

# Network for Cooperation in Integrated Water Resource Management for Sustainable Development in Latin America and the Caribbean



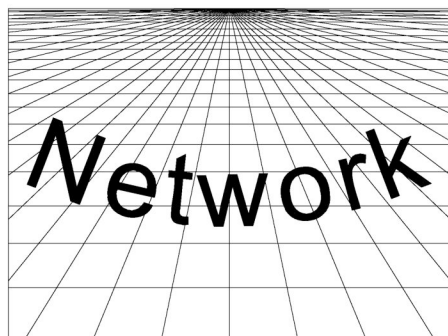
United Nations Economic Commission for Latin America and the Caribbean (ECLAC)

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The outlook for the global economy remains bleak, with recessions plaguing the developed countries and strong indications of a severe slowdown in Latin America and the Caribbean following several years of vigorous growth. A comparison of the current situation with past predicaments, such as the 1980s debt crisis, points to common characteristics: in economic hard times, government spending is cut. Adjustments should be countercyclical, but financial manoeuvring room and borrowing capacity are often insufficient when needed most. That is, the lack of favourable conditions for borrowing or for obtaining countercyclical funds translates into the worst-case scenario: recession, shrinking fiscal revenue and a need for budget cuts.



The outlook is not uniform throughout the region, as some countries are better positioned than others to deal with the crisis. Regarding those that are ill-prepared, an examination of the economic policy of making budget cuts in times of crisis may provide useful lessons. Current expenditures and transfers are politically sensitive. Layoffs of state workers, wage and benefit cuts or reductions in transfers alienate middle-class voters and have repercussions on the formal labour market by increasing the number of job-seekers. The adjustment in the informal sector has its own dynamics. Consequently, once the political math has been done, investments are postponed and spending on infrastructure maintenance is cut. This appears to be the “least painful” short-term solution.

All of this, however, has dreadful medium and long-term consequences, for both

economic efficiency and economic equity. The immediate consequences include an apparent fiscal relief, a contraction of effective demand (leading to lower tax revenue, and thus feeding into the budgetary downward spiral), likely litigation with contractors (which creates new implicit public debt) and cost increases stemming from work delays. At this point, we must ask what has happened to the fiscal savings? Indirect effects may include a lack of maintenance, which, in turn, may lead to consequences as serious as a shortage of facilities, a backlog of unmet needs and the formation of bottlenecks.

Equity also suffers, as would be expected. The cancellation of projects directly translates into lower employment for less-skilled workers (although this might allow public-sector pensions and employment to be preserved, usually to the benefit of the middle class). Existing capital is consumed and the quality of services declines as capital depreciates. Coverage goals are suspended or delayed. The number of poor continues to increase, because of both natural growth and the very dynamics of the crisis. Regarding immediate consequences, efforts to see that a larger segment of society benefit from infrastructure are set aside until the next economic boom. Social integration becomes, at best, a procyclical policy. At worse, upturns are insufficient to compensate for losses incurred during crises.

The main lesson here is the importance of countercyclical macroeconomic policies. Recessions call for higher, not lower, spending and transfers. A precondition for this is the State creditworthiness. Hence, it must gain a solid reputation or accumulate savings during the upside of the cycle, to have access to capital during crises. The recent raw materials boom was an excellent opportunity for governments to save fiscal revenue, improve their public-debt profiles, bolster their reputation for paying their debts, accumulate international reserves and resist the temptation to spend windfall profits as if they were permanent and ongoing. The experience in the region has been mixed.

Perhaps the best example of good macroeconomic policies has been given by Chile, which has an investment-grade credit rating, very low debt and significant countercyclical funds from copper. It created a thriving local capital market through private pension funds and was able to shake off pressure to boost spending when it appeared that the price of copper would rise unendingly.

*Gustavo Ferro and Emilio Lentini*

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Emilio Lentini, representative for South America of the Research Network “Res-EAU-

Ville” of the National Centre for Scientific Research (CNRS) of France, contributed with the article “*La contabilidad regulatoria de los servicios de agua potable y saneamiento. La experiencia en el Área Metropolitana de Buenos Aires*” (*Regulatory accounting for drinking water and sanitation services: the experience in the Buenos Aires Metropolitan Area*). In our previous issue, we published the first part of the article. In this issue, our focus will be on the conceptual aspects of regulatory accounting.

Conceptually, regulatory accounting aims to include in a single system information that utilities have generally divided into two systems: (i) the (traditional) accounting system, which provides information through a chart of accounts and a specific software; and (ii) a non-accounting system, which provides information for regulatory purposes based on accounting-system data but also on estimates and non-accounting calculations as well as *ad hoc* software.

Accounting systems have traditionally been used by companies to manage their resources and are controlled using a chart of accounts that follows locally accepted accounting rules used for corporate and tax purposes. They are subsequently supported by an appropriate information technology architecture that is generally standardized for all account groups (cash and banks, suppliers, payrolls, etc.).

Non-accounting systems are also used by many businesses for information management, in conjunction with traditional accounting systems. They include accounting information as well as commercial, technical and financial data that make it possible not only to visualize past economic events, but also to estimate indicators and conduct analyses that facilitate projections of future scenarios. Such projections are naturally required by managers under modern business practices. These data, rather than being supported by a single information technology architecture, are managed with *ad hoc* software.

Regulatory accounting establishes rules for integrating and interconnecting accounting information with non-accounting information, and then translating these rules into recording criteria and procedures and, finally, integrated software. Hence, regulatory accounting applies the logic of modern management. Private firms that have up to date and efficient management methods normally have costing systems that are integrated to some extent into their accounting system. What differentiates regulatory accounting from traditional accounting is that the former also allows information to be seen for multiple, non-accounting-related purposes, such as those related to regulation, the environment, management control or simply company management.

Some of the recording criteria that can be found in regulatory accounting are revenue regrouping, invoicing, identification of revenue from non-regulated activities, activity based costing (ABC), process-based allocation of central expenses and identification of funding sources by objectives. All of these criteria are the basis for a new chart of accounts called the “chart of regulatory accounts”.

When fully developed, regulatory accounting should integrate and interconnect all of a business financial information into a single information system using a single (also integrated) information technology architecture. Hence, regulatory accounting is composed of a single chart of accounts, integrated information technology systems and integrated processes and procedures that replace traditional and non-accounting systems. When businesses already have a costing system, implementation and integration of regulatory accounting is easier.

By integrating and interconnecting information from the accounting system and from the non-accounting system, regulatory accounting allows a business to link the recording of past financial activity —the purpose of traditional accounting— with projections on the business’s future activity. These projections, usually grouped in economic and financial projections, are always based on accounting information (such as the most recent income statement and balance sheet) and are used to make assumptions on the future performance of variables like sales, investments, expenses or working capital. Economic-financial projections are an essential tool in modern business management. Regulatory accounting requires adopting criteria to link accounting data with non-accounting data and translating these criteria first into processes and procedures and finally into integrated software. In essence, regulatory accounting is traditional accounting with a “managerial logic” that includes criteria that are part of modern management tools integrated into the accounting system; this logic or set of rules or criteria includes revenue grouping, activity based costing and allocation of central expenses, which are put into a format that allows them to be used for economic-financial projections.

This process implies a change not only in format but also in how contents and applications are conceptualized, by classifying and presenting past information in a way that allows for future projections; that is, it adjusts accounting results to the input of economic-financial projections, allowing the past and the future to be integrated into a single information system. This characteristic is a critical aspect of one of the main regulatory functions: rate calculation.

In addition, having economic-financial data interconnected to information on the actual provision of the service makes it possible to calculate performance indicators for service providers. Thus, regulatory accounting is essential for obtaining homogenous indicators for consistent yardstick competition (or “benchmarking”). Moreover, to improve the information base available for rate calculations and company valuation assessments, there should be an inventory system that allocates a value to assets used for the service provision.

When service providers have costing systems integrated into their accounting systems, full implementation of regulatory accounting is easier since there is a conceptual overlap between regulatory accounting and cost accounting. Likewise, the simultaneous development of a regulatory accounts plan, a regulatory accounting manual, and the implementation of a costing system would ensure, from the start, that financial and cost accounting information technology systems are integrated on the basis of a regulatory approach.



The following is the second part of the paper “*Desarrollando un nuevo modelo de regulación en Bolivia*” (*Developing a new regulatory model in Bolivia*), contributed by Claudia Vargas, legal consultant and former legal advisor to the Sectoral Regulation System (SIRESE) of Bolivia.

### Suppression of SIRESE

In Bolivia, new public policies on infrastructure are being formulated in the context of participatory democracy, the nationalization of production sectors and the recovery of natural resources. The latter process was initiated as part of hydrocarbon nationalization under a popular mandate expressed in the 2004 referendum. These socioeconomic measures have been introduced into the new constitution approved in February 2009.

SIRESE was not included in the new constitution as it was considered an expression of the neoliberal model, mainly because it had been created to consolidate structural reforms such as the capitalization of State-owned enterprises. Regulation was perceived as being associated with private-sector participation in public services, even though regulatory activities used to be handled by the ministries. For example, in the 1980s, the National Electricity Department (DINE), of the Ministry of Energy and Hydrocarbons, performed regulatory functions

such as calculating electricity rates and granting concessions to companies pursuant to the Electricity Code.

The 2006-2010 National Development Plan proposes the suppression of Superintendencies and to make the resulting entities subordinate to the corresponding ministries as general directorates. An executive decree in February 2009 abolished SIRESE and reassigned its regulatory functions to the new authorities of social control and supervision.

This reassignment of duties departs from the international trend of establishing independent regulators. For example, the United States has had autonomous public utility commissions for more than 100 years and Canada has had independent regulatory commissions for several decades. Starting in the 1980s, independent regulatory bodies were established for public utilities services in nearly one hundred countries. Argentina, Chile and the United Kingdom were among the first to introduce these agencies as part of their sector reforms.

In classic regulation theory, the rationale for these bodies is the existence of natural monopolies and of large-scale “sunken” investments (the so-called problem of regulatory commitment) and the need to stimulate competition so consumers can have access to services of a reasonable quality at a fair price. Although the new institutional reform will do away with the independence of SIRESE, it is critical that specific regulatory functions should be identified so that the new authorities can continue to carry out those functions without undermining the efficiency of the regulated sectors.

The institutional reforms to promote the development of infrastructure and access to services involve a variety of actors: service providers and their organizations, regulators, and the ministries that approve rules and policies, among others. While it is possible for an entity integrated into the central administration to perform all of these tasks, in practice, the division of functions makes for an appropriate balance between the strengths and weaknesses inherent in different institutions.

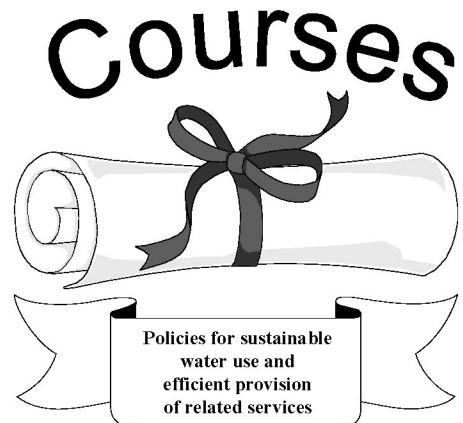
In the case of Bolivia, the performance of regulatory functions in the new model means that these duties are concentrated into a single entity, since the role of ministries is normative: they approve national policies and plan sector development. Given that institutional structure and stability are vital for providing legal certainty to much needed infrastructure investment in Bolivia, the concentration of functions into a single entity could cause regulators to be captured by political power.

In addition, the consolidation of this new regulatory model will require a sweeping reform to national regulatory framework, including the suppression of Law N° 1600 and amendments to laws in the hydrocarbon, drinking water supply and sanitation, electricity and telecommunications sectors. SIRESE and its procedures were also covered by the Administrative Procedures Act, a general law that governs appeals filed by regulated entities.

The granting of rights through licences and registrations is not a regulatory responsibility; hence, SIRESE was criticized because the superintendencies regulated the exercise of the very rights they granted, creating a conflict of interest for itself. In many countries concessions are granted by the executive and not by the regulatory body.

With the new authorities assuming regulatory duties, appeals will be settled by ministers rather than by a technical entity like the General Superintendency of SIRESE. Under the new appeals system, an effort must be made to ensure that they are correctly handled from a technical and legal standpoint so as to guarantee legality and due process for regulated entities.

Regulatory functions will continue to be carried out by the new authorities, with the main goal of protecting consumers’ rights and providing universal services. Some of these functions, such as human resource development and data analysis, are necessary and common to all parties involved in the provision of infrastructure services. However, the main purpose of regulatory functions is to monitor and control regulated entities and to promote their efficiency and performance. To this end, technical and economic instruments like yardstick competition or benchmarking, auditing and regulatory accounting are used, and they should continue to be applied under the new model. This will require training specialized human resources in the development and application of these tools.

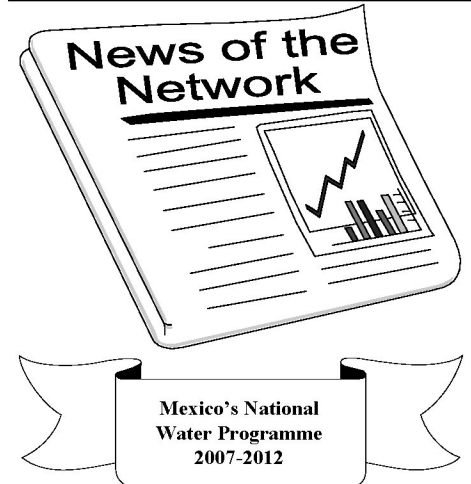


An international course titled “*Policies for sustainable water use and efficient provision of related services*” was organized by the

Latin American and Caribbean Institute for Economic and Social Planning (ILPES) jointly with the ECLAC Natural Resources and Infrastructure Division and the Agriculture Unit of the Division of Production, Productivity and Management and the Sustainable Development and Human Settlements Division. The course was attended by 32 students, at ECLAC headquarters in Santiago, Chile, from 20 to 30 April 2009. The objectives of the course were as follows:

- To provide an overview of the challenges faced by Latin American and Caribbean countries in water use and management and in the provision of related public-utility services.
- To review the theoretical and empirical foundations of how to better use and manage water resources and to regulate the provision of related services.
- To examine relevant experiences in the region, in addition to successes and failures and the principal conflicts related to the use of this finite and vulnerable resource.

Additional information on this course, as well as the materials used in it, are available at <http://www.eclac.cl/ilpes>.



The following article, “*National Water Programme 2007-2012*”, was contributed by José Luis Luege Tamargo, Director General of Mexico’s National Water Commission (CONAGUA). The mission of CONAGUA is to manage and conserve water in Mexico, with the participation of society, to achieve the sustainable use of the resource.

The National Water Programme (PNH) for 2007-2012 —the guiding document for water policy in Mexico— is based on several basic principles, most notably: water must be managed at the river basin level, and the organized social participation of water users is essential for the attainment of the objectives that have been set out.

In formulating this programme, authorities took into account the policy guidelines set out by the Mexican federal government through

its different programmes, including the National Development Plan 2007-2012, the National Infrastructure Plan 2007-2012, the Environmental and Natural Resources Sectoral Plan 2007-2012, as well as past National Hydrological Programmes and the water programmes drawn up by river basin organizations (“Vision 2030”). In addition, in fulfilment of Mexico’s Planning Law, the objectives and strategies proposed in the PNH 2007-2012 were submitted to public consultations at workshops and on the website of CONAGUA.

The cornerstone of the PNH 2007-2012 is the notion of sustainable human development and the vision that the water sector has built, which entails ensuring that the country have water in sufficient quantity and quality, recognize the strategic value of water, use it efficiently and protect the nation’s water bodies to guarantee sustainable development and the conservation of the environment. The attainment of these objectives requires an awareness of a series of challenges stemming from the natural characteristics of Mexican territory and from the sharp rise in population seen in recent decades.

A key factor for the management and availability of water is rainfall. There are dramatic contrasts in the amount of rainfall in Mexico: at one end is Baja California, with only 202 millimetres of rain a year, or twelve times less than the level recorded in the State of Tabasco. In general, 67% of the rainfall occurs in just four months of the year—from June to September. This makes it difficult to take advantage of rainfall and has made it necessary to build a large amount of catchment infrastructure. In addition, two-thirds of Mexico’s territory is arid or semiarid, which requires efficient water use in all activities—whether in irrigation, industry or the home.

This is especially important given that Mexico’s population quadrupled in the last 55 years, rising from 25 million in 1950 to 103 million in 2005. There has been a high concentration in urban areas, where the number of inhabitants has soared from 11 million to 79 million in the same period.

At the national level, the population and the economy have grown most sharply in the areas with the least water. The centre and the north of Mexico, with 31% of the country’s total available water, have 77% of the population and account for 81% of GDP. By contrast, the southwest, with 69% of the available water, is home to only 23% of the nation’s population and generates only 13% of GDP. One international yardstick for water is per capita availability. In Mexico, availability fell from 18,035 cubic meters per inhabitant in 1950 to just 4,416 in 2006, placing the country in a precarious situation.

Mexico’s geographic location means that it is exposed to periodic hurricanes and droughts, which cause severe damage to large swaths of territory. The frequency and intensity of these events are expected to increase as a result of climate change. Hurricane-related damage is increasingly severe owing to the location of human settlements adjacent to rivers and streams, the failure to enforce land-use planning as well as the deforestation of upper watersheds, which leads to increased water runoffs and to soil being washed to lower areas.

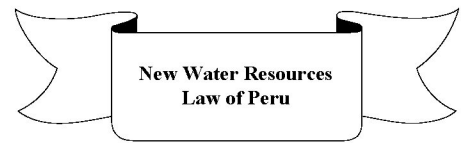
In addition, droughts of varying durations afflict different parts of Mexico each year. The northern desert strip suffers the most severe consequences of drought. Even in areas of Mexico where water has traditionally been plentiful, droughts can occur and lead to water shortages.

In line with the progress made in recent years and an analysis of the current situation and to achieve the purposes set forth for the water sector, the PNH 2007-2012 establishes the following objectives:

- To improve water productivity in the agricultural sector;
- To increase the coverage and quality of drinking water supply, sewerage and sanitation services;
- To promote integrated and sustainable water resources management in river basins and aquifers;
- To enhance the technical, administrative and financial development of the water sector;
- To consolidate the participation of water users and organized society in water management and to promote a culture of the proper use of this resource;
- To prevent risks related to meteorological and hydrometeorological phenomena and to address their effects;
- To assess the effects of climate change on the hydrological cycle;
- To create a culture of paying duties and complying with the National Water Law in its administrative aspects.

Strategies and targets have been formulated for each objective. Additionally, the most important institutions and organizations for the achievement of each objective, as well as the challenges to be faced to reach these targets, are also included. The PNH 2007-2012 also refers to the linkages between each strategy and those set forth in the National Development Plan, Mexico’s situation within the international context and issues associated with research, technological development and human resource training.

The complete text of the National Water Programme 2007-2012 is available at: <http://www.conagua.gob.mx/homeenglish.aspx>.



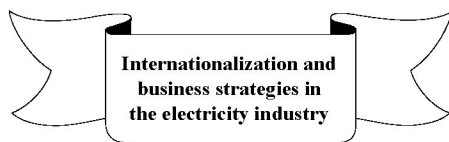
Peru’s *Water Resources Law* (Law N° 29338), enacted on 31 March 2009, aims to regulate the integrated management and use of water, the role of the State and of private parties in such management. It considers the following governing principles of integrated water resources management:

- **Principle of recognizing the value of water and of integrated water management.** Water has sociocultural, economic and environmental values; hence, its use must be based on integrated management and on an equilibrium among these values. Water is an integral part of ecosystems and it is renewed through the hydrological cycle.
- **Principle of priority in water access.** Access to water to meet primary human needs is a priority and a fundamental right that should take precedence over any other use, even when water is scarce.
- **Principle of participation of the population and water culture.** The State creates mechanisms to encourage water users and civil society to take part in decisions that affect water quality, quantity, opportunity and other attributes. It also fosters institutional strengthening and the technical development of water-user organizations. Through educational authorities and civil society, the States also promotes education, dissemination and awareness-building programmes related to the importance of water for humanity and ecosystems. The programmes are intended to instil attitudes that will lead to the appropriate use of water and ensure that it is correctly valued.
- **Principle of legal certainty.** The State establishes a system of water use rights. It promotes and ensures a respect for the conditions that give legal certainty to investments related to water use, whether public, private or joint private-public.
- **Principle of respect for water uses of peasant and indigenous communities.** The State respects the practices and customs of peasants and native communities as well as their right to use waters that flow through their lands, provided such use does not violate the law. It promotes ancestral water knowledge and technology.
- **Principle of sustainability.** The State promotes and monitors the sustainable use and conservation of water resources and prevents a deterioration of their environmental quality and the natural conditions in which they are found, as these conditions are part of the ecosystem. The sustainable use and management of water entails a balanced integration of

sociocultural, environmental and economic considerations into national development, as well as ensuring that the needs of current and future generations will be met.

- **Principle of decentralization of public water management and of sole authority.** To ensure effective public management of water, the National System of Water Resources Management has been placed under the control of a single, decentralized authority. Public water management also comprises the management of related assets, whether natural or artificial.
- **Precautionary principle.** The absence of absolute certainty on the risk of serious or irreversible damage to water sources does not justify a failure to adopt measures to prevent their degradation or destruction.
- **Principle of efficiency.** Integrated water resources management is based on efficiently using and conserving this resource, thereby promoting the emergence of an efficient use culture among water users and suppliers.
- **Principle of integrated and participatory management at the river basin level.** Water must be used optimally and in an equitable manner, based on its social, economic and environmental value, and its management integrated at the river basin level, with the active participation of organized civil society. Water is part of ecosystems and it is renewed through the processes of the hydrological cycle.
- **Principle of legal stewardship.** The State protects, supervises and monitors water at its natural and artificial sources, in whatever state in which it may be found — liquid, solid or gaseous— and in any stage of the hydrological cycle.

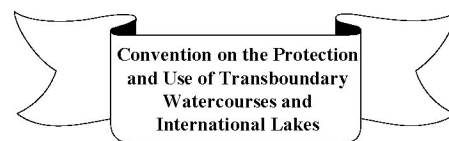
The text of this law is available at: <http://www.iproga.org.pe>.



Continuing with its research on the business strategies of public utilities (see Circular N° 29), the Natural Resources and Infrastructure Division has published a study titled “*Internacionalización y estrategias empresariales en la industria eléctrica de América Latina: los casos de IBERDROLA y Unión Fenosa*” (*Internationalization and business strategies in Latin America’s electricity industry: the cases of IBERDROLA and Unión Fenosa*) (LCL.2961-P, December 2008, *Natural Resources and Infrastructure Series* N° 139) by Patricio Rosas. This paper focuses mainly on the internationalization process of two Spanish power companies that invested heavily in Latin America’s electricity sector, IBERDROLA and Unión Fenosa, and, in particular, on their respective expansion processes in the late 1990s, the decisions they

took to cope with the critical situations that arose in the first years of this decade and the role they currently play in the region. The article also refers to their participation in the drinking water supply and sanitation sector.

The questions that this analysis has set out to answer have to do, firstly, with the specific expansion processes of each company in the region, that is, how, and through what mechanisms, they entered local economies, the amounts they invested, the relative share of their Latin American affiliates in their aggregate turnover of each parent company, their market share in each segment or sector, their corporate strategies and their local and international inter-company alliances. The second set of questions attempts to determine how the growth strategies of the two Spanish companies have been impacted by the energy, economic and financial crises that broke out at the start of the 2000s in several countries of the region. These crises had different effects on each conglomerate’s growth, depending on the specific characteristics of their entry into the national economies and the way in which these economies were affected by the crisis. The third set of questions addresses each conglomerate’s response to the challenges posed by these crises and to their current position in the region and examines their real contribution to the expansion and modernization of each country’s electricity sector. The background data compiled and the answers found through these three sets of questions make it possible not only to better understand the internationalization strategies followed by IBERDROLA and Unión Fenosa but, in addition, to extract some significant lessons for the governments of the countries of the region on how they may maximize the contribution of international power utilities to the development of Latin America’s electricity industry.



Transboundary water cooperation took a significant step forward at the *Fifth Session of the Meeting of the Parties to the United Nations Economic Commission for Europe (UNECE) Convention on the Protection and Use of Transboundary Watercourses and International Lakes*, which took place 10-12 November 2009 in Geneva, Switzerland.

The meeting adopted the Guide to Implementing the Convention. The Guide is a detailed commentary of the Convention, combined with examples of good practices. It is expected to be an important reference for parties, non-parties, partners and stakeholders, throughout the world. The meeting also decided to explore options for a mechanism to support implementation and compliance to

help parties prevent or settle differences in interpretation and application.

Another document adopted at the meeting is the Guidance on Water and Adaptation to Climate Change, which describes step-by-step how to develop an adaptation strategy with a special focus on the transboundary context. Its implementation will be fostered through a platform for exchanging experience. Parties also agreed on the work plan for 2010-2012 and launched a programme of pilot projects to promote the implementation of the Convention with specific focus on climate change adaptation in transboundary river basins, joint monitoring and assessment, and payments for ecosystem services to support integrated water resources management. Non-UNECE countries can already participate in the current work under the Convention and parties aim to make the 2003 amendments enter into force by 2012, so that the Convention would be open to accession by any United Nations-member state. The participation of several non-UNECE countries at this meeting showed the interest from outside the region in the Convention.

The Convention on the Protection and Use of Transboundary Watercourses and International Lakes is intended to strengthen national measures for the protection and ecologically sound management of transboundary surface and groundwater. The convention obliges parties to prevent, control and reduce water pollution from point and non-point sources. It also includes provisions for monitoring, research and development, consultations, warning and alarm systems, mutual assistance, institutional arrangements, and the exchange and protection of information, as well as public access to information. Under the convention, the Protocol on Water and Health was adopted on 17 June 1999 and entered into force on 4 August 2005, and the Protocol on Civil Liability was adopted on 21 May 2003. Additional information on the convention is available at <http://www.unece.org/env/water>.



The discussions at the *Regional Conference on “Policies for Economically Efficient, Environmentally Sustainable and Socially Equitable Drinking Water and Sanitation Services”* (see Circular N° 29) were organized into four work groups. The conclusions of the

first two work groups are presented below, while those of the other two will be published in the next issue.

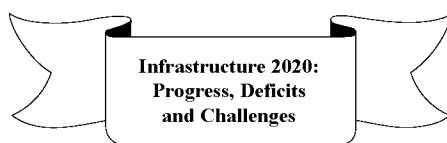
### **Business management, incentives to sustainability and efficiency**

- **Efficiency and structure.** The application, nearly throughout the region, of municipalization schemes has caused a fragmentation of service provision, resulting in a loss of significant economies of scale. Public policies are needed to generate adequate incentives (tax, regulatory, fiscal, etc.) that will encourage the consolidation of regional companies able to take advantage of these economies. The optimal scale of service provision should be defined in each case according to studies that reflect the needs and conditions of real systems.
- **Efficiency and operation.** The basic objectives of all service providers should be to attain business sustainability and to provide adequate services. Efficient management is an obligation of all service providers, regardless of whether they are public, private or mixed. To attain their goals, companies must adopt management models based on indicators and management by processes. A systemic effort must be made to foster efficient enterprise management, with an emphasis on human resources, including training at all levels. It is essential that appropriate indicators be selected for each stakeholder (owners, regulators, society at large, staff, etc.). These indicators must take into account the particular characteristics of each individual case, to ensure that a common language be used and that the attainment of targets translate into greater efficiency on the part of service providers.

### **Social responsibility**

- **Social benefits that can be extended to all.** The countries must honour their commitments pursuant to the Millennium Development Goals. This entails incorporating the strategic nature of services required for the development of their peoples into State policy. Social responsibility must be shared among the State, civil society and companies. Each country must establish a finance mechanism to cover the needed investments that, in addition to transferring efficiency gains from service providers to consumers, may allow for a redistribution both among economic sectors (for example, through taxes) and among population groups (through cross subsidies). Once social responsibility has been incorporated into sectoral policy, it must be reflected in the regulatory framework, which determines the relationship with service providers.

- **Access by low-income groups.** There must be a public policy in favour of efficient (targeted) subsidies, covering investment (supply) and consumption (demand), as well as cross-subsidies. Sectoral policy must be coordinated with other social policies (such as housing policy), and mechanisms to encourage access to services (expansion of coverage, network densification, incentives for internal installations, partnerships with suppliers under favourable conditions, suitable forms of payment, etc.) should be considered. It is essential that governments promote effective regulation so that both private and public providers comply with standards on service quality and expand access for low-income households.
- **Fair and efficient rates,** associated with efficient costs, must be established, and sectoral policy must be used to: (i) safeguard the financial stability of service providers; (ii) define the scope of contributions from the State and of citizen participation as well as alternatives for financing the extension of services to new users; and (iii) ensure that projects and rates are in line with the local socioeconomic and cultural context of the population.
- **Environmental sustainability** requires: (i) promoting a State policy for the conservation, protection and sustainable use of natural resources, including wastewater treatment; (ii) incorporating all stakeholders involved in the river basin-management system, and defining their rights and obligations; and (iii) implementing educational programmes focused on the integrated water resources management.
- **Accountability and information** requires: (i) establishing the respective regulatory mechanisms through the implementation of specific tools (such as regulatory accounting and benchmarking); (ii) making the management of financial and other resources transparent to regulators and users with two-way communication mechanisms that promote governance in the eyes of society; (iii) implementing social control through the appointment of representatives, with special emphasis on rural areas; and (iv) creating information systems focused on verifying compliance with public policies.



The International Seminar “**Infrastructure 2020: Progress, Deficits and Challenges**” was held at ECLAC headquarters, in Santiago, Chile, on 10 November 2008. It was organized by ECLAC and Chile’s Ministry of Public Works (MOP) and was attended by

ministers of infrastructure, public works, transportation and planning and representatives of the private sector from several countries of the region.

At the seminar’s inauguration, the Executive Secretary of ECLAC, Alicia Bárcena, said that the aim of the event was to examine the effects of infrastructure policies on economic and social development, especially for the identification of infrastructure deficits, the importance of infrastructure for social integration and equity, as well as challenges for public policy, bearing in mind the development in the region and in each of the countries that make it up.

This becomes especially important during times of financial crisis such as the current one: even through the virtuous effects of infrastructure on economic growth are well known, there is a recurring trend to reduce investment in the sector during crises. This trend has an effect not only on sectors directly related to public works but also on social sectors, by reducing the pace of investment in basic infrastructure, such as drinking water, sanitation and transportation.

Long-term development policies are required in the present, in order for public-works investment to be planned in an orderly, realistic and sustained manner and to ensure that infrastructure services are provided efficiently and efficaciously. The efficient provision of these services has a significant effect on the productivity and competitiveness of economic agents, industries and economies, as well as on individuals’ quality of life.

A lack of adequate infrastructure, as well as the failure to efficiently provide related-services, impedes the implementation of effective development policies and the obtainment of growth rates above international averages. This leads to dreaded “bottlenecks” or to a collapse of infrastructure, which can already be seen in several countries of the region, owing to the effect of investment deficits.

The development of infrastructure works pursuant to regional integration policies makes it possible to internationalize the provision of services, encourages political and social integration among the countries, and helps make up for some deficits in countries’ endowment of natural resources. The existence of a sufficient number of such projects, as well as the efficient provision of related services, helps countries develop competitive advantages and attain a higher degree of productive specialization.

Nevertheless, the existence of sufficient infrastructure and the efficient provision of related services has not only economic effects; it also fosters social mobility and cohesion by

encouraging an increase in the coverage and quality of the services provided to the population, as well as promoting population's welfare, by increasing its access to economic and social services. In addition, adequate infrastructure and services are also a centrepiece of the consolidation of the countries' territorial systems, as they help national economies become integrated both inward and with the global economy.

To a greater or lesser degree, the successive reforms applied by most countries of the region in the 1990s uniquely altered their economic and productive structures. Trade liberalization, economic deregulation and the design of an economic policy compatible with the new approach were part of the strategy carried out in the 1980s and 1990s. In this new setting, the admittance of private capital into the development of the public services was a key element of the reforms, owing to the sizeable investment deficit accumulated in the sector as a result of the tenuous fiscal situation of the region after what was known as the debt crisis.

Although there were differences in the reforms implemented throughout the region, in general, the influx of private investment during the 1990s allowed for a recovery in most activities and business lines that make up the basic-infrastructure industry. However, this recovery, despite having paved the way for an expansion and improvement of public services, was partial and insufficient.

The flow of private capital, often of foreign origin, was not sustained over time and declined considerably when the governments ran out of assets to privatize or concession. Most of the countries of the region preferred private investment in basic infrastructure that was associated with the transfer of assets and not with capital formation. One central aspect of the problem seems to have been the decision to channel the participation of private capital to the exploitation of existing assets, as public policy stressed reducing the current account deficit and correcting balance of payments disequilibria rather than creating, expanding and modernizing basic infrastructure.

Currently, demand for basic infrastructure services continues to rise, and available capital stock is still far from satisfying countries' production and consumption needs. In various areas, the gap separating the countries of the region has widened considerably, with regard not only to the standards of developed countries but also to other developing nations whose levels of performance were below the regional average three decades ago.

Moreover, private agents' investment decisions have been particularly affected by

the financial crisis. Investors have become highly sensitive to the financial and regulatory risks inherent to this type of undertakings; hence, they select only some countries and certain projects for their investments. This has reduced the flow of private capitals to infrastructure in Latin America and the Caribbean. Such reduction has been compounded by the fact that the amount of financing provided by the two other traditional sources for infrastructure financing—the public sector and multilateral lending institutions—has remained small.

Because of the current investment needs of the countries of the region, other forms of financing, in addition to traditional sources, need to be found. The idea is not merely to restore the level of public investment on the basis of the improved fiscal situation of the countries of the region in recent years but also to better utilize the different financing mechanisms that have been developed under the auspices of public-private partnerships. Other elements that could contribute are improved contracts, the development of guarantees and the assistance of multilateral agencies from a different perspective than that which prevailed during the 1990s.

However, the main concern is whether the current situation regarding the provision of infrastructure will limit the region's future economic and social development *vis à vis* growing demands and a supply that, in the last several years, has ceased to increase at the same pace as before. Hence, there is a need to analyse public capacities through the reinforcement and better coordination of the State's role and its capacity to plan, regulate and control and through better coordination with the private sector under the auspices of public-private partnerships. ECLAC is available to help countries and subregional agencies find solutions to the challenges stemming from the lack of infrastructure for meeting the daily needs of our societies as well as with regard to 2020 planning horizon.



Some particularly useful websites regarding water-related issues are listed below:

- **UN-Water** (<http://www.unwater.org>), an inter-agency mechanism formally established in 2003 by the United Nations High Level Committee on Programmes, has evolved out of a history of close

collaboration among United Nations agencies. It strengthens coordination and coherence among United Nations entities dealing with issues related to all aspects of freshwater and sanitation. This includes surface and groundwater resources, the interface between freshwater and seawater and water-related disasters.

- UN-Water is dedicating **World Water Day 2010** (22 March) to the theme of water quality, reflecting its importance alongside quantity of the resource in water management. This initiative is envisaged to: (i) raise awareness about sustaining healthy ecosystems and human well-being through addressing the increasing water quality challenges in water management; and (ii) raise the profile of water quality by encouraging governments, organizations, communities, and individuals around the world to actively engage in proactively addressing water quality (pollution prevention, clean up and restoration, etc.) (<http://www.worldwaterday2010.info>).
- The United Nations World Water Assessment Program (WWAP) produced in preparation for the United Nations Climate Change Conference (Copenhagen, 2009) a number of new publications addressing **water and climate change**, that draw from the findings of the United Nations World Water Development Report: Water in a Changing World. In addition, over the past year a number of publications addressing water and climate change have been released through WWAP's Side Publications series (<http://unesdoc.unesco.org>).
- The **Sociedad Nacional de Entidades Prestadoras de Servicio de Saneamiento** (ANEPPSA) is a national umbrella organization of Peruvian drinking water supply and sanitation service providers (<http://www.anepssa.tripod.com>). Its mission is to promote excellence in the services provided by its members through training, coordination, cooperation and the sharing of experiences and knowledge to help improve the population's quality of life.
- **Agua de San Pedro** provides drinking water supply and sewerage services in San Pedro Sula, Honduras, that country's second largest city and the main urban centre in the Valle de Sula (<http://www.asp.com.hn>).
- The website of Mexico's National Water Commission (CONAGUA) contains summaries of papers presented at the **First International Legal Colloquy on Regulation and Integrated Management of Water Resources**. The objective of the symposium, held in October 2008, was to

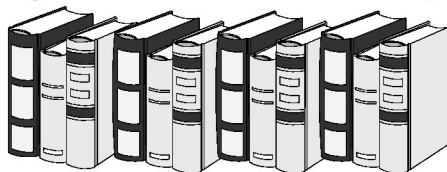
encourage the sharing of experiences and information on relevant legal cases in different countries so as to improve the understanding of integrated water resource management (<http://www.cna.gob.mx>).

- The main purpose of Ecuador's *Asociación Nacional de Empresas Municipales de Agua Potable, Alcantarillado y Servicios Conexos* (ANEMAPA) is to strengthen its technical, administrative and commercial skills through its human resources by focusing on its members—who are municipal providers of drinking water supply, sewerage and related services—, developing strategic alliances and opening markets (<http://www.anemapa.org.ec>).
- A Peruvian project named “*Sustainable Water and Wastewater Management in Urban Growth Centres Coping with Climate Change — Concepts for Metropolitan Lima (Peru)*” (LiWa) examines the impact of climate change and promotes energy efficiency in drinking water supply and sanitation systems (<http://www.lima-water.de>).
- In Argentina, a new blog, “*Matanza Riachuelo — a myth of argentine public policy?*” (<http://vallsrossi.wordpress.com>), provides material for all those who, from different viewpoints, are following the “Mendoza” case (see Circular N° 29). The purpose of the blog is to disseminate the resolutions of the Federal Court in Quilmes charged with enforcing the judgment handed down by the Supreme Court of Justice and to project its implications for similar cases.
- The mission of the *Colombian Association of Environmental and Sanitary Engineering* (ACODAL), created in 1956 as the Colombian Association of Aqueducts and Sewers, is to promote developing and strengthening the water, sanitation and environmental sector

through national and international representation and by disseminating knowledge, managing and conducting projects and seeking benefits for its members (<http://www.acodal.org.co>).

- In the United States, the *Center for Climate Change Law* at Columbia Law School develops legal techniques to fight climate change, trains law students and lawyers in their use, and develops databases on climate law and regulation (<http://www.law.columbia.edu>).

## Publications



Recent publications of the Natural Resources and Infrastructure Division on water-related issues:

- “*Fomento de la eficiencia de las empresas estatales de agua potable y saneamiento*” (*Promotion of efficiency in state-owned water supply and sanitation companies*) by Raquel Alfaro (*Natural Resources and Infrastructure Series* N° 141, LCL/3010-P, February 2009) (available in Spanish only). Chile's experience in the 1980s with the provision of drinking water supply and sewerage services is interesting because State-owned companies proved efficient, making Chile one of the top countries in Latin America and the Caribbean in urban coverage. The urban population enjoyed continuous access to services of excellent quality, and with tariffs set according to technical criteria that the public was willing to pay. This document attempts to answer to following questions: Why have Chilean governments effectively made a priority,

even in budget allocations, of the drinking water supply and sewerage sector? What led them to promote efficiency among water utilities? How is the concept of efficiency to be understood with regard to these services, in light of the economic characteristics of their provision systems? What were the incentives and motivations of the persons who worked in State-owned utilities and who made a reality of all human beings' right to have access to safe and efficient drinking water supply and sanitation services? What were the external and internal incentives that led the Metropolitan Sanitation Works Company (EMOS) to attain levels of coverage, service quality, profitability and efficiency that made it a leader among the continent's water utilities? The answers would appear to be as obvious as they are straightforward: conscientiousness, accountability and ethics. However, the answers may be less obvious than they seem, especially considering that many countries of the continent still have much work to do regarding the coverage, quality, efficiency and sustainability of the water supply and sanitation services for their population. This study attempts to provide the answers. This paper was originally prepared for the Regional Conference on “Policies for Economically Efficient, Environmentally Sustainable and Socially Equitable Drinking Water and Sanitation Services” (see “*Meetings*”) and presented at the session on “Elements to ensure the efficiency of drinking water and sewerage services”.

The publications of the Natural Resources and Infrastructure Division are available in two formats: (i) *electronic files* (PDF) which can be downloaded from <http://www.eclac.org/drmi> or requested from [Andrei.JOURAVLEV@cepal.org](mailto:Andrei.JOURAVLEV@cepal.org); and (ii) *printed (hard) copies* which should be requested from the ECLAC Distribution Unit, either by e-mail to [publications@eclac.cl](mailto:publications@eclac.cl), by fax to (56-2) 210-20-69, or by mail to ECLAC Publications, Casilla 179-D, Santiago, Chile.

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