

**INTERNATIONAL SUSTAINABLE DEVELOPMENT LAW:**

**WHAT ABOUT WATER?**

**Authors: Jessica Hertz and Adriana Ching (Interns)**

Research Coordinator: Ashlee June-Wells (Intern)

Research Assistant: Jean-François Leduc (Intern)



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# International Sustainable Development Law - What about Water?

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## Executive Summary

During the last 30 years, water has emerged as a critical issue on the international agenda. Within this time frame, it is possible to trace a distinct shift in the way in which water has been prioritized, from a constituent of environmental consideration to a fundamental human right. Although water has been acknowledged as a vital component of human life, there is no authority over the management of the world’s water supply. As one of the essentials in maintaining human life, should there be a governing body of law?

The state of water management is currently inadequate. As such, we propose that an International Legal Instrument on Water is necessary. Working in collaboration with the Center for International Sustainable Development Law’s (CISDL) document *Weaving the Rules for Our Common Future*, we have examined two cases of water stressed regions: Bangladesh and Malawi. We have used these local situations to assess CISDL’s 7 global principles: the principle of Common but Differentiated Responsibilities, the Precautionary Approach, Sustainable Use of Natural Resources, Intra-generational Equity and the Eradication of Poverty, Public Participation, Good Governance and Interrelationships. By analyzing two case studies of water management – Bangladesh and Malawi – we test the relevance and applicability of these principles in specific, local situations. We recognize that local problems require local solutions. However, we see great value in looking at regional problems within a larger framework. We envision an International Legal Instrument on Water as a comprehensive legal instrument that has the flexibility to allow for regional differences and unique solutions while still maintaining global authority. In conclusion, we propose that future water management be regulated by a comprehensive, non-binding International Legal Instrument on Water, based upon the general framework of the CISDL principles.

## **Water - Facts and figures**

- Only 3% of the world's water supply is fresh. Within this 3%, two-thirds is frozen and, as such, it is only 1% of the water supply that is either fresh surface or fresh groundwater – groundwater accounts for two-thirds of this.
- Industry is the largest withdrawer of water but not the largest consumer. Much of the water withdrawn for industry is returned to its source after being used for cooling or other purposes. The EPA estimates that 15% of all underground fuel storage tanks are leaking, posing a great threat to ground water. Groundwater problems are more difficult and less researched than the issues around surface water. For instance, groundwater contamination from urban waste disposal is very hard to track and costly to remedy.
- Global irrigation is the largest consumer of water, taking an estimated 70%. Pesticides, fertilizers and animal waste are agricultural sources of water contamination.
- Human consumption and sanitation is the most important use of water, though it utilizes only 10% of the world's available supply.
- UNICEF estimates that nearly four million children under age 5 in the developing world die from diseases caused by polluted water. A billion people drink unfiltered water taken from rivers or lakes into which human or animal feces have been discharged. Even more people, 1.7 billion, have no adequate sanitation.
- The World Health Organization estimated in 1980 that only 75% of urban and 29% of rural people in the developing areas of the world were adequately served drinking water.
- The State of the Future, 2001, published by the United Nations University, tackles 15 global challenges for a sustainable future. The second challenge presented is: How can everyone have sufficient clean water without conflict? Statistics include: "More than 1 billion people lack safe drinking water. Half the world lacks adequate sanitation, and 80% of all diseases in the developing world are water related. Agricultural land is becoming brackish worldwide. About 40% of humanity lives in river basins shared by more than two countries. If the present trends continue, two out of every three people on Earth will live in 'water-stressed' regions by 2025. Business-as-usual will lead to world water crises, causing mass migrations, disease, and wars" (United Nations University, State of the Future, 12). Proposed solutions include effective water distribution, sustainable agricultural practices and cooperative agreements on water rights (12).
- John Hopkins University predicts that, under current water management, 35% of the world's population will run short of water in the next 23 years.
- The World Bank estimates that nearly \$600 billion is needed globally to meet the demand for services in water supply over the next ten years. Much of this investment is expected to come from the private sector. Since 1990, private capital flows from the industrialized to the developing world have grown dramatically, from \$40 billion at the start of the decade to nearly \$250 billion today.

## **Emergence of Water on the International Agenda**

Concerns over the global implications of water problems were first voiced at the United Nations Conference on the Human Environment (UNCHE) in Stockholm in 1972. This conference marked the beginning of International Sustainable Development Law. With Stockholm, “sustainable development has become central to the development and understanding of contemporary international environmental law and diplomacy. As the 26 principles embodied in the *Stockholm Declaration* adopted at the UNCHE make clear, the numerous ecological crises threatening the planet demand that questions of economic development be integrated with issues concerning protection of the environment” (Hayden, 1). The conference introduced sustainable development as an emerging issue and a pertinent threat to the world’s ecological stability. As a result, the United Nations Environmental Program (UNEP) was founded with a mandate to support environmental sustainability within the framework of an integrated resource management approach.

Water was seen to be such an important issue following Stockholm that a conference was convened specifically on it – the 1977 Mar del Plata Conference. It produced an Action Plan adopted in December 1977 and established an International Drinking Water Supply and Sanitation Decade (1981-1990). The Mar del Plata Plan of Action recommended that governments “develop national plans and programmes for community water supply and sanitation, and identify intermediate milestones within the context of the socio-economic development planning periods and objectives giving priority attention to the segments of the population in greatest need”. In addition, Resolution II of the Conference states that “national development policies and plans should give priority to the supply of drinking water for the entire population and to the final disposal of wastewater”. Following this notion, the goal of the International Drinking Water Supply and Sanitation Decade was to achieve full access of water supply and sanitation for developing countries.

Although Stockholm initiated the discussion on sustainable development, it was not until the publication of the Brundtland Report, entitled *Our Common Future*, in 1987 the concept of sustainable development was clearly established and gained international support. The Brundtland report, by the World Commission on Environment and Development (WCED), 1987, defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. In the report, there is a political recognition of the outstanding link between fields: “An environmental crisis, a development crisis, an energy crisis. They are all one. Ecology and economics are becoming ever more interwoven – locally, nationally, and globally – into a seamless net of cause and effects” (*Our Common Future, supra*, 8-23). As a result of this direct acknowledgment, the Brundtland Report may be considered the initial moment when “sustainable development became a broad global policy objective” (CISDL, 8). This “policy objective” established a clear recognition of a three-point plan: an economic system of exchange and growth, a social system for development and equity, and an ecological system taking into account environmental concerns.

Following the Brundtland Report, the International Water and Environment Conference (Dublin, 1992) presented new approaches to freshwater resources, emphasizing integrated management of water basins and encouraging the protection of the world's ecosystems, with specific emphasis on the environment, both economic and social. The Dublin Conference identified the need for reform in the sector and laid the foundation for the freshwater chapter in Agenda 21 (Chapter 18), a product of the United Nations Conference on Environment and Development (UNCED), 1992.

The United Nations Conference on Environment and Development (UNCED) convened in Rio de Janeiro, 1992, addressing the environmental impact of social development. The result of the UNCED global conference was the Rio Declaration, which encouraged a global partnership to achieve sustainable development. The Rio Declaration proposes, "Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature." As one of the most vital natural resources, water is integral to providing a "healthy and productive life".

In addition to the Rio Declaration, the UNCED produced Agenda 21, the *Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forest*, and the signing of two global conventions, Climate Change and Biological Diversity. All are examples of soft law. Agenda 21 is the main document detailing the concept of International Sustainable Development Law (ISDL) in the 21<sup>st</sup> century. Among its primary foci, the assurance of water quality while preserving ecology and human activity is central. Agenda 21 contains logistics of integrated water resource planning and management. Chapter 18 specifically establishes the need for an integrated approach to water sustainability, considering economic, social and environmental law. Furthermore, Chapter 18 identifies 7 areas for the freshwater sector, including: "Integrated water resources development and management; Water resources assessment; Protection of water resources, water quality and aquatic ecosystems; Drinking-water supply and sanitation; Water and sustainable urban development; Water for sustainable food production and rural development; Impacts of climate change on water resources" (18.5). With the recognition of water management in all sectors of development, an integrated approach was reaffirmed as a strategic method of sustainable water supply. Additionally, the Rio Conference initiated the call for the creation of the World Water Council.

Since the Rio Conference, the 1997 UN Report, the "Comprehensive Assessment of the Freshwater Resources of the World", provides convincing evidence that a crisis of global proportions is looming if current trends continue. The report states, "Most recently, the Committee on Natural Resources of the Economic and Social Council noted with alarm that some 80 countries, comprising 40 per cent of the world's population, are already suffering from serious water shortages and that, in many cases, the scarcity of water resources has become the limiting factor to economic and social development. It further noted that ever increasing water pollution has become a major problem throughout the world, including coastal zones. The UN Commission on Sustainable Development, at its second session in 1994, noted that in many countries a rapid deterioration of water quality, serious water shortages and reduced availability of fresh water were severely

affecting human health, ecosystems and economic development”. As a result of this ecological threat, the Commission of Sustainable Development supports an integrated management plan for water policy. The report asserts, “Water plays many complex roles in human activities and natural systems. A comprehensive approach must thus relate to water use from many different aspects. The assessment describes the human interaction within the economic, social and environmental framework. It seeks to point out how the systems are interacting through different global linkages such as cultural influences, environmental impacts, global governance and trade, showing that the socio-ecological system is complex with connections within and between the different subsystems” (31.1). The report is an example of a comprehensive framework that touches upon all aspects of human development and is necessary to ensure the sustainability of water resources.

The growing emphasis on water management, from Mar del Plata in 1977 through the Dublin and Rio Conferences in 1992, provides evidence that there have been numerous attempts to provide a strategic method of safe consumption and sustainability. These efforts were renewed in the Second World Water Forum and Ministerial Conference. The Second World Water Forum, held in The Hague March 2000, produced a Ministerial Declaration on Water Security in the 21<sup>st</sup> Century. It states, “The goal of providing water security in the 21<sup>st</sup> Century is reflected in the unprecedented process of broad participation and discussion by experts, stakeholders and government officials in many regions of the world. This process has profited from the important contributions of the World Water Council, who launched the World Water Vision process at the First World Water Forum in Marrakech (March 1997), from the formation of the World Commission on Water in the 21<sup>st</sup> Century and from the development of the Framework for Action by the Global Water Partnership.” In order to meet these challenges, the Ministerial Declaration explicitly proposes an integrated water management plan, incorporating social, economic and environmental factors.

The development of water law continued at the meeting in Bonn in 2002 (“Dublin+10”), through the 10-year review of implementation of Agenda 21. Some key targets of Bonn include:

1. Meet the water security needs of the poor.
2. Decentralization is the key. The local level is where national policy meets community needs.
3. The key to better water outreach is new partnerships.
4. The key to long-term harmony with nature and neighbor is cooperative arrangements at the water basin level, including across water that touches many shores.
5. The essential key is stronger, better performing governance arrangements.

Most recently, the World Summit on Sustainable Development (WSSD) made water issues a top concern. United Nations Secretary-General Kofi Annan identified five specific areas where tangible results are crucial and practical. They include: water and sanitation; energy; agricultural productivity; biodiversity and ecosystem management; and health.

Additionally, the WSSD explicitly incorporates Millennium Development Goals into its agenda, hoping to realize and achieve substantial progress in meeting proposed targets by 2015. United Nations Secretary-General Kofi Annan stated in his opening remarks of the Economic and Security Council (ECOSOC) high-level segment, “MDGs will be a first priority. The MDGs will provide a plan of action and will ensure an integrated process to the conference [WSSD]”. Following Mr. Annan, United States Secretary of the Treasury Paul O’Neil included MDGs as part of the skeleton supporting the WSSD. Among the MDGs, he listed clean water, primary education and health care as the three top priorities for African development. Garnering further support, at a briefing at the US Mission to the UN on the WSSD, Jonathan Margolis, head of the Policy Coordination & Initiatives of the Bureau of Oceans & International Scientific Affairs in the US State Department, affirmed that the State Department, “fully supports the MDGs. We support the goal of halving the number of people without access to safe drinking water”.

Looking ahead, the Third World Water Forum will be held from March 16 to March 23, 2003. The plan for the Third World Water Forum is anchored on three basic concepts: a forum open to all, a conference created by all, and a call to action. The forum will be held in the Yodo River Basin, with sites in Kyoto, Shiga, and Osaka. It will emphasize that future efforts should be stepping stones toward concrete action in order to respond to the crisis of water issues today. Even in the preparatory period prior to 2003, plans have been firmly established for virtual conferences on the Third World Water Forum web site and for a series of regional conferences around the world. Additionally, a substantial document, the “Water Action Report”, will be presented during the Forum. The Forum will not be limited to the deepening of discussion in each technical field or geopolitical region; it will offer a broad-reaching opportunity for discussion and submissions leading towards the improvement of world water situations involving major stakeholders from various organizations, including NGOs, CEOs, unions and international governmental donor organizations.

### **NGO Participation**

As far as implementing these basic principles, governments have always dominated water policy decision making. However, in the last few decades, Non-governmental Organizations (NGOs) have played a growing role. Particularly in democracies, NGOs have taken an active role in determining how water should be protected and shared. International NGOs specializing in water include: Water Aid (UK); and Eau Vive (France). In the US, the American Water Works Association has established an NGO called “Water for People”. Information, research and networking NGOs include CINARA (Colombia); NETWAS (Kenya); and International Secretariat for water (Canada). Clearly, there are many types of NGOs concentrating on water issues around the globe. A more complete list of NGOs can be found on the websites of the Global Water Partnership and the Water Supply and Sanitation Collaborative Council.

NGOs contribute to policy-making in several ways. Firstly, these organizations take the place of political parties in voicing the people’s concerns. Secondly, through innovation, NGOs lead the government both in undertaking new ideas and approaches. NGOs then

have the ability to translate these thoughts into policies. Thirdly, because of their independence, NGOs can monitor the application of water policies. Fourthly, in research, many NGOs specialize in researching and publishing information. Information is power, so the free availability of objective information can help all parties develop policies more equitably.

Water Aid is an example of an NGO in action. Water Aid was founded in 1981 by the people and organizations of the British water industry and now works in 16 countries in Africa and Asia. Its aim is to help people in the developing countries improve their lives through better drinking water, sanitation, and hygiene. It achieves this by working through partner organizations to support community-managed projects, for example, by building the capacity of its partners (government and local NGOs) to take over the work without dependency on Water Aid and its influence on other organizations to lend support to the problems at hand. The former Chief Executive of Water Aid, Jon Lane, was pleased to say that with an annual budget of \$16 million, they help more than 600,000 people a year.

1972	UN Conference on the Human Environment (Stockholm)	Stockholm Declaration
1977	UN Water Conference in Mar del Plata	Mar del Plata Plan of Action; International Drinking Water Supply and Sanitation Decade (1981-1990)
1987	World Commission on Environment and Development	Brundtland Report
1992	International Water and Environment Conference (Dublin)	Dublin statement on Water and Sustainable Development
1992	UN Conference on Environment and Development (Rio)	Rio Declaration; Agenda 21; signing of 2 global conventions (Climate Change and Biological Diversity); the <i>Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forest</i>
1997	UN Commission on Sustainable Development	Report: "Comprehensive Assessment of the Freshwater Resources of the World"
2000	Second World Water Forum and Ministerial Conference (Hague)	The Hague Ministerial Declaration on Water Security in the 21 <sup>st</sup> Century
2002	Bonn International Conference on Water	Ministerial Declaration; Recommendations for Action; Bonn Keys
2002	Millennium Summit	Millennium Development Goals
2002	World Summit on Sustainable Development	To be held 26 August – 4 September 2002
2003	Third World Water Forum	To be held 16 - 23 March 2003

As evidenced through the continuum of support for an integrated water management approach from Stockholm to the Third World Water Forum, a number of agreements and principles that form the basis of future water policies are agreed upon, as evidenced by the chart above. By examining these conferences and their products, we have seen a clear shift in water priority. It is now recognized that:

- An integrated resource management approach is conclusive.
- Civil society will play an increasingly larger role in the policy-making process.
- **Water Wars:** Major conflicts in the 21<sup>st</sup> Century are likely to occur over water – it is increasingly being seen as security issue.
- Effective management of water resources requires a strong legislative framework as well as increased democratization and localization of decision-making.
- The international community is increasingly seeing the “right to sustainable access to safe drinking water” as a specific, fundamental human right.

Although these principles are agreed upon, there is no means of enforcement. **There is no single legal instrument for water at the international level.** Given the global consensus of the validity of an integrated approach, it is now time to move forward.

### **What Kind of Legal Framework is Best for Managing Water Resources?**

In light of these trends, the question arises as to whether it is now timely to consider the need for a coherent and comprehensive international legal framework for water resource management.

International law relating to water is limited in scope and relatively recent. The Convention on the Law of the Non-navigational uses of International Watercourses, adopted by the UN General Assembly in May 1997, declares that “Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner” (Article 5.1). Article 6 further states that the equitable and reasonable use of water must take into consideration “geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character; the social and economic needs of the watercourse States concerned; the population dependent on the watercourse in each watercourse State; the effects of the use of uses of the watercourses in one watercourse State on other watercourse States; existing and potential use of the watercourses; conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect; the availability of alternatives, of comparable value, to a particular planned or existing use” (Article 6.1). Although these comprehensive factors are agreed upon, no legislation is proposed to initiate a binding commitment.

Is a binding commitment necessary to achieve tangible results? International Sustainable Development Law (ISDL) is a non-binding, general body of law proposing principles that bring together the environmental, social and economic factors of development. ISDL standards inspire political commitment because of the normative status it creates. The concept of soft law regulating water management represents a shift from International

Conventions with exclusive state party participation and hard law protocols to the substantive, inclusive notion of ISDL, allowing stakeholder and civil society participation. Mr. Palitha Kohona, Chief of the Treaties Section at the United Nations, remarks, “We need a non-binding approach because of the rising tensions as a result of international treaties and conventions. It is an alternate approach to Rio. With a non-binding approach, non-State members may be part of the process.” Civil society participation in a non-binding legal instrument is a key advantage. With a broad range of participation, creative solutions appropriate to individual regions and peoples may be accommodated.

Dr. Ian Hannam, Principal Researcher in Legal and Institutional Aspects of Water and Land Management within its Centre for Natural Resources, affirms, “I am convinced that, given the specialized international instruments for other individual environmental matters, there is sound justification to formally investigate the role and need for a specialized instrument for water. The ecological justification is very sound (by virtue of the countless investigations that convincingly establish the deterioration of water quality, water degradation, diminishing supplies, user rights problems etc, etc.), so the concept of a specific legal instrument is the next step.”

Dr. Hannam reinforces the urgency for an International Legal Instrument on Water to address the global needs of water sustainability. Our proposed legal instrument is based upon the notion of a non-binding International Sustainable Development Law (ISDL), most fully articulated by the Center for International Sustainable Development Law (CISDL). In June 2002, CISDL held a conference in Montreal, Canada, discussing Sustainable Justice and measures to implement ISDL. In this conference, a draft outlining the cornerstones of ISDL was produced. These principles are based upon the idea of integrated resource management, namely “the growing set of legal principles and instruments which integrate environment, social and economic law form a corpus of international sustainable development law” (CISDL, 3).

While we recognize that a drawback of a non-binding approach is the lack of strict legal enforcement, the flexibility to account for individual solutions may be more beneficial to solving problems. A non-binding approach best supports the idiom “local problems require local solutions.” ISDL, as a substantive concept, identifies major trends and crucial considerations for successful resource management. In turn, regional legislature may be adopted according to an individual country’s needs. Adhering to the guidelines of ISDL, it is then the job of local governments and heads of state to implement these principles and to form legally binding statutes at a local level. Thus, ISDL initiates a broader coherency between various points of power, whether it is regional, national, or international.

### **The Right to Water**

“New voices are beginning to be heard in the debate over water, and new ideas – good and bad – considered. Among the most powerful and controversial of these new ideas is that water should be considered an ‘economic good’ – subject to the rules and power of

markets, multinational corporations, and international trading regimes” (Gleick et al., “The New Economy of Water: The Risks and Benefits of Globalization and Privatization of Fresh Water”,1). The economics of water is a highly controversial topic throughout the world today – the issues of water scarcity, water pricing and water privatization seem to be on everyone’s minds.

In many places throughout the world people are faced with the issue of water scarcity. More than 1 billion people lack safe drinking water. Water is a necessity of life and, as such, should be adequately and equitably accessible. For this reason, water supply has become a worldwide concern. However, is water a fundamental right? The crux of the argument that water is a basic right rests on the assumption that the human right to water is encompassed in a broader set of concerns related to human well-being. For example, the 1948 Universal Declaration of Human Rights explicitly grants the “right to life, to the enjoyment of a standard of living adequate for health and well-being, to protection from disease, and to adequate food”. As an inherent quality of life, water should be guaranteed as a basic right by the State.

If water is a fundamental right, does an individual have a *legal* right to water? Does the State or other parties involved have the responsibility to provide it when it is absent or insufficient? According to the United Nations Department of Public Information (DPI) fact sheet concerning the Johannesburg Summit 2002, “Some 1.1 billion people, or 18 per cent of the world’s population, lack access to safe drinking water, and over 2.4 billion people lack access to adequate sanitation. More than 2.2 million people in developing countries, most of them children, die each year from diseases associated with lack of access to safe drinking water, inadequate sanitation and poor hygiene. And a large proportion of people in developing countries suffer from diseases caused either directly or indirectly by the consumption of contaminated water or food or by disease-carrying organisms that breed in water. With adequate supplies of safe drinking water and sanitation, the incidence of some illnesses and death could drop by as much as 75 per cent” (p7). With such a large base of people affected by water quality and quantity, government responsibility must be acknowledged. Water is a vital component of human life. As a specific, fundamental right, it is the State’s obligation to ensure the provision of such a necessity.

### **Best Practice: EU Framework Directive**

Sensing the growing importance of efficient water management, in October 2000, the European Parliament enacted a Framework Directive for Community Action in the field of water policy. The objective of the European Union is to establish an integrated water management policy. As a result, in February 1996, the Commission Communication drafted legislation on Community water policy. The policy endorses major concepts of ISDL, such as the precautionary principle, recognition of economic social and developmental concerns, sustainable use of natural resources and public participation.

The plan of action to achieve these results includes identifying all river basins under national jurisdiction and organizing them into districts. Each district will then be analyzed and reviewed, with special attention paid to the impact of human activity on the water. Following this examination, a management plan will be constructed according to each district's unique needs. Member States will seek to establish comprehensive involvement of all interested parties in the implementation of the policy – civil society will be an important component of this process.

The idea of regional specification provides a good example as to how local governments can implement an integrated approach to water management. The Commission establishes firm policy principles and legal repercussions. For example, in July 2002, the Commission decided to take legal action against Portugal, Spain, Italy, Belgium, Luxembourg, The Netherlands, France and Greece for not complying with EU water quality legislation. The Directive's uncompromising stance on water pollution ensures an improvement will be made in water quality. Pertinent water quality EU laws include: The Dangerous Substances Directive, The Drinking Water Directive, The Bathing Water Directive, The Nitrates Directive and The Urban Wastewater Treatment Directive. This firm legal initiative is what is needed among top officials in order for results, such as the MDGs, to be achieved.

### **International Sustainable Development Law Principles**

In the absence of a single legal instrument concerning water, we consider the principles of ISDL to provide a valid and comprehensive framework for the practice of future water management.

#### **A. Principles of ISDL**

As international sustainable development is a non-binding process, it is the principles of the legal framework that give it its normative status. CISDL, a leading proponent of International Sustainable Development Law, examines these principles, establishing “that there is a clear and sufficient body of law underlying the concept of sustainable development, with sources in environmental, human rights, and economic law” (CISDL, 25).

##### **1. The principle of common but differentiated responsibilities**

The idea of common but differentiated responsibilities is based upon a realistic spectrum of an individual country's capabilities. In terms of legal accountability, it is necessary to clearly define these differentiated standards – the chasm between developed and developing countries must be pragmatically addressed.

The Rio Declaration explicitly legitimates this notion. Principle 7 asserts, “States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environment degradation, States have common but

differentiated responsibilities. The 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”.

Further expanding upon the concept of differentiated standards, one of the Millennium Declaration Goals is to “address the least developed countries’ special needs,” and to “deal comprehensively with developing countries’ debt problems”. By taking economic factors such as Gross Domestic Product (GDP) into account, countries will be held to different degrees of accountability. This does not infer that some countries will be less “accountable” to supply clean water to the people; rather, developing countries need outside assistance to provide a basic right to each individual.

## **2. The precautionary approach**

The Rio Declaration clearly states, “In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are serious or irreversible damages, lack of scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”. Economic desire for development often outweighs possible ecological repercussions because of the lack of explicit information concerning many causes of environmental harm (CISDL, 44). With regards to water management, the precautionary principle is applicable because of the ambiguity in the causal relationship between water and environmental, social and economic areas.

## **3. Sustainable use of natural resources**

States have a right to exercise their authority in managing their natural resources. However, this right cannot be considered absolute. Principle 2 of the Rio Declaration states, “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and development policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment or of other States or of areas beyond the limits of national jurisdiction”. Similarly, Principle 8 of the Rio Declaration declares, “To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies”. Additionally, Principle 4 asserts, “In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it”. As evidenced by these principles, the Rio Declaration affirms the idea of environmental limits to ensure sustainability. Since water can be considered a “common good”, it is the responsibility of States to ensure its sustainability through efficient management and education.

#### **4. Intra-generational equity and the eradication of poverty**

As previously stated, the Brundtland Report of the WCED defines the concept of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. The Rio Declaration addresses the notion of intra-generational equity in Principle 3: “The right to development must be fulfilled so as to equitably meet developmental and environmental needs of the present and future generations”. Future sustainability lies in hands of the present generation’s capability to handle environmental concerns. Intra-generational equity is therefore categorized under the tenet “everyone is entitled to the necessities of life: food, shelter, health care, education and the essential infrastructure for social organization” (See O. Schachter, *Sharing the World’s Resources* (Bangalore: Allied Publishers Private Limited, 1977) at 11-12, in CISDL, 35). Water is a “necessity of life.” It is essential to providing an adequate standard of living and is integral in reducing poverty. Due to its direct relationship with poverty, water is a crucial component for realizing the Millennium Declaration Goals of “Reduce by half the proportion of people living on less than a dollar a day,” and, “Reduce by half the proportion of people who suffer from hunger”. Once clean water is supplied, these goals will be more easily realized.

The Rio Declaration also places poverty eradication as a top priority. Principle 5 declares, “All States and all people shall cooperate in the essential task of eradicating poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of people of the people of the world”. Without the proper management of the world’s water supply, the goals of the Millennium Declaration, the Rio Declaration and Agenda 21 will not be realized.

#### **5. Public participation**

Due to the fact that ISDL is not “hard law”, its normative status requires a broad network of support, particularly among major stakeholders and governments. Though participation is not formally considered a “right”, it is necessary in order to ensure efficient implementation. As a result, increased public participation is equated with decentralization, allowing local decision-making to take place (CISDL, 53). Under the guidelines of the international right asserting that “[a]ll persons [...] have [...] the right to participate in relevant decision-making processes” (CISDL, 53), NGOs and major stakeholders play a crucial part in local implementation and creating a stable, regulatory environment.

#### **6. Good governance**

The goal of good governance is accountability to even the poorest subdivision of the population. The United Nations Development Program (UNDP) states, “it is

only with good governance that we can find solutions to poverty, inequity and insecurity” (UNDP, *Governance Policy Paper* (1997) at 1, found in CISDL, 56). Furthermore, the UNDP establishes nine requirements for good governance. They include: participation, rule of law, transparency, responsiveness, consensus orientation, equity, effectiveness and efficiency, accountability, and strategic vision (CISDL, 57).

## 7. Interrelationships

ISDL incorporates legal considerations for economic development, social concerns and environmental protection. For example, the Rio Declaration places an emphasis on integration by including environmental sustainability within the realm of the developmental process: “States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation” (Principle 12). In addition, Chapter 39 of Agenda 21 requires the “further development of international law on sustainable development, giving special attention to the delicate balance between environmental and developmental concerns” (Agenda 21, Chapter 39.1 Objective (a)).

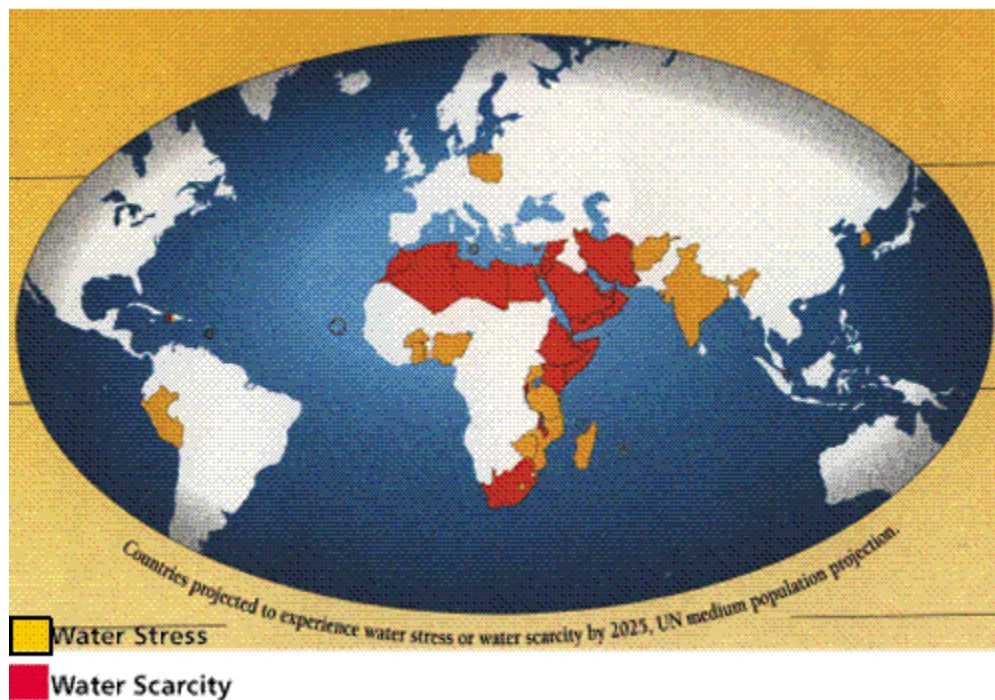
While not always a unified body, economic, social and environmental laws do have areas where an integrated approach is necessary. (CISDL, 57-8) We believe that water management is one of the areas in which individual entities of law will not suffice. Water affects every area of human development. As such, laws governing social, economic and environmental development must take water concerns into consideration.

### Case studies

According to the UN Report on “Comprehensive Assessment of the Freshwater Resources of the World, 1997, “**Water scarcity** occurs when the amount of water withdrawn from lakes, rivers or groundwater is so great that water supplies are no longer adequate to satisfy all human or ecosystem requirements, bringing about increased competition among potential demands. Scarcities are likely to happen sooner in regions where the per capita availability of water is low to start with and with high population growth. They become more serious if demand per capita is growing due to changes in consumption pattern”.

Since 1994, the FAO has been analyzing future trends in population and water supply in countries around the world. They estimate that by 2025, 15 countries will experience water stress, including Afghanistan, Burkina Faso, Ghana, India, Korea Republic, Lebanon, Lesotho, Madagascar, Mozambique, Peru, Poland, Tanzania, Togo, Uganda, and Zimbabwe. Another 9 will suffer water scarcity: Comoros, Cyprus, Egypt, Ethiopia, Haiti, Iran, Morocco, South Africa and Syria. 22 will meet a water barrier by 2025 – Algeria, Bahrain, Barbados, Burundi, Cape Verde, Djibouti, Israel, Jordan, Kenya,

Kuwait, Libya, Malawi, Malta, Oman, Qatar, Rwanda, Saudi Arabia, Singapore, Somalia, Tunisia, the United Arab Emirates and Yemen.



We have chosen to do a case study on one water stressed country – Bangladesh and one water barrier country – Malawi.

In these case studies, we apply the 7 CISDL principles to gain an understanding of how the application of this approach could lead to a more effective and efficient policy framework for the future management of water resources.

### **Bangladesh: Water Contamination**

We see in Bangladesh what the WHO calls, “largest mass poisoning of a population in history” (Bearak, 1). The New York Times cites “some 35 million are drinking arsenic-contaminated water, the poison accumulating within them day by day, sip by sip” (Bearak, 1). As a result of groundwater contamination, Dr. Richard Wilson, an expert in risk analysis, estimates one million will perish from arsenic poisoning. Dr. Sk. Ahktar Ahmad, a public health specialist, hypothesizes approximately 3-5 million people (Bearak, 2). The exact number of affected citizens is unknown. However, a survey of the School of Environmental Studies, Jadavpur University and Dhaka Community Hospital reflects 47 contaminated districts and an exposed population of more than 25 million (IWRA, “Extent and Severity of Groundwater Arsenic Contamination in Bangladesh,” 370).

This arsenic hazard will have crucial impacts on the health, social and economic status of the population. Almost the whole country is contaminated with arsenic –severe areas include southern and northeast areas (IWRA, “Extent and Severity of Groundwater Arsenic Contamination in Bangladesh,” 370). Due to its population density and number of affected citizens, Bangladesh has been cited as the most vulnerable country in the world with respect to arsenic pollution. However, arsenic poisoning can, in most cases, be reversed if consumption of contaminated water is stopped. It has been concluded by the International Water Resources Association (IWRA) that the source of arsenic is in the geological deposits (IWRA, “Extent and Severity of Groundwater Arsenic Contamination in Bangladesh,” 376). Nevertheless, ways to filter unsafe water and alternatives to mitigate arsenicosis exist. The solution largely lies in the education of villagers and the provision of necessary equipment.

### **Consequences of arsenic contamination in Bangladeshi water supply:**

#### **1. Health effects**

**The 1993 World Health Organization (WHO) recommendations on the safety guidelines of levels of arsenic in drinking water are 0.01 mg/L. In Bangladesh and India, the maximum level for arsenic is 0.05 mg/L (IWRA, “Extent and Severity of Groundwater Arsenic Contamination in Bangladesh,” 372).** In many areas of Bangladesh, the people are exposed to as much as 1 mg/L. Arsenic poisoning not only affects an individual’s state of health (nutrition, hygiene, disease), but his/her work capacity, and social status. Possible non-cancer effects include: skin lesions, peripheral vascular disease, gangrene, hypertension, ischemic heart disease, pulmonary health effects, anemia and diabetes mellitus. Because arsenic has been identified as a carcinogen (Hutchinson, 1280), it is often highly associated with skin cancer, as well as bladder, kidney, lung, liver and colon cancers.

#### **2. Reducing levels of arsenic in drinking water**

##### **Groundwater**

The treatment of arsenicosis is largely based on the termination of arsenic contaminated water. However, in highly contaminated areas, there will often not be a tube well with safe drinking water status. It is nonetheless possible to treat water to make it safe for human consumption – filtering methods to reduce the concentration of arsenic in the water are feasible.

Another option for mitigation is the development of deep tube wells. The problem with this alternative is both the initial direct cost and the expense of training and equipping drill teams.

##### **Surface Water**

Due to the limitation of surface water in Bangladesh, the majority of irrigation and drinking water is supplied from underground sources (IWRA, “Extent and Severity of Groundwater Arsenic Contamination in Bangladesh,” 376). Surface water (rainwater,

lakes, rivers etc.) is typically low in arsenic, and provides an alternative to drinking contaminated water from drinking tube wells. However, the majority of the surface water supply is contaminated with human and animal waste products. For example, rainwater harvesting runs the risk of possible chemical contamination, particularly where air pollution is an imminent threat. In addition, contamination may occur by bird droppings or infiltration of insects where water is stored for long periods of time (IWRA, “Extent and Severity of Groundwater Arsenic Contamination in Bangladesh,” 376).

### **3. Arsenic poisoning and Economic Status**

**In examining the population infected with arsenic-poisoning, there is evidence that there is often a negative relationship between arsenicosis and household income. In addition, physical access to arsenic-free water does not guarantee families may use this source (IWRA, “Extent and Severity of Groundwater Arsenic Contamination in Bangladesh,” 378).** Those who have the economic ability to pay for water supply will have a distinct advantage – the economically privileged will have greater access to storage tanks, rainwater harvesting systems and other types of negotiations. As in most cases dealing with water supply, the poor segment of Bangladesh suffers the most. Those with inadequate access to health care treatment must, in turn, find other methods of managing the consequences of arsenic poisoning. For example, a household may suffer a reduction of food consumption or of other basic needs due to necessary economic cutbacks. As a result, many children forgo their schooling in order to preserve income. Alternatively, many women may bear the weight of work responsibilities or suffer the effect of intra-household food distribution, where she is often the last in the chain of hierarchy to be fed.

### **4. Government approach**

The National Water Council (NWC), chaired by the Prime Minister, is the organization that makes decisions and creates policy guidelines on national issues surrounding water resources. International ministerial meetings also contribute to decision-making.

In Bangladesh, boiling water could take up to 11 percent of a family’s income. Due to this heavy burden on the general population, a national water policy must address the economic sector, water pricing, and privatization. As a result of the increasing population and demand for water, water management is a serious issue in developing countries such as Bangladesh. Water is no longer a free, unlimited resource and strategic plans for water management must be initialized. Mr. Pierre Quiblier, Information Officer of UNEP, believes “The UN, as an interagency task force, is equipped to tackle water”. Mr. Quiblier states that there are two ways in which water can be handled: “‘preventative or curative’. Looking at political and economic means is curative. The case in Bangladesh is a prime example of this. The damage in this case has, however, already been done. The challenge now is to provide preventative measures”. He suggests a potential solution could be a “strong recommendation on water pricing, which reflects the cost of water in an equitable manner as a vital source of life”.

The Bangladesh country profile report, to be submitted to the Commission on Sustainable Development (CSD) and published for the WSSD, explicitly states that the National Water Plan did not achieve its goal of a comprehensive water plan. Given the current state of water quality and quantity in Bangladesh, an International Legal Instrument on Water would establish firm principles, such as common but differentiated responsibilities the precautionary method, sustainable use of resources and public participation. These principles would greatly benefit the country's ability to supply clean water to the people. Although the state of water quality in Bangladesh is currently inadequate, the local government has made steps in the right direction. For example, India and Bangladesh have recently signed an agreement to share water from the Ganges River, aiding those Bangladeshi farmers who depend on that river water for the dry season. The IWRA estimates that, "Of the available water, 92% flows into Bangladesh from outside its territorial limit. Due to massive withdrawal by India of the Ganges water at Farraka and other upstream rivers, the economy of Bangladesh has been severely disrupted, producing adverse impact on all sectors. The situation is expected to improve with the recent signing of a 30-year agreement between Bangladesh and India on sharing the water of the Ganges" (IWRA, "Extent and Severity of Groundwater Arsenic Contamination in Bangladesh," 372). This agreement shows the Bangladeshi government's political commitment to the people and the good will of the Indian government.

### **The Bangladesh case study and the ISDL Principles**

After examining the case, we question: Had the ISDL principles been applied, could this crisis have been averted? How could the application of these principles now help rectify the situation and ameliorate the conditions in the future? Can these principles serve as the much needed catalyst for change?

The Bangladesh case study is perhaps a "perfect" –but unfortunate– example of the need for an ISDL approach. Taking into consideration the effects of arsenic-polluted water on the environment and communities, ISDL principles offer a practical framework for considering all aspects of water management. Applying these internationally recognized principles to a specific situation allows us to clearly identify successful and unsuccessful practices of current water management procedures.

#### **Common but differentiated responsibilities**

As the "largest mass poisoning of a population in history", it is clear that the Bangladesh government cannot face this natural and social catastrophe alone. Fortunately, due to the enormity and the urgency of this problem, the international community mobilized rather quickly. Bangladesh received early help from major actors, such as WHO, UNICEF and the World Bank. For example, "in 1998, the World Bank sped the normal paperwork and lent the government \$32.4 million to act on emergency. Every tube well was to be tested. Safe sources of water were to be provided" (Bearak, 1).

In addition to economic relief, the Bangladesh situation is expected to improve as a result of the agreement to share the Ganges River, signed between India and Bangladesh. This agreement ensures bi-lateral cooperation and a commitment to the Bangladeshi people.

### **The Precautionary approach**

The precautionary principle is stated in the Rio Declaration as “Where there are serious or irreversible damages, lack of scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”. In the case of Bangladesh, drinking tube wells were drilled in 1993 without testing for possible contamination from geological deposits. However, these geological deposits are the now known cause for arsenic-contamination. As is evident in the Bangladesh case, arsenic can cause severe effects on the health, economic growth and environmental sustainability of a given population. It is our analysis that the *Precautionary approach* was not successfully applied.

### **The principle of Sustainable use of natural resources**

Linked to the precautionary approach is the question of sustainable use of natural resources. Though arsenic contamination is an example of a chemical contamination from a natural resource, direct human activities are not without blame. In a country that is already struggling with water shortage, over irrigation has had an enormous impact on water availability. Therefore, a precautionary method regulating the overuse of groundwater should be instituted.

### **The Intra-generational Equity and Poverty Eradication principle**

The first step toward eradicating poverty is adequate access to clean water. In Bangladesh, water scarcity hits the poor hardest. Often, inter-household substitutions occur, whether it is economically or socially related. Unfortunately, women and children often suffer the most extreme consequences. Women and girls often bear the responsibility of water collection. As a result, there is a considerable health benefit to be gained from decreasing the women’s weight-bearing responsibilities. In addition, children often forgo their schooling in order to substitute for household income or domestic responsibilities.

### **Good governance**

On a more positive note, the new democratically elected Bangladeshi government is working hard to meet the UNDP good governance requirements. The government is making concrete steps to initiate education and responsibility for safe water. The political will and commitment for *Good governance* is a step in the right direction.

Overtime, transparency and consistency of government policies will be critical to realizing the promise of water supply. Repudiation of commitment after funds have been expended will chill investors’ enthusiasm, divert capital to less risky areas, or result in greater costs. Consequently, governments must accept their responsibility for setting standards, monitoring compliance, and enforcing requirements.

### **Public Participation**

Hopefully, the initiative of good governance will lead to a broader and integrated participation of the public. This will imply incorporating the public opinion in decision-making and involving *every* segment of stakeholders, particularly women and children.

### **Interrelationships**

Water is crucial to all aspects of life. As we see in Bangladesh, safe drinking water is one of the most important determinants of health and socioeconomic development. We see through women and children that gender often affects hierarchy within families, and thus access to food and water. In Bangladesh, it is evident that there is a negative relationship between access to clean drinking water and economic status – the wealthy segment of the population in Bangladesh has clear advantages in procuring safe water.

### **Recommendations**

In the case of Bangladesh, some ISDL principles have been followed. For example, the international community has assumed the great responsibility of aid, adhering to the principle of common but differentiated responsibilities. With the World Bank's emergency contribution, the Bangladeshi government was able to take the necessary initiative of beginning to test all tube wells for arsenic contamination. In turn, the Bangladeshi government has made steps towards ensuring good governance, implementing educational awareness and early detection programs, as well as mitigation strategies.

Taking economics and development into consideration requires a regional committee to advise the National Water Counsel on policy and legislation. In turn, local implementation agencies are necessary to enforce regulation, monitor water regimes and develop infrastructure. All stakeholders must have a role in this process. According to the Agricultural and Natural Resources Division, South Asia, "The government's role in this process is to establish the ground rules for water use and conservation through a policy and legal framework and a monitoring system that ensures its continued safety of supply to – and responsible use of water by – every sector and user in the economy. National water policy must set the ground rules for allocation to different users, water rights, pricing, and environmental safety" (Rashid Faruquee et al. N.Pag.Internet). It is our recommendation that this process involve NGOs and representatives of the society at large.

The crisis in Bangladesh has shown us that principles such as the precautionary approach and the sustainable use of resources are vital to the process of water management. Had the precautionary principle been applied when the tube wells were first drilled, perhaps the water situation in Bangladesh would be different. Looking at it from a another approach, if the cause of arsenic contamination is over-irrigation, the ISDL principle of sustainable use of natural resources could have been applied to establish ground rules that would, perhaps, have limited irrigation and thus averted a crisis. Using a non-binding, comprehensive legal framework, the ISDL principles manage to cover a broad spectrum of possible situations. It is the flexibility allowing for different applications of the legal instrument which we find most appropriate as the foundation for an International Legal Instrument on Water.

### **Malawi: Water Scarcity**

For Malawi the critical issues are different – it is a land-locked country with a growing population. Malawi is one of the poorest and least developed countries in the world; ranked 159 out of 174. Only 47 percent of the population has access to clean drinking water and a staggering 97 percent do not have access to sanitation facilities. As a result, water-related diseases such as schistosomiasis and amoebic dysentery are rampant. Further complicating conditions in this southeast African country is the fact that 50 percent of the population is under 15, only 40 percent are literate and 90 percent live in rural areas. According to World Bank estimates, the average income in Malawi is \$170 a year.

For the past three years, drought has affected the subsistence farming lifestyle of most of the population. As a result of low literacy rate, few people can find other employment to purchase food for their families. AIDS/HIV has invaded the country- 1 out of 5 is HIV positive. Nearly 1 in 4 children cannot expect to live beyond the age of five, and virtually every other child displays signs of stunted growth.

### **Community Needs and their Problems**

Health services and education are severely lacking in Malawi. 53 percent of the population is in need of potable water and 97 percent has no access to proper waste disposal. Most of the people who live near Lake Malawi rely on unsafe water for drinking and on the lake fish supply for food. Men herd their small herds of livestock to the water for drinking. Women wash clothes and families bath in its waters. For communities not close to the lake, fetching water requires a five- hour walk, after which the water must be boiled for purification.

Water ‘poverty’ affects all poor people, but particularly women. In Malawi the young mother has to choose between a journey with her sick child to the health clinic, and remaining at home and collecting water for her other small children. The consequences are huge in terms of human development. As a result, children, often the youngest girl, are responsible for collecting buckets of water from the nearest water source, usually the same ones used for bathing and washing clothes, and frequented by the livestock, too. Uncollected garbage and non-functional pipelines add to filling the water with diseases. Unimproved, hand-dug wells only serve to spread disease and discomfort in many communities that lack choices, positions and a voice in decisions that shape their lives.

The importance of water on poor people’s lives goes far beyond the significant health-related outcomes to broader issues of livelihoods and well-being. In particular, poor management of water resources has led to degradation of the environment and loss of natural resources on which the livelihoods of so many of the rural poor depend.

### **Water Conservation and Demand Management in Malawi**

A growing economy, a needy and increasing population, expanded access to water supplies and our increasing environmental obligations presuppose a need for more water,

not less. But with finite freshwater resources available, or even dwindling due to pollution, we have to rethink our philosophy of endless growth. Unless we rethink and start working at good water management, less is where we are heading for. The new paradigm is water conservation and demand management. This approach will reduce:

1. Overuse of water resources
2. Overcapitalization
3. Resource wastage
4. Pollution problems

Legislation for water management is often outdated and relies on continued use of unrealistic statutes. Pollution control legislation is neglected. There is, however, often little capacity to enforce legislation. For example, it is difficult to stop illegal connections and cutoff users who do not pay. Therefore, many cities should make adjustments to the legislative background. These adjustments may be made in areas of: privatization regulation, water abstraction licensing, variable tariff structures, and regulation of the informal private vendors.

### **Current Projects in Malawi**

1. A **United Nations** regional program is addressing the growing water crisis in African cities. The program, which is a collaborative of the UNEP within the framework of the United Nations system-wide Special Initiative in Africa, is a direct follow-up of the Cape Town declaration of 1997, adopted by African Ministries to address the urgent need to properly manage water for African cities.

The program specifically focuses on the following three inter-linked priorities:

1. Improving efficiency of water through water demand management.
2. Mitigation of the environmental impact of urbanization of freshwater resources.
3. Enhancing the flow of information and introducing water education.

2. The Malawian Government has established a **National Water Development Policy**, and there is an ongoing water development project to get good and clean water to the rural community, upgrading management of water resources and the provision of water related services. Areas receiving attention in policy and strategy formulation are:

- Integrated Water Resources Development and Management which involves developing water resources and managing water taking into account the interactions among water and social and economic development;
- protection of water resources, water resources and aquatic resources;
- drinking water supply and sanitation;
- water and sustainable urban development;
- water for sustainable food production and rural development; and
- impacts of climate change on water resources.

Within the National Water Development Policy, it is the government's commitment to bring on board communities, water boards, local authorities, the private sector, NGO's,

government line agencies and local governments to address the issue of integrated management of water resources and drinking water supply and sanitation in the country with full community participation.

**3. Local Projects.** WHO/UNICEF estimates that about 6,000 children die everyday due to lack of safe drinking water, basic health, hygiene education and sanitation. In response, a dedicated handful of North American water professionals from the American Water Works Association established Water for People in 1991. They are an international, nonprofit, development organization committed to the long-term impact of increased access to safe drinking and improved sanitation and health.

### **The Malawi case study and the ISDL Principles**

#### **Precautionary principle, Sustainable use of natural resources**

The Malawi case study raises several questions regarding the ISDL principles. In a country where there is an unstable political environment, poor water facilities and rapid population growth, certain principles lose some of their applicability. For instance, if we take the *Precautionary principle*, there is hardly a way to be “precautious” in a country where hundreds of people are dying every day from a lack of access to water. Even if there were some accessibility, such as the use of aquifers, boreholes or wells, it would be hard to demand a *sustainable use* of water. The urgent need for water, coupled with the country’s struggling financial situation, makes it difficult to follow the precautionary principle.

#### **Common but differentiated responsibilities**

The principle of “*Common but different responsibilities*”, plays a central role in the Malawi case. The United Nations Environmental Program (UNEP), along with WHO and UNICEF, has been making tremendous efforts to help the Malawian population. Cooperation from UN agencies is a step in the right direction and a good example of the growing acceptance and frequent practice of the common but differentiated responsibilities.

#### **Good governance**

The *Good governance principle* must be a prerequisite in order to achieve efficiency in the application of the ISDL principles. Even with the assistance of the International community, local governments and major stakeholders in Malawi still have the duty to maintain their responsibilities to provide adequate living standards to the people. The UNDP has established nine requirements for good governance. Among them are transparency, equity and participation. Malawi has been subject to political tyranny for the last 30 years. However, the new democratically elected Malawian government is an enormous step forward towards good governance and *public participation*. The government is now more accountable to the Malawian people. Additionally, the community as a whole has more access to political involvement.

#### **Public participation**

A good example of public participation in Malawi is Water for People. Water for People's philosophy is to create a partnership with local Malawian non-governmental organizations that have the language, cultural and technical expertise to carry out projects in the most efficient way. The idea is to help them develop the ability to financially and technically support safe drinking water projects. Providing health and hygiene education to all communities is an important component of this support.

### **Intra-generational equity**

Equitable allocation of water resources provides an important opportunity for social and environmental justice. The Department for International Development (DFID) and The Department of Water and Forestry in Africa are taking this approach.

Water scarcity can inevitably lead to conflict. At the local levels, disputes over water are encountered daily. They may not capture headlines, but local tensions and violence over equitable access to water may be severely damaging and costly in terms of the impact on the livelihoods of the poor and the condition of the environment.

### **Recommendations**

The crisis in Malawi has shown us that the principles of good governance and common but differentiated responsibilities are essential to successful water management. Eventually, when water is more accessible, the precautionary approach and the sustainable use of resources will be more easily implemented to avoid situations like the arsenic contamination in Bangladesh. As a result, the Malawian people will be afforded a healthier life.

Managing water in an environment of such scarcity is a huge task – the burden is complex, immense and exhausting. Poor households' survival options are very limited in places of water scarcity. Highly vulnerable to economic and climatic shocks and with negligible access to finance, the drain on the household livelihoods of the poor segment of the population is considerable.

The priority for everyone should be to move from global recognition of the problem- and a vision of how things should change- to local actions. We understand the problem and we need to move forward. An ISDL approach offers the ability to act on a local as well as international level through the principle of common but differentiated responsibility. Recognition of differentiated standards would give Malawi the global commitment and funds necessary to attain international aid while still allowing for local action.

The search for better management of water should be guided by the principles of putting people at the center. Responding to the demand for the need of water and recognizing its inherent economic value is crucial. Governments, civil society, the private sector and communities all have vital roles to play.

### **Concluding Observations**

Taking into consideration that by 2025 a possible 2 out of every 3 persons will live in a water-stressed region, it is clear that there is a need for an overarching global authority to assist in administering problems and initiating solutions. However, as Palitha Kohona, Chief of the Treaties Section in the United Nations, stated “the global community can only assist so far”. A balance must be struck between international cooperation and individual government liability. Governments must be held accountable for providing safe water. Unfortunately, there is a huge need for capital in the supply of clean drinking water. The estimated cost of providing universal water access by 2010 is high, between \$31 billion and \$35 billion annually, between 2000 and 2010. However, the poorest developing countries are now recognizing the social and economic consequences of unsafe water. Without regulation of the water supply, clean water will become even scarcer and risk of contamination will continue to increase. In addition, we must address the role of the people in the mismanagement of their water resource. The people, while understanding that clean water is integral in maintaining a healthy life, still resort to unsafe use of their water.

An International Legal Instrument on Water will aid the process of achieving global commitment, economic assistance and public education. With a non-binding, single instrument for water regulation, governments and people will be able to make informed decisions about safe water management. Additionally, local governments will begin to acquire the necessary funds to implement safe practices of water consumption with the help of global partnerships.

Both Bangladesh and Malawi are good illustrations of the need to apply the ISDL principles. The ISDL legal framework has helped us identify the strengths and weaknesses of what has happened and guided us in our recommendations of what should be done in a country where water resources are currently inadequate or inaccessible. Countries experiencing water stress or scarcity can use Bangladesh and Malawi as models to evaluate alternatives and potential solutions. By applying and following the ISDL principles, countries will be able to implement a more efficient water management strategy.

An ISDL approach offers several benefits. Firstly, non-binding agreements encourage international cooperation. We have to keep in mind that these partnerships must be firm enough to establish global norms and accountability. As an alternative form of legal treaties, a non-binding approach accounts for the flexibility required to meet an individual country’s needs. A broad legal framework establishing substantive guidelines will lead to a greater coherency between regional and international legislation.

Secondly, an ISDL policy encourages a wide range of public participation. As an alternate approach to binding declarations and treaties, our proposed International Legal Instrument on Water places people at the heart of the policy process. The Rio Declaration states “Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature”. As such, it is crucial that the voice of people be heard – the venue in which water will be

discussed must include civil society and all major stakeholders in addition to local governments and international organizations.

Lastly, following an integrated resource management methodology, ISDL includes three main considerations of any given population – economic progress, social development and environmental sustainability. As a future-centric policy, ISDL focuses on how global crises affect not only our generation, but future generations. Statistics clearly indicate that if the present trends continue, “two-thirds of the world’s population is likely to live in countries with moderate or severe water shortages” (Fact Sheets for the Johannesburg Summit, 7). With recognition of the impending need for water management, the first step in the solution process is complete. It is now time to take action and ensure water sustainability for future generations to come.

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### LIST OF ACRONYMS

#### ---C---

CIEL	Center for International Environmental Law
CINARA	
CISDL	Center for International Sustainable Development Law
CSD	Commission on sustainable Development

#### ---D---

DFID	Department for International Development
DPI	Department of Public Information

#### ---E---

ECOSOC	Economic and Social Council
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EPA	Environmental Protection Agency
<b>----F----</b>	
FAO	Food and Agriculture Organization
<b>----G----</b>	
GDP	Gross Domestic Product
<b>----I----</b>	
ISDL	International Sustainable Development Law
IWRA	International Water Resources Associations
<b>----M----</b>	
MDG	Millennium Declaration Goals
<b>----N----</b>	
NETWAS	Network for Water and Sanitation
NGO	Non-Governmental Organization
NWC	National Water Council
<b>----U----</b>	
UNCED	United Nations Conference on Environment and Development
UNCHE	United Nations Conference on Human Environment
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
UNICEF	United Nations International Children's Emergency Funds
<b>----W----</b>	
WCED	World Commission on Environment and Development
WHO	World Health Organization
WSSD	World Summit on Sustainable Development

<b>ISDL PRINCIPLES</b>	<b>BANGLADESH</b>	<b>RECOMMANDATIONS</b>	<b>MALAWI</b>	<b>RECOMMANDATIONS</b>
<i>1. Common but differentiated responsibilities</i>	STEP IN THE RIGHT DIRECTION	Greater involvement of national governments.	STEP IN THE RIGHT DIRECTION	Greater involvement of national governments.

2. <i>Precautionary Approach</i>	NOT SUCCESSFUL	In order to achieve long term quality water management, the precautionary approach must be firmly applied.	TO BE APPLIED	Find solution to adequate water accessibility, then apply the precautionary principle.
3. <i>Sustainable use of natural resources</i>	NOT SUCCESSFUL	Establish government regulation against over irrigation.	TO BE APPLIED	Balance of urgency need for water vs. Sustainable use of water
4. <i>Intra-generational equity and the eradication of poverty</i>	NOT SUCCESSFUL	First step to poverty eradication is clean water and adequate access.	STEP IN THE RIGHT DIRECTION	First step to poverty eradication is clean water and adequate access.
5. <i>Public Participation</i>	STEP IN THE RIGHT DIRECTION	Greater involvement of civil society-established public committee.	STEP IN THE RIGHT DIRECTION	Greater involvement of civil society-established public committee.
6. <i>Good Governance</i>	STEP IN THE RIGHT DIRECTION	Establish successful National Water Plan.	STEP IN THE RIGHT DIRECTION	Continuation of democratic and good will governance.
7. <i>Interrelationships</i>	CORNERSTONE	Importance of integrating all 3 components in order to achieve successful water management.	CORNERSTONE	Importance of integrating all 3 components in order to achieve successful water management.