate the dams. |

Power facts

Transmission lines have existed from Delta to Beta and new ones have been built from Alpha and Beta. These costs, however, have already been factored into the economic analysis when looking at the cost of the options.

Fish facts

Fisheries are very important for the people of the region. Not only from a harvesting point of view where they are a major source of revenue, but also from a cultural and spiritual perspective. There are two main species which are important for both commercial and local use.

Nomlas fish is prized fish in the area and has high commercial value. The fish spawn in the upper area of both the Sigma and Upper Omega rivers. At a certain stage it descends to Pi Lake where it reaches semi adult hood and then continues down the lower Omega to the ocean where it lives for 2 years getting very big. They come back up the lower Omega (through a fish ladder-passage at the current dam) and then continue up to the upper Omega and Sigma rivers to spawn. Return time is 3 years.

Enakok fish are also important, but not as important economically as Nomlas. They reside in the Lake Pi and spawn in the upper Sigma and Omega rivers during the freshet.

Due to the collapse of many fisheries around the world, it is felt that the Nomlas and even Enakok may become increasingly valuable for exports.

Irrigation facts

All of the countries have strong agricultural sectors, and irrigation plays a role to some extent in all the countries, particularly Beta and Delta. Within the Omega watershed, there were several barrages built for irrigation, but also some degree of flood control. Irrigation depends upon adequate river flow, which is low in the summer and autumn months.

Flood control

The new dams have been a welcomed asset to the region in terms of flood control. Depending on how they are operated they could almost completely remove the threat of floods which have been problematic in the region. They were one of the main reasons for building the dams.

**Issues to Resolve**

The negotiators must determine:

1. How the dam system should be run in terms of which interests should be the priority.
2. How the resulting benefits should be shared amongst the nations and for what purposes (if necessary). The Benefits have been calculated by careful analysis and modeling. These benefits and any other measures, such as monitoring etc. should be discussed.

Note that failure to reach an agreement will result in the issue being taken to a technical panel at the World Bank.

**Parties to the negotiation**
There are 4 main parties to the negotiations:

- **Alpha National Resource Agency (ANRA) -** ANRA is the national agency responsible for energy and natural resources in Alpha. It is an umbrella agency overseeing energy development, mining, and forestry. The agency representative has been in the energy field for most of their career and was very keen to have the new transmission lines built between Alpha and Beta.
- **Ministry of Agriculture and Development for Beta -** The Ministry of Agriculture and Development primarily responsible for promoting food security and ensuring the livelihoods of the agricultural sector. The Minister is relatively new in this position coming from Ministry of Trade, and has good relationships with his regional counter-parts.
- **Ministry of Agriculture and Fish for Delta (MAF) -** MAF is responsible for ensuring food production in Delta. It has in the past promoted both agriculture and fisheries, ensuring that agricultural practices do not harm fisheries habitat. The Minister has been a long standing member of the government and is well respected regionally.
- **The Municipal Allegiance Group (MAG) -** MAG is a very powerful bi-national lobby group which was created years ago by the mayors of Theta and Kappa. It grew out of concerns of pollution from Kappa and the exchange of technologies from Delta. However, since then it has expanded to include issues of social justice, education (they even have a joint university), and economy. The representative of MAG is relatively young but he is eager to promote cooperation between Delta and Beta.

**Background Materials:**

See Alex Grzybowski, Stephen C. McCaffrey and Richard K. Paisley, Beyond International Water Law: Successfully Negotiating Mutual Gains Agreements for International Watercourses (2010).

**Simulation Exercise #8: Dispute Resolution for the Ringba Large Marine Ecosystem**

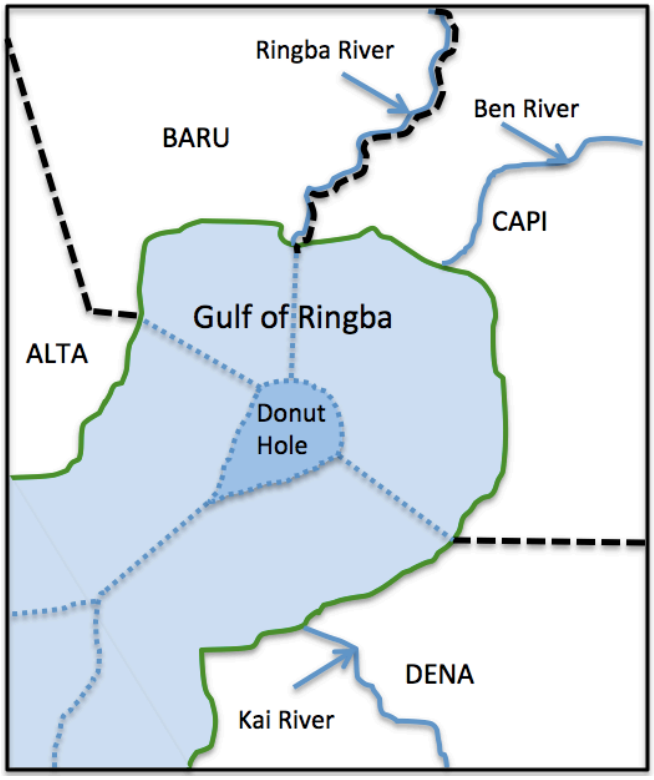
**Objectives/Major Lessons**

- Determination of appropriate dispute resolution mechanism
- Balancing interests of different parties

**Background**

The Ringba large marine ecosystem (R-LME) is found in the semi-tropic zone surrounded by the four littoral states of Alta, Baru, Capi and Dena. The States are all parties to the 1982 UN Convention on the Law of the Sea (UNCLOS) and have drawn up their Exclusive Economic Zones in accordance to UNCLOS. After delimiting the Gulf of Ringba, 20% remained as high seas in the form of a donut hole (Figure 8).[144] Three of the States, Alta Baru and Capi have also signed the 1994 UN Agreement on Highly Migratory and Straddling Fish Stocks (SSA).

Figure 8. The Ringba LME




While the LME as a whole is extremely rich and diverse, there is a particularly sought after species of fish called the una. It is grows to as much as 1.5 meters in length and is highly prized for both its meat as well as its eggs. A female una can have as much as 5-10 kg of eggs as she prepares to spawn. Spawning takes place in the coastal areas where they can find partial shelter and favourable currents. Young una live in coastal regions for about 3- 5 months until they are large enough to enter the open ocean. Here they mature for up to 2

144 Note that such "donut holes" are not uncommon. The Bering Sea, Arctic Ocean, Western and Central Pacific Ocean and South China Sea all have donut holes.

years before they reach adulthood and mate. Una are not unique to the the Gulf of Ringba, but some of the most prized species are found in the LME which provides a rich feeding ground due to the upwelling currents and the nutrients brought in from coastal rivers.

Fishing for the una has occurred in the coastal regions for many years, but large scale commercial fisheries have only come about since the late 1950s. This was primarily from overseas fishing nations the largest of whom were from Urop and Esa. In the 1970s the coastal states of Ringba began to develop their own commercial fisheries interests, particularly Dena and Alta, which have traditionally been more development oriented due to extensive petroleum and mineral resources.

| Country | Fishing Interests | Relative Political-Economic Power |
|---|---|---|
| Urop | Large-scale commercial fishing through arrangements with local countries annual quotas. | Economic: high<br>Political: low (not a regional player) |
| Esa | Large-scale commercial fishing through arrangements with local countries annual quotas. | Economic: high<br>Political: low (not a regional player) |
| Alta | Commercial fishing to full extent of annual quota. | Medium- high |
| Dena | Some commercial fishing, but more concerned with production of off-shore petroleum. | High |
| Baru | Commercial fishing is important, but lacks sufficient infrastructure to access full potential. Currently sells remaining annual quota to Urop & Esa. | Medium-low |
| Capi | Little to no commercial fishing, some artisanal fishing for subsistence and local trade. Currently sells annual quotas to Urop & Esa which is important for earning foreign currency. | Low. The poorest country in the region, it is agriculturally based and trying to develop both as a tourist destination, as well as an agricultural exporter. Export earnings are very important. |

Intensive fishing resulted in a decline in stocks in 2004. This prompted Urop and Esa to convene meetings in 2006 with the littoral states of Ringba to come to an agreement on the management of una stocks. The “Draft Convention on the Conservation and Management of Una Resources in the Gulf of Ringba (Una Convention)” has been for the most part completed and agreed to in principle by all four littoral states, as well as Urop and Esa.

The Draft Una Convention

The Draft Una Convention lays out joint management efforts for the optimum utilization of the una stock and allocates appropriate quotas to the various fishing nations. In doing so the Draft Una Convention has established a Ringba Authority to administer the Convention, provide a legal entity to receive loans and funding, oversee a Scientific and Technical Committee, and serve the Annual Conference of Parties.

The Annual Conference of Parties (ACP) is where final decisions are made regarding allowable harvest levels for the following year, national quotas for the following year, fishing practices, adoption of conservation practices, and any other issues arising in the management of the una stock both within and outside the donut hole. In setting national quotas it should take into consideration historical catch, development needs (population, relative development level, alternative sources of commercial development), alternative sources of fishing, and conservation practices by the State. It also makes recommendations on management of the stock within the EEZs of the respective States. It meets once a year.

The Scientific and Technical Committee is comprised of one member from each State and is to compile, exchange, and analyze information on fisheries harvests as directed by the ACP. The Scientific and Technical Committee assess the overall biomass of the una stock and determines the sustainable yield for the following year. It meets as needed throughout the year.

The Draft Una Convention permits scientific observers of one Party to board other Parties vessels. However, only authorities of the flag-state vessel may try, convict and punish offending vessels.

While the Draft Una Convention is fairly detailed and the States have agreed to most aspects, what remains is to determine an appropriate dispute resolution mechanism to address any potential issues that may arise.

**General instructions**

While it often appears that States of parties may have opposing interests, in terms of determining and allocating fishing quotas or opportunities for harvest, all states share a common interest in maintaining a viable and profitable fishery. They therefore want to come to an agreement as soon as possible on the dispute resolution mechanism that allows them to continue to work cooperatively and adaptively in the management of the fishery.

In developing an effective mechanism to deal with possible disputes, the negotiators for each State must consider and weigh the following principles:

- Develop efficient proceedings (minimize duration and expense of proceedings).
- Develop a predictable outcome – similar disputes will be dealt with and decided similarly (it should never be seen as a coin toss).
- It must be flexible to adapt to potentially different situations and difficulties that arise.
- It should incorporate the best scientific evidence available and deliver a remedy based on facts.

Overall, the process should be viewed by all as being fair, equitable, impartial and achieving results which are ultimately accepted by the Parities concerned. It is important to note that effective remedies and enforcement help to build confidence of the Parities and reduce the risk associated with cooperative management.

When considering the appropriate dispute resolution mechanism the negotiators should consider the types of possible disputes which may arise including:

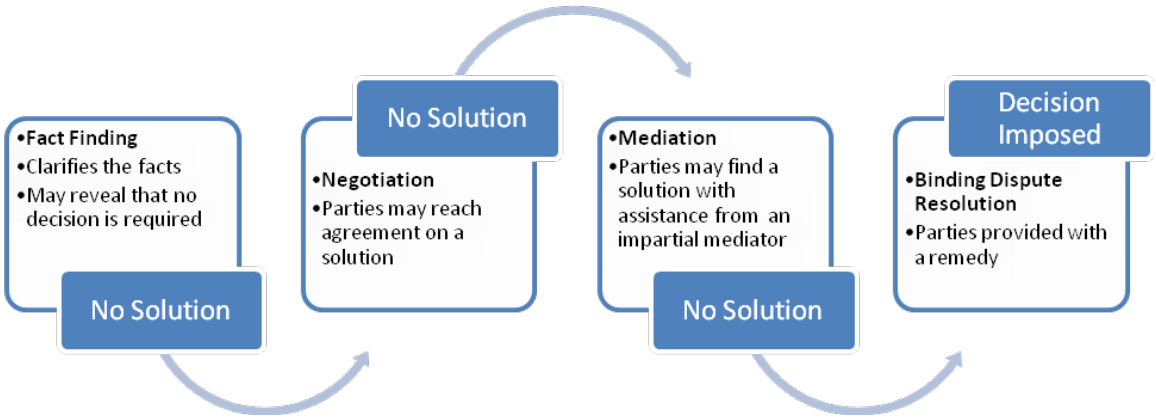
1. Complying with the convention.
    a. A complaint against a Party with regard to compliance of regulations or provisions – basically this is an issue to be determined through technical or scientific resolution.
    b. There may be an issue regarding whether or not a coastal state's conservation and management measures within its own EEZ are comparable to those required by the convention. These are again principally technical and scientific in nature.
    c. There may be cases where vessels of non-party States were acting in non-compliance or fishing illegally. Parties are to deter such activities using instruments of international law. (eg., customary international law, UNCLOS, SSA etc.)
2. Complaints regarding decisions by the Annual Conference of Parties or findings of the Scientific and Technical Committee. Challenges to such decisions might involve the establishment of allowable catch or specific conservation measures to adopt these would be scientific or technical in nature; or issues such as relative quotas between states, which would be political in nature.

## Sequence of processes in developing a dispute resolution mechanism

In practice there are many varieties of dispute resolution mechanisms that have been formulated to address the needs of the Parties to a particular agreement. This does not however suggest that all mechanisms are effective or reliable.

Dispute resolution mechanisms can be viewed as series of progressive steps (Figure XX) as follows: procedures to clarify the facts; negotiation; mediation; and binding dispute resolution (including binding arbitration and adjudication). These elements are mutually reinforcing. Clarification of the facts is needed to determine the scope of the actual dispute, which is essential to negotiation, mediation, and binding dispute resolution, and separates misunderstanding and rumour from the realities of the situation. The prospect of binding dispute resolution and mediation reinforces the incentive to negotiate a solution. Both negotiation and mediation provide the disputing parties with the opportunity to design a solution that optimizes their interests rather than having a solution imposed through binding dispute resolution. Binding dispute resolution provides a guarantee to all parties that there will be a resolution to a dispute.

Figure 9. Progressive steps in dispute resolution




**Scope of the Agreement**
Which disputes will the agree-upon dispute resolution mechanism be used to resolve? For example, will there be a difference in disputes regarding facts & data, as opposed to conflicts over use of annual quotas, etc?

**Issues to Resolve**

The negotiators for each State must determine an appropriate dispute resolution mechanism using **any or all** of fact finding; negotiation; mediation and/or; binding dispute resolution. In doing so the negotiators should consider the following issues:

A. Fact finding
   - Who should find the facts? – should it be independent scientists, members of the Scientific and Technical Committee (STC), or the STC without members from the Parties under dispute, etc.
   - How long should they have to find facts?
   - To whom should the findings be given? Each Party, Annual Conference of Parties, STC etc.
   - How should the costs of the fact finding be paid for?
   - What should happen if they cannot agree on facts?

B. Negotiation
   - Who should participate in the negotiations to resolve the dispute?
   - How long should they have to come to a negotiated agreement?
   - Who should bear the costs of the negotiations?
   - What should happen if no agreement is reached?

C. Mediation
   - Who should be brought in to mediate? An international organization, NGO, a Party not part of the dispute, and regionally respected individual, etc.
   - What should happen if the Parties cannot agree to a mediator?
   - How much time should be allowed for meditation?
   - Who should bear the costs of mediation?
   - What should happen if mediation does not result in an agreement?

D. Binding Arbitration
   - Who should arbitrate?
     - An ad-hoc arbitration committee set up specifically for this dispute
       - How many people should be on it?
       - How are members selected?
       - What if the Parties in the dispute cannot agree on members?
     - A standing court or higher body
       - Global entity such as Permanent Court of Arbitration, the International Court of Arbitration, the Law of the Sea Tribunal,
       - A regional body (in this case the Regional Organization is a fictitious body. But examples in reality are the African Union, Economic Community of West African States, Mercosur, EU etc.)
       - A tribunal set under the convention for the purpose of arbitrating and disputes. This is a panel set up in advance of any dispute.
   - How long should it take?
   - How should the costs be borne?

**Parties to the negotiation**

There are 6 parties to this simulation as follows:

- **Alta** – The Deputy Foreign Minister of Alta.
- **Baru** – This is the Assistant Minister of Fisheries and Oceans.
- **Capi** – The Sub-Vice Minister of Natural Resources.
- **Dena** – The Vice-Minister of Ocean Development.
- **Urop** – The Deputy Minister of Trade.
- **Esa** – The Vice Minister of Economic Affairs.

**Background Materials**

In addition to the brief description of dispute resolution mechanisms here, participants are directed to Some Reflections on the Resolution of State-to-State Disputes in International Waters Governance Agreements. Effective Dispute Resolution (CIEL).[145] Dispute resolution mechanisms vary in emphasis and complexity. Probably the most comprehensive dealing with fisheries issues is that of UNCLOS.

[145] David Downes and Braden Penhoet, Effective Dispute Resolution: A Review of Options For Dispute Resolution Mechanisms and Procedures, Prepared for the fifth session of the Multilateral High-Level Conference on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific, available at http://www.ciel.org/Publications/effectivedisputeresolution.pdf

**UN Convention on the Law of the Sea (1982)**

Under Part XV of UNCLOS, Member States must resolve their disputes through peaceful means,[146] with the Member States being free to choose their means of resolution. A Party to the dispute may also invite the other Parties in the dispute to submit the dispute to conciliation.[147] The other Member State Party, however, is not required to accept the conciliation invitation. But, if no settlement has been reached, conciliation is required, upon demand by any Member State, when the dispute involves the proper conservation and management of the Exclusive Economic Zone ("EEZ") resources or the determination or allocation of living resources in an EEZ.

If a settlement cannot be reached, a dispute concerning the interpretation or application of UNCLOS can be submitted, upon the request of any party to the dispute, to a court or tribunal with appropriate jurisdiction. Upon signing, ratifying, or acceding to UNCLOS, Member States may choose between the following means of dispute resolution:

(a) The International Tribunal for the Law of the Sea (established in accordance with Annex VI of the Convention) including the Seabed Disputes Chamber;
(b) The International Court of Justice;
(c) A (general) arbitral tribunal constituted in accordance with Annex VII of the Convention;
(d) A special arbitral tribunal constituted in accordance with Annex VIII for one or more of the categories of disputes specified therein (the categories include matters concerning fisheries).

If Member States to a dispute have selected the same procedure for settlement, the dispute must be submitted to that procedure. However, where Member States have selected different procedures, or if a selection has not been made at all, the dispute must be submitted to an arbitral tribunal pursuant to Annex VII. A decision rendered by a competent court or tribunal is final and binding, though only between the Member States to the dispute.

Annex VIII arbitrations are of particular relevance to water use issues, as the only disputes that may be referred to "special arbitrations" involve: (1) fisheries, (2) protection and preservation of the marine environment, (3) marine scientific research, and (4) navigation, including pollution from vessels. The special arbitral tribunal is comprised of recognized experts in the relevant fields.

**The Convention on the Sustainable Management of Lake Tanganyika (2003)**

Article 29 of the Tanganyika Convention states:

1. *In the event of a dispute between Contracting States concerning the interpretation or implementation of this Convention, the States concerned shall notify this to the Secretariat of the Authority and shall seek a solution through negotiation. The Secretariat shall notify the other Contracting States of the existence and nature of the dispute.*

[146] See UNCLOS III, Part V, Sec. 2; Part x, Sec. 2-3; Part XII Article 279 as found at http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf
[147] See UNCLOS III, Part V, Sec. 2; Part x, Sec. 2-3; Part XII Article 279 as found at http://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf

2. *If the States concerned cannot settle the dispute through negotiation they shall agree in good faith a dispute resolution procedure, which may include:*
    a. *jointly seeking the good offices of, or mediation by, a third party (which shall be a Contracting State that is not involved in the dispute);*
    b. *submitting the dispute to impartial fact-finding in accordance with the provisions of Annex III; and/or*
    c. *submitting the dispute to arbitration in accordance with the procedure laid down in Annex IV.*
3. *The provisions of this article shall apply with respect to any protocol unless otherwise provided in the protocol concerned.*

## Annex III
## FACT FINDING COMMISSIONS

For the purposes of this Annex "Party" means any Contracting State that is involved in a dispute with another Contracting State under this Convention which dispute has been submitted to impartial fact-finding in accordance with paragraph 2(b) of Article 29 of this Convention.

**Article 1: Submission to fact finding**

Any party to the dispute may notify the Secretariat that the parties have agreed to submit the dispute to impartial fact finding pursuant to paragraph 2(b) of Article 29 of this Convention and request the Executive Director of the Secretariat to establish a fact-finding Commission. The notification shall state the subject matter of the dispute and include the facts in dispute. If the parties in dispute do not agree on the subject matter of the dispute the fact-finding Commission shall determine the subject matter. The Secretariat shall forward the information received to all Contracting States to this Convention or to the protocol concerned.

**Article 2: Appointment of the members of a Fact-Finding Commission**

1. The Executive Director of the Secretariat shall convene a fact-finding Commission composed of one person nominated by each Party. None of these persons shall be a national of one of the Contracting States.

2. The designated members shall agree on the appointment of a Chairperson who shall be a national of a third State.
3. If the members nominated by the parties are unable to agree on a Chairperson within three months of the request for the establishment of the Commission, any Party may request the Secretary- General of the African Union to appoint the Chairperson who shall not have the nationality of any of the Contracting States.

4. If one of the parties fails to nominate a member within three months of the initial request pursuant to Article 1 of this Annex, any other Party may request the Secretary-General of the African Union to appoint a person who does not have the nationality of any of the Contracting States, as a single member Commission.

**Article 3: Procedural Matters**

1. The Commission shall determine its own rules of procedure.

2. 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 setting out its findings and the reasons for them and whatever recommendations it considers appropriate for the equitable settlement of the dispute.

**Article 4: Duties of the Parties**

1. The parties shall provide the Commission with such information as it may require and, on request, shall permit the Commission to have access to its territory to inspect facilities, equipment, construction or natural features relevant to its enquiry.

2. The parties shall consider the recommendation of the Commission in good faith with a view to reaching agreement on the settlement of the dispute.

3. The parties shall bear the expenses of the Commission equally.

## Annex IV
## ARBITRATION

For the purposes of this Annex "Party" means any Contracting State that is involved in a dispute with another Contracting State under this Convention which dispute has been referred to arbitration in accordance with paragraph 2(c) of Article 29 of this Convention.

**Article 1: Submission to arbitration**

The claimant Party shall notify the Secretariat that the parties agree to submit the dispute to arbitration pursuant to paragraph 2(c) of Article 29 of this Convention. The notification shall state the subject-matter of arbitration and include, in particular, the articles of this Convention or the protocol, the interpretation or application of which are at issue. If the parties in dispute do not agree on the subject matter of the dispute the arbitral tribunal shall determine the subject matter. The Secretariat shall forward the information received to all Contracting States to this Convention or to the protocol concerned.

**Article 2: Composition of the arbitral tribunal and appointment of arbitrators**

1. The arbitral tribunal shall consist of three members.

2. In disputes between two parties, each Party to the dispute shall nominate one arbitrator; the two arbitrators so appointed shall in turn designate by common agreement a third arbitrator who shall be the President of the tribunal. The latter shall not be a national of one of the parties to the dispute, nor have his or her usual place of residence in the territory of one of these parties, nor be employed by any of them, nor have dealt with the case in any other capacity.

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

4. Any vacancy shall be filled in the manner prescribed for the initial appointment set out in point 2 of this article.

**Article 3: Failure to appoint arbitrators**

1. If the President of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the Secretary-General of the African Union shall, at the request of either Party, designate the President 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 Secretary-General of the African Union who shall designate the President of the arbitral tribunal within a further two-months period. Upon designation, the President of the arbitral tribunal shall request the Party, which has not appointed an arbitrator to do so within two months. After such period, the President shall inform the Secretary-General of the African Union who shall appoint this arbitrator within a further two-month period.

**Article 4: Procedural Rules**

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

**Article 5: Powers of the Tribunal**

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

2. The arbitral tribunal may take all appropriate measures in order to establish the facts. It may, at the request of one of the parties, recommend essential interim measures of protection.

**Article 6: Duty to co-operate with the Tribunal**

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 necessary for the effective conduct of the proceedings; and
b. enable it, when necessary, to call witnesses or experts and receive their evidence.

**Article 7: Confidentiality**

The parties and the arbitrators shall protect the confidentiality of any information they receive in the course of their investigations and during closed hearings of the arbitral tribunal.

**Article 8: Non-appearance at hearings**

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 proceedings. Before making its final decision, the arbitral tribunal must satisfy itself that the claim is well founded in fact and law.

**Article 9: Decisions of the Tribunal**

1. The arbitral tribunal shall render its decisions in accordance with the provisions of this Convention, any protocol concerned, and international law.

2. The decisions of the arbitral tribunal, both on procedure and on substance, shall be taken by majority vote of its members.

**Article 10: Costs**

Unless the arbitral tribunal determines otherwise because of the particular circumstances of the case, the costs of the tribunal, including the emoluments of its members, 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 11: Intervention in proceedings**

Any Contracting State 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 arbitral tribunal.

**Article 12: Award**

1. The arbitral tribunal shall render its award within five months of the date on which it is established unless it finds it necessary to extend the time-limit for a period that should not exceed five months.

2. The award of the arbitral tribunal shall be accompanied by a statement of reasons. It shall be final and binding upon the parties to the dispute.

3. Any dispute which may arise between the parties concerning the interpretation or implementation of the award may be submitted by either Party to the arbitral tribunal which made the award or, if the latter cannot be seized thereof, to another arbitral tribunal constituted for this purpose in the same manner as the first.

**Southeast Asia (U)**


Unclassified

DI Cartography Center 753627AI (R02106) 08-00

**Simulation Exercise #9: South China Sea: Multilateral Cooperative Marine Conservation Area Negotiation**[148]

**Objectives/Major Lessons**

- Substantive: To determine if turning the Spratly islands and their waters into a marine conservation area is a viable option in bringing stability to the region.
- Procedural: The utility of interest-based negotiations in facilitating conflict resolution and confidence-building measures.

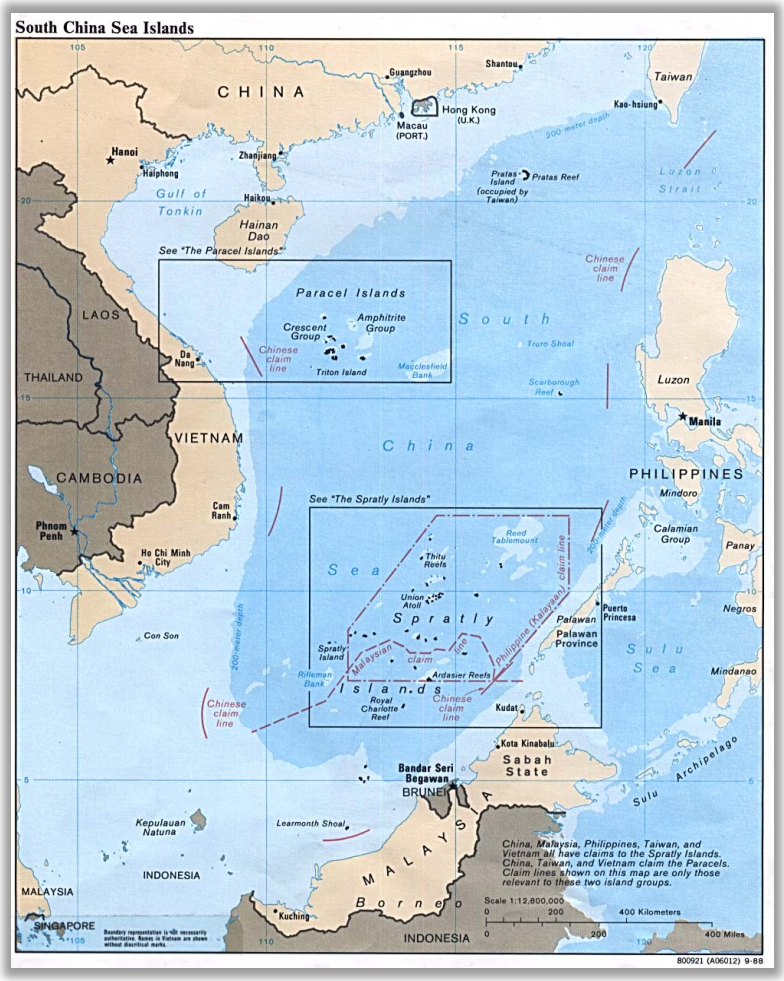
**Background**

Introduction

The South China Sea (SCS) is one of the most contentious areas on the planet. Countries surrounding its waters have become embattled in bitter disputes over territory and ownership of natural resources. Overlapping claims raise tensions and exacerbate hostility in the region. The implications of the disputes not only affect the involved riparian states, but also those countries that use the SCS as a shipping corridor, which is of vital importance for global trade. Although many solutions have been proposed, drastic measures may be necessary to assure stability in the region. This package will provide guidelines for conducting an interest-based negotiation simulation with the goal of creating a multilateral cooperative marine conservation area (MCMCA) in the South China Sea. This simulation recognizes that the naming of the body of water referred to in this package as the South China Sea is under debate, but for the sake of practicality the term for the body of water in which the Area is located will be known as the South China Sea throughout this negotiation.

[148] The advice and assistance from the Spring 2012 IAR 515F class in testing and refining this simulation exercise is gratefully acknowledged.

Figure 10. South China Sea Islands[149]




## Geography and resources

The South China Sea is an area roughly 3.5 million km$^2$ in size and stretches north-easterly from the Malacca Straights to the Straights of Taiwan (see Figure 1). The seabed is composed of approximately 1 million km2 of continental shelf and 2 million km2 of seabed, with the deepest regions reaching more than 5000m. The SCS is interspersed with small islands, rocks, low-tide elevations, islets, and reefs. It has a plethora of natural resources, including fertile fishing grounds. It is also estimated, although not proven, that there are large deposits of hydrocarbons in the SCS. Active oil and gas fields tend to line coastal areas in the southernmost portion of the Sea. Coral reefs in the region consist of 30% of the world's total. These reefs house thousands of different species and are the foundation of the aquatic food chain in the region. FAO estimates that SCS represents 10% of total world catch. The countries/territories that border the SCS are Brunei, China, Indonesia, Malaysia, the Philippines, Taiwan, and Vietnam (Singapore is separated from the sea by Malay and Indonesian territorial waters).

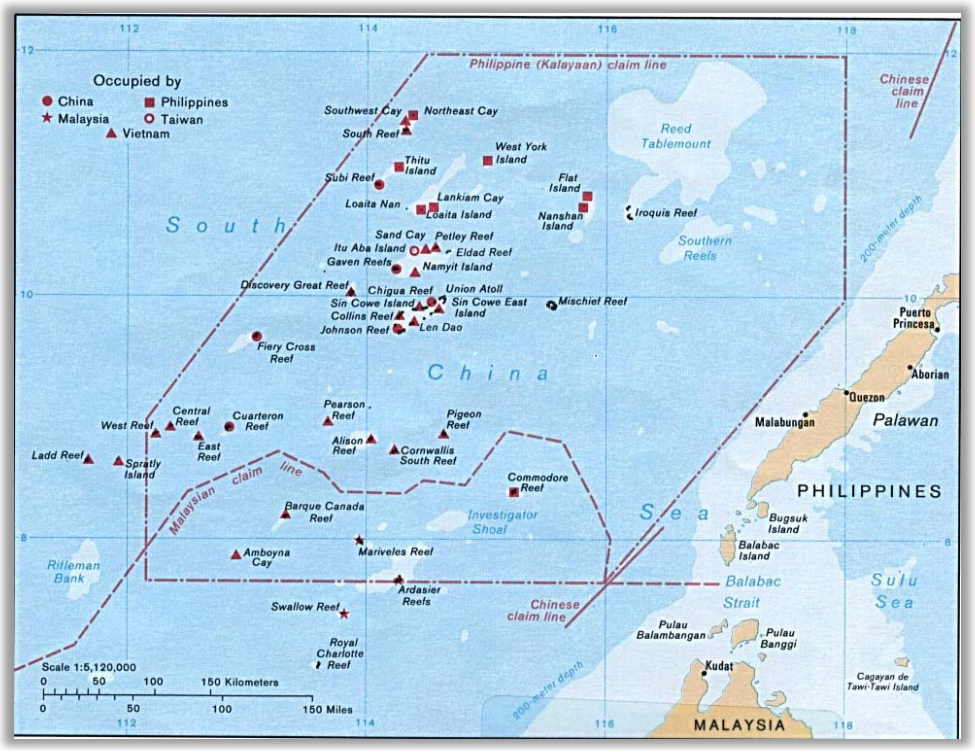
[149] Zamboanga.com, "South China Sea Islands", <http://www.zamboanga.com/images/Spratly_Island_ClaimPI.jpg>

Marine Conservation & the Spratly Islands

At its core, the concept of conservation is intrinsically related to the maintenance of a region's biological intactness, through preventing disruption in its biological diversity. Although a MCMCA that encompasses the whole South China Sea would be the most effective approach in creating a sustainable marine ecosystem in the entire region, in reality this outcome is improbable. Therefore, a more pragmatic solution would minimize the conservation area to areas of most strident dispute and highest tension. Taking this into consideration, this simulation will look at the feasibility of establishing a multilateral cooperative marine conservation area around the Spratly Islands (Spratlys). The Spratlys are a good candidate because of the various claims by different parties on its separate islands; the elevated risk of a conflict starting in the region; the large distribution of coral in its waters; its star status as the key breeding ground in the SCS; and the high degree of biodiversity contained in its waters (especially fish), on which the whole region depends.

Currently, several nations occupy the various islands, rocks, and reefs within the region (see figure-2). The distribution of the number of islands occupied is as follows: Vietnam (22), the Philippines (11), China (14), Malaysia (10), and Taiwan (1) (Brunei claims one reef). These occupying nations also try to bolster their territorial claims by reinforcing these islands with military infrastructure and personnel. The militarization of the region has increased tension and has led to many incidents between nationals of the different countries, as well as contributing to pollution. The reasoning behind establishing a MCMCA is to diffuse this tension, to facilitate sustainable fishing practices and protect this key breeding ground so as to benefit all parties.

Figure 11. Detailed Map of the Spratly Islands[150]

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[150] Vidiani.com, "Detailed Map of the Spratly Islands," <http://www.vidiani.com/maps/maps_of_asia/maps_of_spratly_islands/detailed_map_of_spratly_islands.jpg>

**Parties to the Negotiation**

The following is a list of required and optional parties for the simulation (listed in alphabetical order). Participants are to assume the identity of a national of the listed parties. Required parties have negotiation interests based on territorial claims in the region. Optional parties can act as mediators/facilitators since they have no disputes related to territorial claims, but have a vested interest in the region's stability. Additional participants can take on the role of advisors/observers to the proceedings. The dispute over the status of the island sometimes known as the Republic of China and sometimes known as Chinese-Taipei is taken into account in this simulation. Its presence is not used to validate or discredit its political status, as it is represented by an appointed task force in the negotiation, and not an official governmental representative, but its capital importance in finding a solution to the dispute is understood. Furthermore, Taiwan and China have functioned in the same institutions before, be it the Western and Central Pacific Fisheries Commission or other functional agreements.

Required Parties

Brunei Darussalam (Brunei)
Malaysia
Peoples' Republic of China (China)
Republic of China/Chinese-Taipei (Taiwan)
Republic of the Philippines (Philippines)
Socialist Republic of Vietnam (Vietnam)

Optional Party

Republic of Indonesia (Indonesia)

**Scope**

The scope of the negotiation focuses on the viability of a marine conservation area covering the Spratly Islands and surrounding waters. The following is an outline of the potential interests that can be negotiated in the simulation. These do not comprise the entirety of interests related to marine conservation in the Spratlys and for pragmatic reasons have been simplified in order to carry out a negotiation simulation in a condensed amount of time. The interests are divided into two topics: (1) Activities and (2) Implementation. These topics are broken down into themes and these themes are further subdivided into sub-themes. The sub-themes will form the basis for the substantive interests that will be discussed in the simulation. These should not be seen as the only possible themes in a larger-scale negotiation, and participants are invited to be creative in their interpretations of the interests of the parties.

For a two hour simulation, participants will have the choice of negotiating either Activities or Implementation. If negotiating the Implementation section, participants or the facilitator should state the assumptions made regarding the Activities section, as such decisions may be necessary in order to conduct an informed Implementation simulation.

1. **Activities**

a. Marine Scientific Research
    i. Oil & gas exploration
    ii. Baseline Data for exploitation of living resources
b. Fishing
    i. Allowable catch/quotas
    ii. Methods & practices
    iii. Commercial vs. traditional(artisanal)

2. **Implementation**
a. Governance
    i. Governance Mechanism
    ii. Duration of Agreement
    iii. Demilitarization
b. Enforcement
    i. Jurisdiction
    ii. Policing
c. Funding
    i. Funding mechanism

- **Marine scientific research** refers to those types of research that are peaceful in nature, respect the environment, and do not have as principle or substantive reason the exploration or exploitation of resources.
    - **Oil and Gas exploration** relates to that research that seeks to uncover through any means (bathymetry, seismic, etc.) the identification of possible oil or gas resources.
    - **Baseline data for exploitation of living resources** refers to that research which seeks to identify the type and amount of living marine resources and quantify optimal catch production.

- **Fishing** refers to all activities which seek the withdrawal, by any means, of living resources from the sea or seabed for reasons of commerce or livelihood.
    - **Allowable catch** refers to the amount, as a percentage of the resource (whether defined as optimal or maximum yield) that can be withdrawn by a particular Party.
    - **Methods and Practices** relates to the methods through which the resource is extracted, and the type of equipment that is permitted or banned.
    - **Commercial vs. Traditional** refers to the two types of fishing as distinguished, in this case, by motorized or non-motorized fishing vessels.

- **Governance** relates to the actions, norms and institutions that refer to the manner in which Parties can act politically within the Area
    - **Governance mechanisms** refers to the mechanisms, in any form, be they bodies, boards, commissions or institutions that seek to regulate, bind, create rules, oversee and supervise none, some or all of the activities covered in the agreement.
    - **Duration of the agreement** refers to the duration, whether unlimited or limited of the agreement, as well as the specifics that relate to its renewal.
    - **Demilitarization** refers to the processes that seeks to reduce or confirm military presence in the area

- **Enforcement** refers to the policing mechanisms and their attending instruments that seek to ensure that those rules expressed in this agreement are followed.
  - **Jurisdiction** refers to the practical authority granted to a body (be they Parties to this agreement or supra-national bodies) giving them the right to prosecute crimes committed by individuals in the Area
  - **Policing** refers to the rights of the Parties in using paramilitary force to ensure that the rules expressed in this agreement are upheld.

- **Funding mechanism** relates to the mechanisms that fulfill the financial needs of the organization, and the way in which levels of contributions are decided among the Parties.

**Time allocation**

This simulation is structured for a minimum two hour period. A minimum of thirty minutes should be allowed for debrief and discussion at the end of the negotiation. Moderators/Facilitators/Observers can be put in charge of time keeping. Furthermore, periods of caucuses can be called if participants agree to this beforehand. Notes can be passed between participants at any time.

**Country Profiles**

*At a Glance*

Demographic Data South China Sea[151]

| | Population | GDP[PPP] (USD billions) | GDP per capita (USD) |
|---|---|---|---|
| **Brunei** | 408,786 | $ 21.1 | $ 49,400 |
| **China** | 1,343,239,923 | $11,290 | $ 8,400 |
| **Indonesia** | 248,216,193 | $ 1,121 | $4,700 |
| **Malaysia** | 29,179,952 | $ 447 | $ 15,600 |
| **The Philippines** | 103,775,002 | $389.8 | $ 4,100 |
| **Taiwan** | 23,113,901 | $885.3 | $ 37,900 |
| **Vietnam** | 91,519,289 | $299.2 | $ 3,300 |

Fish, Mollusk, Crustacean Catch (Pacific, Western Central) [152]

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|
| **Brunei** | 2,709 | 2,279 | 2,550 | 2,357 | 1,766 | 2,272 |
| **China** | 55,773 | 65,881 | 65,772 | 79,768 | 110,289 | 71,770 |
| **Indonesia** | 3,237,486 | 3,327,757 | 3,534,876 | 3,393,359 | 3,440,536 | 3,740,126 |
| **Malaysia** | 697,203 | 691,417 | 706,238 | 717,284 | 672,207 | 690,590 |
| **The Philippines** | 2,120,129 | 2,152,313 | 2,325,933 | 2,375,360 | 2,411,779 | 2,422,910 |
| **Taiwan** | 221,491 | 241,398 | 249,729 | 218,368 | 208,537 | 229,865 |
| **Vietnam** | 1,791,100 | 1,824,800 | 1,876,400 | 1,946,600 | 2,091,700 | 2,226,600 |

[151] Data from Central Intelligence Agency, "The World Factbook," https://www.cia.gov/library/publications/the-world-factbook/rankorder/rankorderguide.html (Accessed, 23 March 2012)

[152] Data from Food and Agriculture Organization of the United Nations, "Fisheries and Aquaculture Information and Statistics Service," <http://www.fao.org/corp/statistics/en/> (Accessed, 23 March 2012). Please note that the "Pacific, Western Central" area is not indicative of the entire SCS and includes catch in the Western portion of the Pacific Ocean.

***Brunei***

Brunei Darussalam is a small country located on the island of Borneo and, apart from its coastline, completely surrounded by the Malaysian state of Sarawak, which also separates it into two parts. Brunei became a British protectorate in 1888, and gained its independence in 1984 (both countries still share a defence agreement). Large natural gas and oil reserves allowed Brunei's economy to grow very quickly and make it one of the world's richest nations.

Brunei is a member of ASEAN, APEC, Organisation of Islamic Cooperation (OIC), the Commonwealth of Nations and the Non-Aligned Movement.

Brunei's territorial sea and continental shelf were drawn to the 100 fathom isobath by the UK in 1958, and upon gaining its independence, Brunei declared its 200nm EEZ. Presently, Brunei claims two features in the Spratly islands: Louisa Reed and Riflemen Bank. It does not, however, occupy any features. Given that Brunei has not yet defined its continental shelf beyond 200nm, there is still potential for future conflicts on this issue with other claimants.

Brunei has signed the following agreements: ASEAN Agreement on the Conservation of Nature and Natural Resources; Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); Convention on the International Maritime Organization (IMO Convention); International Convention for the Prevention of Pollution from Ships (MARPOL 73/78); and the United Nations Convention on the Law of the Sea (UNCLOS).

Although Brunei only possesses a small coral reef area, this area is still seen as being very diverse and in fairly good condition, with only about 21% of the coral reef considered at risk due to human activities. Brunei has put into place, starting in 1948, six Marine Protected Areas (MPAs) which are managed at the national level by the Ministry of Development. Recent developments include a new MPA subdivided into three zones which should come into effect in 2012, and an announcement by the director of the Fisheries Department that a National Plan of Action against Illegal, Unreported and Unregulated fishing has been launched.

Fish is the principal source of protein for the Bruneians with a per capita fish consumption of 45 kg per year, one of the highest in the region. However, Brunei has only about 925 fulltime fishermen, most of them artisanal and is thus importing some 50% of its consumption.

Out of all countries surrounding the South China Sea and tapping into resources in this area, Brunei is second only to Malaysia in terms of proven oil and gas reserves, though in terms of production it lags behind China, Vietnam, Indonesia and Thailand as well.

***China***

China has a long history of claiming rights to the South China Sea. It claims that historical evidence points to the fact that China discovered the Spratlys first, had extensive usage of the resources and sea routes of the region, had patrolled the region for a long time while using maps that show the regions as being part of the territory.

One of China's repeated mantras is the importance of territorial integrity for political legitimacy. Beijing sees its sovereignty as being infringed upon by other countries occupying islands and reefs in the SCS. In order to minimize the risk of losing legitimacy, the Chinese government is unlikely to make compromises in regards to territory in the SCS, and is thus much more likely to seek a peaceful solution.

Globalization and regional cooperation have redefined national interests and national interests are no longer narrowly limited to a country's territorial concerns but also extend to other dimensions. In the interconnected 21st century, with global supply changes making economic interests overcome political differences, nations can no longer consider their national interest as independent of one another. This is demonstrated by the benefits and opportunities, as well as challenges, that have been a product of China's rise. Meanwhile, regional stability and economic development in other Asian countries also offers opportunities for China. China's good relationship with its neighbors is a foundation upon which China can enjoy continuing peace and prosperity.

***Indonesia***

Indonesia's colonial past, disputed independence and past western interference are incentives for Indonesian autonomy. Sino-Indonesian relations were frozen from 1967-90 following the failed communist coup of 1965. The Chinese government had assured Indonesia that there were no maritime boundary disputes between them, but then, in 2009, reasserted traditional claims to the waters off the Natuna Islands. Indonesia has shored up its military and economic presence on the Islands.

The direct interests of Indonesia in the SCS relate to China's claims to the waters off the Indonesian controlled Natuna Islands. Its indirect interests pertain to maintaining regional and national autonomy and to protect and develop trade and the trade routes that cross the SCS. Fishing suffers from poor practices destroying the maritime ecosystem.

In this negotiation Indonesia acts as a "non claimant" "honest broker." As a member and leader of ASEAN, Indonesia seeks collaborative, cohesive relations to achieve regional stability.

By 2020, Indonesia will have committed 200,000 square kilometres to a national conservation area for marine environmental protection. The US Ambassador described Indonesia as "an important partner for the United States… to preserve marine ecosystems." Many of the initiatives focus on biological diversity and sustainable fishing practices. In this sense, Indonesia entered into the ASEAN Agreement on the Conservation of Nature and Natural Resources to undertake "individual and joint action for the conservation and management of their living resources and the other natural elements on which they depend." Article 13(6) calls for "Contracting Parties [to] co-operate in the development of principles, objectives, criteria and guidelines for the selection establishing a co-ordinated network of protected areas throughout the Region."

***Malaysia***

Malaysia is separated by the South China Sea into Peninsular Malaysia (West Malaysia) and Malaysian Borneo (East Malaysia, comprised of Sarawak and Sabah). Sarawak and Sabah were incorporated, along with Singapore, into Malaya in 1963 to create Malaysia. All are former British protectorates that gained independence in the mid-1900s.

Although West Malaysia is less populated, it is larger and has greater oil and natural gas resources than East Malaysia, and Sabah and Sarawak have slightly more autonomy than states in Peninsular Malaysia. Malaysia has been diversifying its economy since the 1970s, from one focused on mining and agriculture to a multi-sector economy led by trade and manufacturing.

Tourism has also increased as a result of the government's diversification policy, but it is now endangered by deforestation and air and water pollution.

Malaysia is a multi-ethnic, multi-cultural and multilingual country with Islam as the state religion. Malaysia is a member of ASEAN, APEC, Organisation of Islamic Cooperation (OIC), the Commonwealth of Nations and the Non-Aligned Movement.

In 1979, Malaysia published a new map depicting its territorial waters and continental shelf, and officially proclaimed its EEZ. Presently, Malaysia claims 11 features in the Spratly Islands (Ardasier Reef, Dallas Reef, Louisa Reef, Mariveles Reef, Royal Charlotte Reef, Swallow Reef, Erica Reef, Investigator Reef, Commodore Reef, Amboyna Cay and Barque Canada) but occupies only eight (Ardasier Reef, Dallas Reef, Erica Reef, Louisa Reef, Marivales Reef, Royal Charlotte Reef, Swallow Reef and Investigator Shoal).

Malaysia has signed on to the following agreements: ASEAN Agreement on the Conservation of Nature and Natural Resources; Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); Convention on the International Maritime Organization (IMO Convention); International Convention for the Prevention of Pollution from Ships (MARPOL 73/78); United Nations Convention on the Law of the Sea (UNCLOS) and the Agreement for the Establishment of the Asia-Pacific Fisheries Commission.

Sarawak has designated and proposed 23 MPAs, starting in 1904, and Sabah 47 since 1931, which are under the management of their state government. However, there has been a large decrease in the amount of MPAs created every year, with only two of these dating from the past decade.

Malaysia has always been a net importer of fish in terms of volume, though its self-sufficiency level is 94-95%; Malaysia is however a net exporter in monetary terms. (FAO) 43.82% of Malaysia's fishing population lives in Sabah (30.38%) and Sarawak (13.43%).

Out of all countries surrounding the South China Sea and tapping into resources in this area, Malaysia surpasses all others in terms of proven oil and natural gas reserves as well as oil and gas production, with most of these resources located off the coast of Sabah and Sarawak.

***The Philippines***

The 7100 islands of the Philippines archipelago cover some 300,000 square kilometres of land area; however, 2.2 millions square kilometres total area when archipelagic waters are included. This maritime nature is embodied by the Philippines self-representations as a "maritime" and "archipelagic" nation. More that 60% of the Philippines 96 million inhabitants live on the coast. It is one of the top 10 fishers in the world, and top 35 registration flags for shipping. Its archipelagic status can be seen as its inward looking focus, while its maritime status speaks to its outward looking focus.

The Philippines is a founding member of ASEAN. However, until the mid 2000s, it was seen as a black sheep in the region, due to it breaking ranks with other ASEAN states to negotiate in a bilateral way with China. Despite the fact that none of these negotiations were successful, this heritage weighs heavily on its relations with other states. Today, it attempts to return to ASEAN's arms by being an outspoken proponent of multilateralism and the "ASEAN way."

Outside of the region, the Philippines is one of the United States' strongest allies, and participated in the Bush administration's "global war on terror" at home by following Washington's doctrine in its own insurgency in the southern, majority Muslim, part of the archipelago. However, seeing no results, it has changed strategies, and has become one of the world's leading innovators (with US technical and military assistance) in COIN (COunterINsurgency), with many of its experiments being repeated in Afghanistan and elsewhere.

Despite a history of strongwomen and strongmen as leaders, it sees itself as a democracy, albeit quite a chaotic one. However it is a positive nation, seeking to become a regional leader, looking both East and West. Every other nation at the bargaining table is aware that it would be happy for a successful negotiation, especially if doesn't need to truly sacrifice any of its claims on territory. Furthermore, other nations are aware of the search for domestic and international prestige.

***Taiwan***

Geographically Taiwan's claims are the same as the PRC's, they cover all four archipelagos in the South China Sea (Pratas, Paracels, Macclesfield and Spratlys). Its historical claim is similar to China's, as it keeps its pre-1949 maps.

Taiwan's policy can be divided into two periods. The first is one in which it was much more active, both in regards to patrol activity as well as to building projects (on Itu Aba). Since the mid-1990s, its policy towards the SCS became much less militarized and more peaceful. In the first period Taiwan's policy was strongly linked to the idea of a possible reunification with mainland China, and the country supported Chinese requests as its own. The deterioration of relations and lack of any type of cooperation (except for small scale oil exploration projects), along with the material threat caused by the Taiwan Strait crisis in 1995 was behind the change in policy. Demilitarization was influenced not only by the ever-more complicated relationship with China, but also by internal factors. It was thus decided that Taiwan could deploy its military forces in a different manner, one which would lead to a much more positive relationship with the mainland. Through all this, Taiwan tried to solidify its relations with ASEAN nations. This also contributed to its decision to remove military personnel and replace it with its coast guard, who were better equipped to deal with issues related to fisheries.

Taiwan's position is also influenced by its weak diplomatic status; indeed it cannot build coalitions as it has no diplomatic relations with ASEAN countries and is limited in the types of conferences it can participate in. Thus, it puts great importance on non-official events, like the Indonesia Workshops, that allow it to promote its position and its ideas.

As it is unrealistic for Taiwan to push its territorial claim with any hope for success, especially if this puts it into opposition with China, it is likely that the country will carry on with its idea of peaceful resolution of the dispute, and a solution creating an environmental conservation area could appear as a good solution for Taiwan. An agreement managing the fisheries of the area can also be useful for Taiwan's interest as Taiwanese fishermen are working in the South China Sea, and they would benefit from regional agreements on the issue.

***Vietnam***

Vietnamese claims in the South China Sea are extensive and continue to be far outside of what the state is entitled to according to the UN Convention on the Law of the Sea. Vietnam

currently maintains its claims to the whole of the Paracel and Spratly islands, which it refers to as Hoang Sa and Truong Sa respectively. This claim conflicts with the claims of most other parties including Malaysia, Indonesia, Brunei, the Philippines, China, and Taiwan. Vietnam occupied the Paracels until 1974, after which China has occupied the islands in full. To date, Vietnam maintains control over 22 rocks, islands, and reefs in the Spratlys. Vietnam has historically viewed the South China Sea as a traditional security issue akin to a land dispute. As such its foreign policy has been distinctly reactive rather than pro-active or resolution focused. Similar to China's claims in the sea, Vietnam has based its claims on an argument of "historical waters." Furthermore, for most of its modern history, Vietnam has approached the issue of the South China Sea as primarily a bilateral issue between itself and the PRC.

Vietnam's relations with the Peoples' Republic of China have been generally difficult. Concerning the South China Sea before 1990, Vietnamese-Chinese relations are distinguished by two main incidents. The first of these is the Sino-Vietnamese War of 1978. This conflict was driven by a number of issues, but it remains clear that the PRC reaction was at least in part driven by Vietnam's occupation of several of the Spratly islands. In 1988, over 70 Vietnamese soldiers were killed as they attempted to stop Chinese ships from moving into Vietnamese occupied regions of the Spratlys. This incident was later termed the Johnson South Reef Skirmish and turned into a small-scale naval battle between the PLA and Vietnamese forces. While only 1 Chinese soldier was injured, Vietnam lost all 3 ships it had dispatched to the region. The next decade (1990-2000) marks a gradual shift, however minor, towards a more human security based approach on the part of Vietnam, as the state slowly starts to make claims based on international law (UNCLOS) and accepts a more regional/multilateral approach with ASEAN as a leading player. More importantly perhaps, Vietnam also began to improve relations with the PRC in this period. In 1994 they started negotiations on the Gulf of Tonkin, and on the 4th of December 1999 both countries announced that the Gulf, as well as their shared land borders, had been officially decided. As a final note, there was even some attempt to forge ties been the two countries' ruling communist parties, showing that ideology might prove to be an impetus for cooperation between Asia's two strongest communist nations.

The period from 2000-2012 is marked by a clear contrast between increased "positiveness" between the PRC and Vietnam, and the continued tensions and conflicts that continue to rise from the overlapping claims made by all players in the South China Sea. Issues have included: the cutting of Vietnamese oil exploration cables by China, and the denial of safe passage to Vietnamese fisherman in 2012 to escape a storm in the Spratlys.

If the various parties continue to approach the delineation of the South China Sea from a regional perspective and through using multilateral mechanisms, there is a greater possibility of finding an acceptable solution. For its part, Vietnam's improving relations with the PRC and its deepening integration into ASEAN have promoted the development of increased support for such non-traditional approaches.

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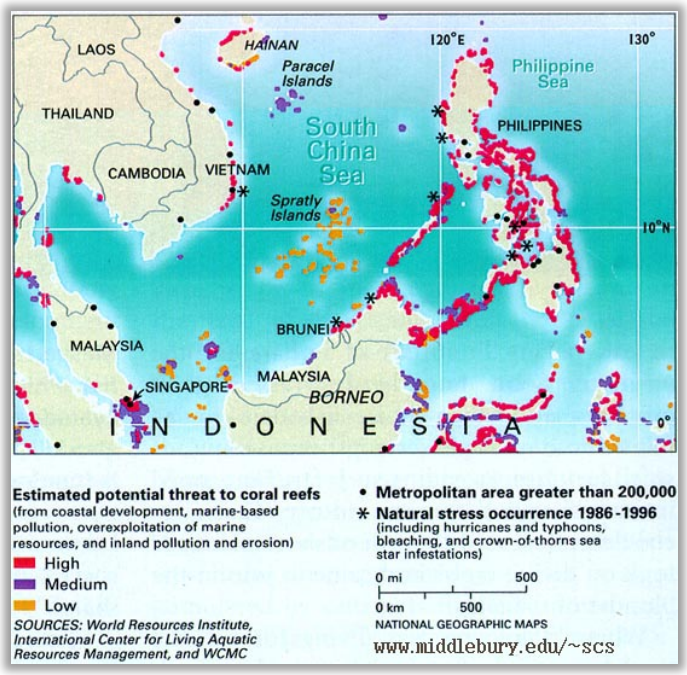
**Maps**

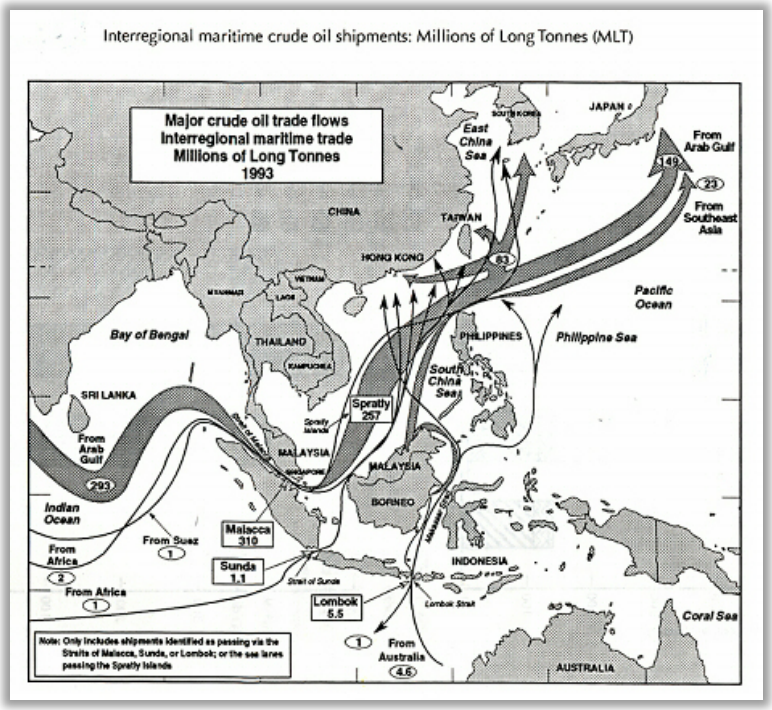
*Figure 12. Claims by Various Countries to South China Sea*


*Figure 13. South China Sea Coral Reefs*[153]




[153] David Rosenberg, editor, "Coral Reefs and Potential Threats," available at http://community.middlebury.edu/~scs/maps/coralmap.jpg

*Figure 14. Major crude oil trade flows in South China Sea*[154]




[154] David Rosenberg, editor, "Major crude oil trade flows Interregional maritime trade Millions of Long Tonnes 1993", <http://www.southchinasea.org/files/2011/08/Crude-Oil-Trade-Flow-1993.-Source-US-PACCOM.jpg>

**Relevant Treaties/Agreements/Policy Statements**

## DECLARATION ON THE CONDUCT OF PARTIES IN THE SOUTH CHINA SEA[155]

The Governments of the Member States of ASEAN and the Government of the People's Republic of China,

REAFFIRMING their determination to consolidate and develop the friendship and cooperation existing between their people and governments with the view to promoting a 21st century-oriented partnership of good neighbourliness and mutual trust;

COGNIZANT of the need to promote a peaceful, friendly and harmonious environment in the South China Sea between ASEAN and China for the enhancement of peace, stability, economic growth and prosperity in the region;

COMMITTED to enhancing the principles and objectives of the 1997 Joint Statement of the Meeting of the Heads of State/Government of the Member States of ASEAN and President of the People's Republic of China;

DESIRING to enhance favourable conditions for a peaceful and durable solution of differences and disputes among countries concerned;

HEREBY DECLARE the following:

1. The Parties reaffirm their commitment to the purposes and principles of the Charter of the United Nations, the 1982 UN Convention on the Law of the Sea, the Treaty of Amity and Cooperation in Southeast Asia, the Five Principles of Peaceful Coexistence, and other universally recognized principles of international law which shall serve as the basic norms governing state-to-state relations;

2. The Parties are committed to exploring ways for building trust and confidence in accordance with the above-mentioned principles and on the basis of equality and mutual respect;

3. The Parties reaffirm their respect for and commitment to the freedom of navigation in and overflight above the South China Sea as provided for by the universally recognized principles of international law, including the 1982 UN Convention on the Law of the Sea;

4. The Parties concerned undertake to resolve their territorial and jurisdictional disputes by peaceful means, without resorting to the threat or use of force, through friendly consultations and negotiations by sovereign states directly concerned, in accordance with universally recognized principles of international law, including the 1982 UN Convention on the Law of the Sea;

[155] Association of Southeast Asian Nations (ASEAN). "Declaration on the Conduct of Parties in the South China Sea," available at http://www.aseansec.org/13163.htm

5. The Parties undertake to exercise self-restraint in the conduct of activities that would complicate or escalate disputes and affect peace and stability including, among others, refraining from action of inhabiting on the presently uninhabited islands, reefs, shoals, cays, and other features and to handle their differences in a constructive manner.

Pending the peaceful settlement of territorial and jurisdictional disputes, the Parties concerned undertake to intensify efforts to seek ways, in the spirit of cooperation and understanding, to build trust and confidence between and among them, including:

a. holding dialogues and exchange of views as appropriate between their defense and military officials;

b. ensuring just and humane treatment of all persons who are either in danger or in distress;

c. notifying, on a voluntary basis, other Parties concerned of any impending joint/combined military exercise; and

d. exchanging, on a voluntary basis, relevant information.

6. Pending a comprehensive and durable settlement of the disputes, the Parties concerned may explore or undertake cooperative activities. These may include the following:

a. marine environmental protection;
b. marine scientific research;
c. safety of navigation and communication at sea;
d. search and rescue operation; and
e. combating transnational crime, including but not limited to trafficking in illicit drugs, piracy and armed robbery at sea, and illegal traffic in arms.

The modalities, scope and locations, in respect of bilateral and multilateral cooperation should be agreed upon by the Parties concerned prior to their actual implementation.

7. The Parties concerned stand ready to continue their consultations and dialogues concerning relevant issues, through modalities to be agreed by them, including regular consultations on the observance of this Declaration, for the purpose of promoting good neighbourliness and transparency, establishing harmony, mutual understanding and cooperation, and facilitating peaceful resolution of disputes among them;

8. The Parties undertake to respect the provisions of this Declaration and take actions consistent therewith;

9. The Parties encourage other countries to respect the principles contained in this Declaration;

10. The Parties concerned reaffirm that the adoption of a code of conduct in the South China Sea would further promote peace and stability in the region and agree to work, on the basis of consensus, towards the eventual attainment of this objective.

Done on the Fourth Day of November in the Year Two Thousand and Two in Phnom Penh, the Kingdom of Cambodia.

# CHAPTER 6

# Glossary

**Accommodation:** a negotiation strategy in which one negotiator chooses to sacrifice some of his or her interests and allows the other party to make desirable gains. Accommodation is often used to preserve a relationship or to create the conditions for future exchanges that will compensate the accommodator for his or her concession.

**Active listening:** a communication procedure in which a listener determines the emotional content and intensity of a spoken message and feeds it back to the speaker for verification. Active listening builds empathy, confirms understanding and enables the speaker to "work through" strong emotions.

**Agenda:** a list of discussion items or problem statements that are ordered in a sequence and framed in a manner which facilitates efficient problem solving.

**Agreement-in-principle:** general levels of agreement that shape the broad parameters of a negotiated settlement.

**Arbitration:** the intervention into a dispute of an independent, private and impartial third party who is given the authority by the parties to make a decision on how the conflict will be settled. Arbitration may be binding or non-binding.

**Assessment:** an evaluation of a conflict situation involving a review of the parties, interests, issues, power, settlement options, etc.

**Authority:** responsibility for decision making that has been legally or legitimately delegated to an individual or organization.

**Avoidance:** a negotiation strategy in which a negotiator pursues a strategy of no engagement in conflict or competition in order to achieve a desirable end or to avoid reaching an unfavourable or untimely settlement.

**Bargaining:** the process of making substantive, procedural or psychological trade-offs to reach an acceptable settlement. Bargaining occurs in the context of broader negotiations.

**Bargaining formula:** a combination of agreements in principle that define the general parameters of a negotiated settlement.

**Bargaining range:** a spectrum of possible settlement options, any one of which is preferable to a stalemate or breakdown of negotiations.

**BATNA:** an acronym for best alternative to negotiated agreement. Negotiators usually compare alternative settlement options and/or available dispute resolution procedures as a means of determining whether a negotiated settlement is the preferred solution and/or process.

**Bluff:** a negotiation tactic in which one party misleads another as to his or her desired outcome, power or willingness to take an action in an effort to gain an advantage that would not be possible should his/her genuine concerns or power be known.

**Bottom line (position):** a settlement option that represents the minimal substantive, procedural or psychological benefit that a party is willing to accept and still reach an agreement.

**Building block procedure:** a process for reaching a negotiated settlement in which a problem is broken into sub-issues and an agreement is reached on each of these smaller "parts." The final settlement is completed by assembling the "parts" into a comprehensive agreement.

**Business relationship:** a pattern of interaction between two or more people which is characterized by formality, limited levels of emotional disclosure, defined boundaries of the relationship and written agreements.

**Caucus:** a private meeting held by members of a negotiating team or between a mediator and negotiator(s) to determine strategies that will make joint session negotiations more productive. The caucus can focus on substantive, procedural or psychological barriers to effective negotiations.

**Coercion:** negotiation tactics that limit the range of options available to parties by threatening or inflicting a cost on another party for non-compliance.

**Common interests:** substantive, procedural or psychological needs that are held jointly by parties to a negotiation.

**Competition:** a negotiation strategy in which one negotiator pursues the satisfaction of his or her interests at the expense of the other party/parties. Competition often occurs when a party perceives that resources are limited and that a positive outcome for these can only be achieved if the other party receives less of the contested benefits.

**Compromise:** a negotiation strategy in which the parties agree to share jointly gains and losses.

**Concern:** a topic of importance to a party to a conflict.

**Concession:** a substantive, procedural, or psychological offer made by one party to another, which decreases the benefits requested by the offerer and rewards the other party.

**Conciliation:** the psychological preparation of parties by a negotiator or mediator to discuss substantive issues. Conciliation involves improving communications, building positive perceptions and promoting trust.

**Conflict:** an expressed competition between at least two inter-dependent parties who have perceived or have actual incompatible goals or interests.

**Conflict anticipation:** a conflict management approach which identifies disputes at their early stages of development, targets potential interest groups, educates them about issues and attempts to develop cooperative responses to the future problem and thus avoid or lower the destructive effects of conflict.

**Consensus:** an agreement that is reached by identifying the interests of all concerned parties and then building an integrative solution that maximizes satisfaction of as many of the interests as possible. The process does not involve voting, but a synthesis and blending of solutions. Consensus does not mean unanimity since it does not satisfy participants' interests equally, nor does each participant support the agreement to the same degree. Consensus is considered to be the best decision for all participants because it addresses, to some extent, all interests.

**Contract:** a formal legal document that outlines commitments, promises or exchanges that have resulted from negotiations.

**Deadline:** time limit, either internally or externally imposed, on the duration of negotiations.

**Deadlock:** inability of parties to a negotiation to move forward to a settlement. A deadlock may be caused by substantive, procedural or psychological barriers to agreement (synonyms: impasse, stalemate).

**Decision:** an outcome.

**Dispute:** a conflict in which the parties are unable or unwilling to resolve their problems or disagreements in the context of their private relationship, and have moved the problem into the public domain. Disputes often involve the presence of third parties, either observers, procedural facilitators or independent decision makers.

**Doubt:** uncertainty as to the outcome of an interaction, the validity of facts or the strength of a particular party to a conflict.

**Evaluation:** an assessment of an option.

**Exchange:** items of value traded by parties in dispute.

**Exclusive interests:** a party's needs that are totally incompatible with the needs of another party.

**External influences:** pressures from outside the negotiation "table" (people, structure, time, geography, etc.) that affect the dynamics of negotiators' interaction.

**Facilitation:** the use of a third party, who is impartial toward issues being discussed, to provide procedural assistance to group participants to enhance information exchange or promote effective decision making. The facilitator may or may not be a member of the group involved in the discussions.

**Fact-finding:** a dispute resolution process in which an impartial third party collects information about a dispute and makes either a report about relevant data or recommendations about how the dispute might be resolved. Fact-finding is used to minimize data conflicts and to provide an impartial assessment of the dispute to the parties or the public.

**Fallback (position):** a series of options for settlement that are between the secondary position and bottom line position. Fallbacks are "yellow lights" for negotiators which indicate that it soon will be time to stop making concessions.

**Feedback meeting:** meeting in which information is disseminated to participants.

**Feedforward meeting:** meeting in which information is elicited from participants.

**Framing:** the manner in which a conflict situation, issue or interest is conceptualized or defined.

**Impasse:** inability of parties to a negotiation to move forward toward a settlement (synonyms: deadlock, stalemate).

**Incremental concessions:** sequential offers made by a negotiator that grant gradually increasing benefits or rewards to another negotiator in return for agreement.

**Incremental convergence:** gradual narrowing of differences between parties.

**Information exchange:** a dispute resolution process in which parties in conflict meet to exchange and clarify information. The goal of the meeting is to educate each other, answer questions, minimize data conflicts and check out perceptions.

**Initial high demand:** a tactic for opening negotiations in which a party begins by asking for a high concession from another negotiator in return for agreement. This tactic is used to educate another party about the importance of an interest or issue, to allow room for later concessions, to try to gain as many advantages as possible or to demonstrate toughness or strength of will.

**Integrative decision/bargaining:** a negotiation outcome or process that attempts to satisfy as many interests or needs as possible for all negotiators (synonym: interest based bargaining decision).

**Interest:** a substantive, procedural or psychological need of a party to a conflict.

**Interest based bargaining:** a negotiation process that attempts to satisfy as many interests or needs as possible for all negotiators (synonym: integrative bargaining).

**Intimate relationship:** a pattern of interaction between two or more people which is characterized by informality, high levels of emotional disclosure, broad spheres of interaction and verbal agreements. Intimacy can be based on positive or negative emotional involvement.

**Issue:** topic or statement of a problem that results from perceived or actual incompatible interests.

**Joint problem-solving session:** cooperative and face-to-face interaction by parties to a dispute to develop a mutually acceptable solution.

**Mediation:** the intervention into a dispute or negotiation of an acceptable, impartial and neutral third party who has no decision-making authority, but who will assist contending parties to negotiate an acceptable settlement of issues in dispute voluntarily.

**Med-arb:** mediation arbitration is the intervention into a dispute or negotiation of an acceptable, impartial and neutral third party to assist contending parties to negotiate an acceptable settlement of issues in dispute voluntarily. If, however, the parties cannot reach an agreement, the third party has been granted the authority by the parties to make a binding decision.

**Memorandum of Understanding (MOU):** informal written document that outlines areas of agreement.

**Mini-Trial:** a voluntary, expedited and non judicial procedure whereby top management for each party meet to resolve disputes. The meeting is chaired by a private judge, and there are limits to discovering and case presentation time. Legal standards are used as guidelines for procedure and settlement. Parties meet after case presentation to attempt a negotiation settlement. If an impasse is reached, the third party may make a non-binding recommendation.

**Mixed interests:** needs held by the parties that are not mutually exclusive, but are also not held in common. Mixed interests imply the potential for shared gains or losses.

**MLATNA:** acronym for "most likely alternative to negotiated agreement."

**"Mutually acceptable" proposal:** a proposal developed by a negotiator which is designed in such a manner that it is easy for an opponent to agree to its terms. The proposal addresses the other's interests and concerns, is presented in a way that enables the other to save face and is easy to implement.

**Negative bargaining range:** a spectrum of proposed settlement options that are mutually exclusive because no one option will satisfy adequately all parties' interests.

**Negative intimacy:** the destructive emotional attachment of antagonists to each other or the conflict itself. The negative attachment of the parties to each other perpetuates the damaging relationship and dispute.

**Negotiation:** a bargaining relationship between two or more parties who have a perceived or actual conflict of interest. The participants join voluntarily in a temporary relationship to educate each other about their needs and interests, exchange specific resources or resolve one or more intangible issues such as the form their relationship will take in the future.

**Non-self-executing agreement:** an agreement or exchange which cannot be completed immediately and requires continued performance over time. For example, payments made over time.

**Offer:** a proposal for settlement that addresses the interests or concerns of the offerer and/or the party to whom it is directed.

**Opening position:** a solution that represents the maximal demand of a party which is usually presented early in negotiations.

**Opening statement:** a presentation made by a negotiator early in the dispute that presents how he/she sees the conflict. An opening statement may present the history of the problem, why there is a need for change (or maintaining status quo), issues to be addressed, interests to be satisfied and, possibly, positions or proposed solutions.

**Option:** a substantive, procedural or psychological solution that may satisfy the interests of a party to a dispute.

**Package proposal:** an offer for agreement that combines into one total proposal possible settlement options to multiple issues in dispute. Although it may contain unacceptable components, the proposal is offered as a "take it or leave it" totality.

**Ploy:** a tactic intended to frustrate, embarrass, mislead or weaken an opponent.

**Position:** specific solutions that a party adopts or proposes that meet his or her interests or needs.

**Positional bargaining:** a negotiation process in which a series of positions are presented as the solution to the issue in question. Positions are generally presented sequentially so that the first position is a large demand and subsequent positions request less of an opponent.

**Positive bargaining range:** a spectrum of settlement options, any one of which is more acceptable or preferable to all parties than a stalemate or impasse.

**Preempt:** a tactic to forestall potential negative activity of another negotiator. A party anticipates and takes action prior to the expected negative activity in such a manner that the negative behaviour becomes irrelevant or impossible to perform.

**Procedure:** action steps, taken in a sequence, to achieve a desirable end.

**Process:** aggregate of procedural steps to achieve a desirable end. Process refers to the way something is done, as opposed to what was done.

**Proposal:** a suggestion, either substantive or procedural, on how to proceed or what should be done.

**Purity of conflict:** the degree to which the interests of the parties to a dispute are mutually exclusive; the more exclusive the interests, the "purer" the conflict.

**Reframing:** the process of changing how a person or a party to a conflict conceptualizes his, her or another's attitudes, behaviours, issues, interests or how a situation is defined.

**Reward:** benefit to be given or received by a party in return for cooperation or reciprocal exchange of another benefit.

**Risk:** a measure of the consequences of failure or success of a negotiation process.

**Secondary position:** concession made by a negotiator after the opening position that demands less or offers more to an opposing negotiator.

**Self-executing agreement:** an agreement or exchange that is carried out in its entirety at the time it is accepted, or is formulated in such a way that the extent of the parties' adherence to its terms will be self evident.

**Settlement:** an agreement.

**Settlement conference:** a meeting between disputing parties which is generally chaired by a judge or lawyer. Parties attempt, with third party assistance, to negotiate a settlement. Third party often provides substantive input regarding possible settlements. Third party is not authorized to make a binding decision but may, if requested, make a non-binding recommendation.

**Sidebar:** private meetings between two principal spokespeople and a mediator.

**Simultaneous exchanges:** a tactic in which parties make offers at the same time so as to avoid loss of position or face.

**Spokesperson:** individual authorized to speak for a team or interest group.

**Stake-holder:** a person or interest group which has an investment in the way that a dispute is terminated, and in the possible distribution of gains and/or losses that may result from the resolution process.

**Stalemate:** inability of parties to negotiation to move forward to a settlement (synonym: impasse, deadlock).

**Strategy:** a conceptual plan that outlines the general approach or steps to be taken to attain a desirable outcome.

**Symbolic concession:** an offer, in the form of a minor concession, that demonstrates a negotiator's intent to bargain in good faith and/or attempt to meet some of the needs of another party.

**Symbolic issue:** an issue that is a substitute for, or representative of, a much broader or general issue or interest. Symbolic issues tend to have greater psychological than substantive meaning.

**Tactic:** a behaviour initiated by a negotiator designed to implement or operationalize a strategy.

**Threat:** a statement of intent to do damage or harm to a party.

**Timing:** the orchestration of critical events or moves so that they occur at an optimal moment in the negotiation, such as when negotiations begin and when offers are made.

**Tit-for-tat:** a pattern of negotiation moves that reward or coerce an opponent in reciprocal fashion. The negotiator offers back the same behaviour that was initially given.

**WATNA:** acronym for worst alternative to negotiated agreement.