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**LATIN AMERICA AND THE CARIBBEAN PREPARATORY PROCESS  
FOR THE TWELFTH SESSION OF THE  
COMMISSION ON SUSTAINABLE DEVELOPMENT  
EFFECTIVE WATER GOVERNANCE IN THE AMERICAS: A KEY ISSUE**

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## I. INTRODUCTION

### 1. Relevance of the subject

Governance as applied to water encompasses both the capacity to design socially acceptable public policy that fosters the sustainable development of water resources and to implement it effectively through the relevant institutions.

The very limitations of governance make it a subject worthy of study.<sup>1</sup> The growing awareness within the region of concerns such as the unsustainable use of water, its scarcity, pollution, monopoly control and the lack of access to water-related services of significant sectors of the population, all illustrate the relevance of the issue.

Some countries have implemented significant reforms. For example, Brazil has adopted a new water legislation and a national water management policy; Chile has reformed its water law and water and sanitation sector; Argentina has privatised both the hydroelectric sector and the water and sanitation utilities in several cities; Colombia and Bolivia have also privatised some water and sanitation services, and Mexico recently reformed its water legislation and also privatised some water-related services. In addition, a number of countries, including Bolivia, Paraguay, Peru, Ecuador, El Salvador, Honduras, Venezuela, Guatemala, Costa Rica and Chile, are currently discussing modifying or reforming their water legislation.

The specific content of these processes has been determined by various perceptions of the problem, ranging from those that emphasise a limited number of criteria, which are not necessarily related to the nature of the question at hand (tending to emphasise private property rights, minimising the character of water as a public good) to those that assume conditions of perfect competition, which in practice do not exist. In some cases these restricted or very optimistic visions of water management have resulted in the monopoly control of water resources and in inadequate regulatory frameworks.

## II. THE BACKGROUND OF WATER GOVERNANCE IN LATIN AMERICA: SOCIAL, ECONOMIC AND POLITICAL CONTEXT

Water management problems, both in respect to the resource itself and to water related services, neither originate nor can be solved within the confines of water resources alone. For this reason, water resource governance cannot be either analysed or understood outside of a general frame of reference to governance and its related problems in the global society. A lack of awareness of this reality, coupled with an ignorance, on occasion deliberate, of contextual differences, can result in the proposal of greatly over-

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<sup>1</sup> Olson, M. "Auge y Decadencia de las Naciones (Rise and Fall of Nations)", Barcelona, Ariel 1986.

simplified, uniform, and generalised solutions that are<sup>2</sup> simplistic, or ideological, and eventually counterproductive.

## **1. Social, economic and political challenges**

With regard to human development, most Latin American countries are ranked between 34 and 108 in the Human Development Index, only Argentina, Uruguay, Chile and Costa Rica are classified as having high levels of human development.<sup>3</sup> Furthermore, Latin America is the region with the highest level of social inequality in the world, according to World Bank statistics.<sup>4</sup>

The last few decades have been marked by profound changes. The 1980s was in general a period of marked stagnation, "the lost decade". In the first half of the 1990s, Latin America entered into a period of growth and recovery. However, the second half of the decade has again been characterised by stagnation. It has also been strongly affected by instability and the crises in international trade.

Most countries have undertaken significant reforms designed to reduce the role of the State in entrepreneurial activities and in the provision of services, which, in some cases, have been accompanied by privatisation and the liberalisation of markets and trade.

## **2. Issues facing the State and civil society**

Studies carried out on the public perception of government institutions often show that these have an alarmingly low level of credibility.

### **a) The inefficiency of public administration**

A fundamental reason for the loss of credibility by public institutions is their incapacity to meet the basic needs of the population in terms of public services.

### **b) The weak regulatory role of the state**

The management of a public good, such as water, as both a resource and a service, is problematic and precarious when regulatory institutions do not adapt to the nature of the thing they are regulating. In this respect, the procedures for institutional change in Latin America have often neglected the fact that markets do not function properly without free flows of information, competition, and control of externalities.

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<sup>2</sup> Arbor, Xavier and Giner, Salvador, "La Gobernabilidad: Ciudadanía y Democracia en la Encrucijada Mundial" Siglo Veintiuno de España Editores, S.A." 1996, Madrid, p. 2.

<sup>3</sup> UNDP; Human Development Report 2001

<sup>4</sup> Trends in Income Distribution, Social Panorama in Latin America 2000-2001; ECLAC; "Income distribution in Latin America stands out internationally especially because of the disproportionate amount of the total income that the 10% of the richer households manages to amass. Except for Costa Rica and Uruguay, this strata receives over 30% of the income, and in most of them the percentage is more than 35%".

### **c) The weakness of civil society**

In developed countries with strong corporate structures representing various interests consensus and self-regulation are tools that are increasingly used with the consequent reduction of transaction costs. However, this system, when transferred to societies in which there is both an imbalance of power and inequality of access among the various groups, leads to the group with the greater capacity of *de facto* political leverage managing to manipulate the political system for benefits that are not necessarily in the common interest.

This asymmetry may lead to outcomes such as: unjustified allocation of water rights; ignoring the water uses of indigenous groups; support for projects with an overall negative economic impact, but which yield benefits to one particular sector; regulatory regimes that fail to induce efficiency in the provision of water-related services, to mention only the most notorious examples.

### **d) Co-optation and corruption**

The public perception of the capturing of the state apparatus by a particular group of users contributes to the view that the apparatus itself is to the detriment of the community as a whole.

For instance, in the privatisation of water and sanitation utilities in Buenos Aires, the lack of information and transparency in regulatory decisions, together with *ad hoc* interventions by the State, made it difficult to reassure consumers that their interests were being protected and that concessions are sustainable.<sup>5</sup> Recent reports show that, based on a world corruption perception index (CPI), on a scale from 1 to 10 (the higher the score, the lower the level of perceived corruption), only 2 countries, Chile (7.5) and Uruguay (5.1) score over 5, while Costa Rica scores 4. Furthermore, frequent mention has been made of serious corruption problems in the region.<sup>6</sup>

### **e) The emergence of new issues**

New issues have emerge in countries where there are profound ethnic and cultural differences between different social groups, and where importance has been given to environmental issues.

### **f) Problems associated with globalization**

A subject relevant to the governance of water resources and related services is the effect that international trade and investment agreements may have on national capacities to manage resources and to regulate services. Few have paid attention to the fact that

<sup>5</sup> Alcazar, Lorena, et.al. "The Buenos Aires Concession", The World Bank Development Research Group, Regulation and Competition Policy, April 2000, Policy Research Working Paper 2311, Front Cover.

<sup>6</sup> Transparency International (TI) Report, August 2002 based on assessments by institutions and analysts from 102 countries.

these agreements - which override other laws - may affect the roles and functions of local governments, as international agreements will prevail over local authority.

The effects of this situation have yet to be fully analysed. Examples of such regimes include foreign investment protection treaties, common throughout the region, or the regulations that may eventually be implemented via the Free Trade Association of the Americas (ALCA), many of which would be based on NAFTA (the North American Free Trade Agreement). Many analyses of NAFTA, undertaken outside Latin America, have been critical of the treaty.<sup>7</sup>

There is, moreover, the growing notion that the arbitration mechanisms so popular today are not particularly suited to dealing with matters pertaining to the public interest.<sup>8</sup>

### III. GOVERNANCE OF THE WATER SECTOR: KEY ISSUES

#### 1. The nature of water resources, their allocation and the role of the State

In Latin America, the issue of the nature of water rights, the factors that affect them, and the creation of water markets has led to significant controversy, which in turn has affected the governance of the water sector. The most significant issues are presented in more detail below:

##### a) The nature of water and property rights: water rights

Water is no ordinary good. Water resources embody particular characteristics related to their multiple environmental, economic, and social functions.<sup>9</sup>

These characteristics have produced systems of water rights that strive to achieve a balance between the different demands and requirements arising from the many environmental values, and the unique physical, chemical and biological attributes of water resources. For this reason, every country in the world delegates at least some functions of water management to the State. Water is in the public domain, the State researches and surveys water resources and takes an active role in water allocation and the monitoring of its use.

##### b) Conditions in the granting of water rights

The majority of water laws contain provisions that require water to be used effectively for the creation, generation, maintenance or preservation of water rights. The intent is to prevent monopolization.

<sup>7</sup> "Nafta's powerful little secret" by Anthony DePalma published in *The New York Times* March 11<sup>th</sup>, 2001.

<sup>8</sup> Speech by Daniel Magraw, Centre for International Environmental Law, Johannesburg, September 3, 2002 and *New York Times*, op.cit.

<sup>9</sup> See Bonnie Colby-Saliba and David Bush, "Water Markets in Theory and Practice: Market Transfers, Water Values and Public Policy", *Studies in Water Policy and Management* (No 12, Westview Press, Boulder, 1987).

The Chilean experience of the emission of unconditioned water rights appears to support the underlying rationale of effective and beneficial use requirements, as it has produced negative effects on both water markets and efficient water allocation.<sup>10</sup> It is interesting to note that, since August 1998, legal and administrative authorities at different levels have made various decisions on these characteristics of the Chilean water rights system. In these decisions, the Constitutional Court has acknowledged the State's right to regulate the conditions that apply to the granting of water rights (Rol 60/1997), and the Anti-Monopoly Commission has recommended that no further water rights be allocated within the hydroelectric sector until the water law has been modified to include provisions that guarantee effective water use (CPC 992/636; CR 480/97).

### c) Water markets

If water allocation is important, even more fundamental is re-allocation as resources become scarcer in relation to demand. In order to satisfy increasing demands, countries have to decide whether to use administrative mechanisms or water markets to achieve water re-allocation. Private marketing seems to be more expedite. Yet, United States experiences show that the following rules are important for the adequate functioning of a water market: a) water must be put to beneficial use and continue to be used beneficially after re-allocation; b) re-allocation should not affect other users and must be in the public interest; c) in many jurisdictions, the transfer of water from one river basin to another, or to outside the source area, can only occur with due consideration of local interests.<sup>11</sup>

## 2. The hierarchical relationship and the institutional structure

Linking water management to sectoral agencies, such as irrigation departments, increases the risk of sectoral capture. Therefore, some jurisdictions assign responsibilities to a ministry or agency that does not have vested interests in sectoral uses.

The most interesting experiences in the region over the last few decades have been in Mexico, where water resources are managed by the National Water Commission (*Comisión Nacional de Aguas*); and in Brazil, which recently set up the National Water Agency (*Agência Nacional de Aguas*) with the principal objective of overcoming traditional conflicts and limitations imposed by a system in which, until now, water had been under the charge of functional ministries. Other examples of non-user organizations, or at least of those that are not linked to specific water sectors, are the Ministries of Natural Resources in Colombia and Venezuela, and the Water Directorate (*Dirección*

<sup>10</sup> See Carl Bauer, *Against the Current: Privatization, Markets, and the State in Water Rights, Chile, 1979-1993* (Berkeley, 1995) p.2: "Private bargaining and exchange cannot coordinate overlapping resources without continued State intervention, through the courts, if not through other political organs"; p. 57: "These features [of the law] stimulate speculation...they have been favoured [by supporters of the law] saying that speculation improves market operations and price signals...they deny criticisms that speculation might distort prices through unequal bargaining power or monopoly control"; p.171: "The government virtually guaranteed the under-valuation of water rights [resulting in relatively few transactions] when it privatized them without imposing any taxes, fees, or other obligations to the public interest".

<sup>11</sup> Ibid.

*General de Aguas*) in Chile. In the Caribbean Cuba and Jamaica have also devised interesting systems.

The authority should have a sufficiently high position within the government hierarchy for it to be able to consolidate the multiple responsibilities related to water management should also enjoy real administrative capacity, and be effectively independent of sectors.

In California, it has been suggested that the increased effectiveness and neutrality of the supervising institutions is one of the conditions that leads to the formation of water markets.

### **3. Economic rationality and social demand**

In Latin America, it is common to find tensions between the expectations of the population of improving their quality of life and economic limitations.

#### **a) Drinking water supply and sewerage**

Many countries face a critical problem in this area, reflected in the chronic underfunding of services, low service penetration in poor areas, and an increasingly expensive supply. In such cases, tariffs are restricted by the absence of a capacity to pay, which in turn leads to inefficient management.

Some countries, like Chile, have successfully implemented subsidies geared towards demand, focused on the poor, yet in many countries this would be difficult to implement due to the debilities of the State itself. The cases of the social conflict in Cochabamba, Bolivia, and the failure in Buenos Aires, Argentina to consider the issue of service for the poor, illustrate this issue.

#### **b) State support for irrigated agriculture**

From the social and productive point of view, irrigation allows for a substantial increase in agricultural employment and significantly increases its competitiveness. In consequence, in general, the agricultural sector lobbies for state investment in irrigation development. Yet, governments have still to adopt project assessment criteria ensuring that projects meet conditions for economic, environmental and social sustainability.

#### **c) Water resource allocation**

The allocation of water resources in areas of water scarcity generates tensions between social interests (domestic and agricultural use) and economic benefits (mining, industry, hydroelectricity), which often cannot be easily resolved. In some systems, this conflict is solved by declaring drinking water and sanitation to be a priority, sacrificing to a certain degree the search for an allocation system that may incorporate economic criteria. Moreover, defining priorities fails to provide a clear signal of the degree of scarcity and favours inefficiency in the privileged activity. On the other hand, public



opinion often finds little justification for market competition for the use of water resources. This is particularly true where there are no mechanisms for protecting traditional or indigenous water use, or, when they are present, these mechanisms, due to technical or legal reasons, lack credibility in the view of those involved.

#### **4. The role of the state and the regulation of services associated with water**

The region has privatised a significant number of drinking water and sanitation services. The situation after privatisation has, however, been cause for some concern.

Regulatory and structural failures include: the vulnerability of regulators to institutional capture; ambiguity regarding their independence; the non-application of concepts such as reasonable income and returns; the monopolisation of essential infrastructure; the unilateral control of some resources that constitute key supplies; and others, such as price transfers and the lack of information or accounting practices that limit the monitoring and following-up of the companies supplying service.

The differences between the rigid approach employed in the region, and the pragmatic, empirical approach, based on rationality and balance, as used in the system in the United States, is notable.<sup>12</sup>

Thus, it is not unusual to find that in Latin America public utility holders have guaranteed returns and special exchange and interest rates. This situation prevails despite distinguished World Bank specialists pointing out that this type of guarantees may eliminate the benefits of privatisation as they suppress the incentives for selecting and managing programmes and projects in an efficient manner.<sup>13</sup>

These guarantees in turn become liabilities affecting national budgets. While the general economy stumbles, economic activity falls and the population suffers, public utility companies demand full and up-to-date payment. In contrast, in the United States, at the time of the depression, judges and the courts acknowledged the decline in the interest rate and in company profits throughout the country, and were inclined to accept lower returns in public utility services.<sup>14</sup>

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<sup>12</sup> Rogers Peter, "Water Governance", Draft prepared for the Interamerican Development Bank, February 4, 2002, p.4. "North American experience and Anglo-Saxon pragmatism indicate that empirical reasoning will be used when solving water governance problems" and "experimenting with using a timeline on rights has led the United States to flexible approaches in matters of governance". "This approach allows for adjustments when economic and social conditions change as it does not aspire to develop all embracing institutions covering all possibilities".

Phillips, Charles, Jr. "The Regulation of Public Utilities" PUR, 1993, p.181, Arlington VA. USA, quoting Troxell, "Economics of Public Utilities", 224 "the concept of reasonable returns as used by the Supreme Court is in fact a notion relating to zones of reasonability. Confiscation is the lower limit. User exploitation is the upper limit. If profits are to be reasonable, it ought to fall in between these limits. Clearly, the required profits cannot be represented by a specific sum, nor defined by a certain formula. They will vary in accordance to the economic conditions of both the company and the economy itself."

<sup>13</sup> Thobani, Mateen, "Private Infrastructure, Public Risk", Finance and Development, March 1999.

<sup>14</sup> Phillips, *op. cit.* p. 378, and cases cited therein.

Despite the efforts made, the region continues to present a high level of service exclusion. The speed at which coverage problems are being overcome has been, during the last decade, inferior to the speed attained in previous periods, particularly during the 1960s, the period when Latin America made a quantitative jump, based on a marked preoccupation for improving the health conditions of the population.<sup>15</sup>

## 5. The issue of the appropriate level of government: national - provincial - municipal

Which administrative level is best suited for managing water and its services is a particularly complex and conflictive matter, given that the resource is not limited either by administrative or by institutional boundaries and, as a service, is subject to economies of scale and scope.

Relationships between centralisation and decentralisation of activities appear to show that, rather than a problem of radical alternatives, it is more importantly a question of structuring balanced systems. A study in Colombia, found that implementing decentralisation without first conducting a thorough activity analysis led to the loss of economies of scale, and that assigning responsibilities to local organisations lacking technical training are not conducive to sound resource management.<sup>16</sup>

In federal countries the practice has been to declare certain waters and water uses to be under national jurisdiction.. Inter-jurisdictional and basin organisation agreements have also been tried.<sup>17</sup> In this context Brazil has stressed the importance of River Basin Committees, as appropriate management institutions. Curiously, basin organisations have also been employed in unitary countries for ensuring better local participation. This proves that appropriate institutional arrangements are a function of the nature of the resource more than of the political or organisational philosophy of a particular country.

It is noteworthy that the most successful country in the region in the field of drinking water supply and sanitation, Chile, has adopted its own model, capitalising on economies of scale and scope in order to extend services efficiently on the basis of regional companies, each of which serves an extensive area. Meanwhile, countries that have adopted models on a fragmented political base at the municipal level show serious difficulties, with rich and poor municipalities and non-functional subsidy schemes. On the other hand, the presence of larger units prevents excessive operational fragmentation that would make regulation activities inefficient.<sup>18</sup>

<sup>15</sup> Corrales, María Elena, "Gobernabilidad de los Servicios de Agua Potable y Saneamiento en América Latina", April 2002, SAMTAC-GWP, Caracas, Venezuela, pp. 4, 6, 7.

<sup>16</sup> Solanes Miguel and David Getches, "Prácticas Recomendables para la Elaboración de Leyes y Regulaciones Relacionadas con el Recurso Hídrico (Recommended Practices for Elaborating Laws and Regulations Related with Water Resources)", published by the Interamerican Development Bank as their Good Practices Report, in 1998. Includes an analysis of water legislation principles of Brazil, Chile, Colombia, Costa Rica, El Salvador, United States, Jamaica and Mexico.

<sup>17</sup> Water Governance: Position of Brazilian Technicians on the Basic Paper by Peña and Solanes, Buenos Aires, January 23rd, 2003.

<sup>18</sup> Corrales, op.cit.

## **6. The environmental dilemma**

As has been mentioned above, environmental issues have acquired growing significance in the region in the last few years and they frequently give rise to highly controversial situations reflecting the lack of social consensus.

The problems discussed are in relation to the maintenance of environmental use, the pollution of rivers, lakes and aquifers, and the building of large-scale hydraulic works.

### **a) Protection of environmental uses**

The safeguarding of environmental use when facing excessive exploitation of water resources for other ends causes conflicts in arid and semi arid areas, as the matter attains important economic significance.

### **b) Control of Water Pollution**

The region has a major deficit in water pollution control and overcoming it implies effective implementation of institutional arrangements geared towards control and the diversion of significant financial resources, which may have alternative, competing, destinations, such as social or productive investments.

### **c) Building of major hydroelectric works**

Environmental impact assessment systems for new projects have been implemented in the last few years in Latin America, under varying modalities. Major hydroelectric projects often prove to be highly conflictive and generate public interest beyond national boundaries. In some countries this situation has become a disincentive to private investment in such projects. From the perspective of the development of natural resources, this situation is not irrelevant, when it is kept in mind that only a fraction of regional water resources are currently developed, particularly for electricity generation.

## **7. Protection of the interests of ethnic groups and customary users**

In a number of areas in the region, serious conflicts occur between indigenous and traditional users and economic activities, such as mining and irrigation. There are also cases where the extraction of groundwater for supplying cities affects traditional uses and ecosystems. Some countries, to a lesser or greater extent, have created systems for protecting indigenous rights, either totally or partially.

However, not all countries in the region have elaborated careful and clear definitions of the rights and obligations of interested parties and the government. The results are poorly defined and ambiguous situations creating legal uncertainty and insecurity. There are significant differences in the manner in which rights of the native population are regulated in Latin America and in the United States. In the latter country

judicial decisions have established a very high priority to native Indian rights that the law respects and enforces.

## 8. Conflict resolution

Given that water is a free-flowing resource, with a wide range of uses and functions, increasingly scarce, and presenting abundant externalities at the basin level, its potential for generating conflict is unlimited. In such a situation, the lack of an efficient and opportune conflict-solving mechanism becomes critical for the governance of the sector.

There is a tendency to replace the obligatory jurisdiction of the State with that of arbitration tribunals. There are, however, certain doubts regarding the performance of these tribunals when dealing with matters of public interest.<sup>19</sup>

## IV. CONCLUSIONS

### The process of building effective water governance and integrated water resources management

It is obvious that the issues faced by the Region are tantalising. Thus, it is important to analyse the routes that may allow for progress in constructing the appropriate governance frameworks for the water sector. Latin American countries offer innumerable examples of frustrated reforms to the sector and of efforts which, once legally approved, have ended up dead letters, far removed from the purpose for which they had been approved in the first place (for example, in Chile the control of industrial pollution was made law 70 years before it could be made effective).

If the source of the reforms that have been attempted is analysed, it can be seen that frequently changes in the water sector are merely a reflection of changes initiated in other areas of the bureaucracy, which in turn have answered to changes in the ideological or economic paradigms of society. For example, in Chile, the social movements that gave rise to agrarian reform imposed a change in water legislation in 1969. Later, the

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<sup>19</sup> There are sources (see, for example, the article "*Nafta's powerful little secret*" by Anthony DePalma in *The New York Times* of March 11, 2001) which mention that these tribunals have led to revocation of national laws and the bringing into question of justice systems and environmental laws. Some have argued that some of their worst fears regarding faceless government have been confirmed within the Nafta framework. Environmentalists, consumers groups, and other organizations are very worried about the way in which these tribunals influence the application of the law. Thus, as argues Joan Claybrook, president of *Public Citizen*, "what we are talking about here is secret government". According to Andreas Lowenfeld, an expert in international trade in the *New York University School of Law*: "There is no doubt that the measures referred to constitute an expansion of the rights of the private company in relation to the government. ... The questions is, is this a good thing?" According to Martin Wagner, director of international programmes in *Earth Justice Legal Defence Fund*: "The fact that Nafta treaty writers chose a non-open procedure ... is more evidence that they were not anticipating these panels to have before them matters of a wide-ranging social interest." Critics of the system assert that each challenge of these institutions erodes public policy. The lack of a traditional appeals system, transparency, and legally obligatory precedent has meant that, at least for the three nations belonging to Nafta, many people are cautious and guarded regarding this conflict solving method.

transformation of society with the adoption of a neo-liberal perspective required once again a change in the water law, as exemplified in the legislation of 1981. In both cases the reforms which can be considered to be consolidated and effectively incorporated into water management are those that, divorced from ideology, have appropriately answered the nature of the problems posed by water resource management and have been in tune with conceptions and practices within the society.<sup>20</sup>

Similarly, since the 1990s, Peru has made several attempts at reform of its legislation with, in some cases, the draft reform legislation being based mainly on political, economical and financial considerations. These projects proposed the creation of non-regulated water markets, ignoring local conditions, traditional uses, and the nature of the resource itself. These proposals were stopped because of criticisms made by professional advisors – national, regional and from the United States.

Bolivia has made numerous attempts at reform during the last twenty years, without there being a water law to date. This is due to the difficulties of trying to reconcile the legitimate grievances of traditional users with a model for water resource management more closely linked to the aims of economic development.

There are, as well, reforms within the water sector arising from internal national processes. An interesting example of this is found in Brazil, where water resources specialists managed, after many years, to get their legal and organisational proposals accepted at the political level in such a way that they reflected the consensus reached by the water professionals.

The importance of the Brazilian case lies in the fact that it is the result of a discussion fundamentally national in nature and so having solid bases for long-term consolidation. Something similar could be said of the process that led to the current drinking water and sanitation regulation framework in Chile. Here too, the catalyst was the specifically national experience of the sector in regulation, and the transformation process generated strong involvement of the government, the congress and public opinion.

Also worthy of note is the case of the current Mexican water law, which was the response of the most prestigious Mexican water professionals to changes in the role assigned to the State and to the introduction of the use of economic incentives for improved management.

The dissemination and opening up of the debate to the public, the various interested parties, and a wide-range of decision-makers, so as to guide the search for effective solutions to existing problems, are crucial to successful improvement. As long as a basic consensus is not reached or this consensus does not get through to the political world, there will be little hope for solid progress in the region.

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<sup>20</sup> Peña H. "20 años del Código de Aguas. Visión desde la Administración", Fourth Water Rights Symposium. Universidad Católica de Chile. Santiago, 2001

This illustrates the scope of the efforts made at the international level for promoting integrated water resource management.

In effect, as human society becomes ever more complex and the intensity of human impact on natural resources becomes more severe, the need to integrate the different elements of water management becomes imperative. In a simpler context, these elements are assumed by society in a fragmented manner without serious difficulty.

Water resources management often presents problems requiring a holistic approach. Among these the following are most significant: coordination of supply and demand policies, policies for the quality and quantity of water resources, the joint use of surface and ground waters, the multiple use of resources, coordinated management of land use, vegetation cover, and water, management of externalities, and environmental conservation policies, among many others.

A holistic approach should be based on Integrated Water Resource Management (IWRM) as a process promoting coordinated management and development of water, land and related resources, aiming to maximise the resultant social and economic welfare equably, yet without compromising the sustainability of vital ecosystems.

The functional and operational needs of implementing successful water governance in Latin America and the Caribbean will be elaborated in future reports to CSD.



