

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

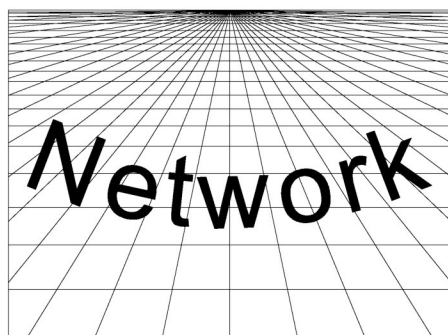


United Nations Economic Commission for Latin America and the Caribbean (ECLAC)

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The countries of Latin America and the Caribbean have shown growing interest in using economic instruments to improve water management. There are a number of reasons for this increasing interest, including changes in policies and ideologies at global level, which have mainly tended to favour market-based institutional reform such as private participation in water-related public utilities, privatization, water markets, and the transfer of irrigation systems to users.



Some examples of economic instruments in place in Latin America and the Caribbean are the use of the market as a mechanism for allocating water in Chile and Mexico, and charges for wastewater discharges in Colombia and Mexico. These are interesting cases and well worth careful study by countries that are considering the possibility of implementing similar mechanisms. It is important to establish the conditions under which the objectives of such measures may be met, what situations they are useful for and what their relative success has been. In fact, economic instruments have had a relatively limited impact in the region thus far, largely due to the fact that countries lack the adequate institutional structure to make full use of them.

Many myths exist about the relative effectiveness of economic instruments outside the countries in which they are applied. Perhaps the case that is most well known for its apparent virtues —though little studied—

is the Chilean water market (see Circulars N° 10 and 11). Such myths can tempt other countries to copy these models without due consideration of either the conditions in which the model was applied in the original country nor the results that were actually obtained. Often the relative effectiveness of these models in comparison with other options is not researched in any great depth, nor whether they are really applicable in the prevailing conditions. Some of the countries of the region, for example, have attempted to copy the 1981 Chilean Water Code without due analysis, which has generated more setbacks than advances in their discussions on the reformulation of water legislation. In some cases, the debates have dwindled to sterile theoretical discussions which are far removed from the real water-management problems in the respective countries.

All this is not to say that economic instruments are not useful for improving the use and management of water resources. These instruments have proven particularly effective at sectoral level, even though they may initially serve more as fund-raising instruments than as incentives for good use of the resource. A priority has been placed on attempts to use economic instruments, however, which is disproportionate both to what these instruments can realistically be expected to achieve and to the preparation of the institutional, political, legal and technical conditions for putting them in place. These conditions do not exist in most of the countries of Latin America.

It should be recalled that the idea of developing economic instruments originally arose in a number of developed countries that had already institutionalized their water-management systems —with the aid of massive State subsidies— and had resolved, comparatively speaking, the great majority of the problems and conflicts related to water use and a whole range of other social, educational and services aspects. Many of

these countries had managed water resources on the basis of traditional modalities for centuries before considering economic instruments. In these cases, economic instruments are only part of a set of measures, although they are undoubtedly useful for resolving outstanding conflicts and problems for which the traditional instruments are not the most appropriate, and for smoothing out economic inefficiencies generated by the rigidity of traditional instruments.

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In Latin America and the Caribbean, however, interest in economic instruments is often an attempt to copy other models, to respond to external pressures, to “gain” a foothold in current theoretical thinking, or to be “in” with the latest trend. The region has shown a tendency to react in this way to new terms and ideologies, without a prior analysis of the conditions under which such instruments may be useful (the same phenomenon can be seen at work with supporters of environmental indicators, valuation of resources and so many other numerical approximations which are only

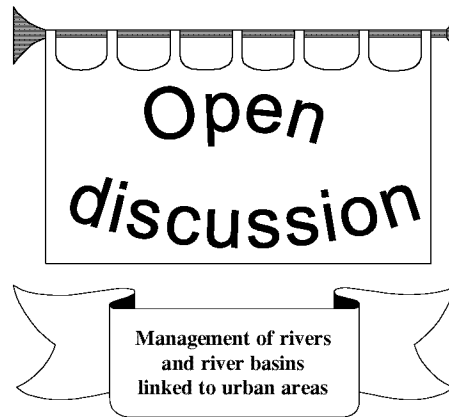
useful if someone is taking them into account).

In the countries of the region—which do not have the human and financial resources of developed countries, nor a State or private apparatus with the equivalent organization and management capacity—over-zealousness in trying to apply economic instruments is not compatible with the basic conditions they require. Good results are generally vetoed by the prevailing conditions of user informality, lack of information, perverseness or ignorance about good practices concerning the use (or rather abuse) of water, in combination with an almost absolute inability to enforce the law even where formal legal conditions exist.

Among other basic conditions that are lacking, most of the countries of the region do not have efficient institutionalized systems of water management. Without this, very little can be done, bearing in mind the enormous fragmentation of institutions and responsibilities involved in water management. Widespread poverty, lack of trained personnel, lack of control and monitoring systems, the concentration of economic and social power, the ease with which regulators (where they exist) can be “bought” by formal companies or intimidated by illegal forces, all constitute impediments to the use of economic instruments.

The effectiveness of economic instruments has tended to be exaggerated by interested and enthusiastic groups which do not have hard evidence of real successes on which to base their claims. It is as if they were resolved to prove the relative validity of the instruments through some kind of theory-based act of faith in their supposed virtues, whatever the cost. Over and over again, the same reduced scale model is taken out and aired until it takes on an illusion of being bigger and more effective than it really is. The same sources of “success” stories, too, are quoted over and over again, with the same effect. In general, there are insufficient case studies, and theoretical presentations always seem to draw upon the same cases and authors. The approach to economic instruments needs to be compared with traditional instruments to establish their relative conditions and rate of effectiveness.

In summary, it can be argued that the countries of the region need to recover their confidence that they are not obliged to copy everything that comes from outside, and that they have enough know-how and experience to decide for themselves what means are best suited to their interests and where they need to begin, such as, for example, by improving the institutional conditions needed to manage their water resources.



The previous issue embarked upon the presentation of the document entitled “*Gestión de cuencas y ríos vinculados con centros urbanos*” (LC/R.1948, 16 December 1999) (“*Management of rivers and river basins linked to urban areas*”), written by Axel Dourojeanni and Andrei Jouravlev. In that issue we focussed on the processes involved in establishing river basin organizations. This issue will approach the issue of building an institutional framework for river basin management activities.

Despite what has already been done and said in favour of coordinating activities at river basin level, particularly for multiple water-use management and river basin management, in general, the state of river basins and water resources continues to deteriorate. Establishing river basin organizations is the first step to achieving tangible goals in reducing the deterioration of water resources and watersheds. Even a brief study of the demography of river basin organizations in the countries of Latin America and the Caribbean shows, however, that creating and running such organizations is not easy. It is clear that new organizations emerge and existing ones collapse in almost the same numbers.

Institutional structures for river basin management

In order to analyse the institutional structures for river basin management, it is essential to attempt to distinguish between the many variations they adopt. There are three basic types of structure in river basin management organizations:

- **Management structure.** Management structures vary depending on the extent to which the different actors participate in the management process. The name given to the river basin organization does not necessarily reflect their degree of participation in the decision-making process but it does, at least, indicate the original intention. The most common formulas are “river basin commissions”, “river basin committees”, “river basin

councils” and “river basin agencies”, which display a wide range of types of participation by the actors involved in the decision-making process. In other cases, the management structure consists of a board of directors, which may be composed of government officials only or may include users, non-governmental organizations, universities, etc. The board of directors must have the power to decide, resolve and enforce agreements (it should not be merely an advisory or coordinating body)

- **Operational structure.** An operational structure is the body which puts the decisions of the management group into practice. It executes actions and processes, either directly or through consultants and contractors. The operational structure of a river basin organization must have highly qualified personnel. They are the “agency” in the strict sense, although they may be known by other titles, such as executive office, technical group, technical office, corporation or even institute, for example. The operational structure is the one responsible for providing the studies and information that the management group needs to take decisions.
- **Financial structure.** The body responsible for raising financial resources is one of the most difficult to design. In the countries of the region it is common to find that financial resources for river basin management are only available at the phase of executing hydraulic works, which is obviously not the solution for a river basin organisation that is intended to be permanent. Few “models” of financial structure are transferable from one country to another. The “polluter pays” principle and aids and incentives are a good option but are clearly insufficient and even inapplicable to many of the region’s river basins which are characterized by informal settlements and producers. Any financing proposal must take into account the situation of the country, region and river basin.

History of the development of river basin organizations

A look back over the history of river basin organizations shows that many never become more than, at best, “action-coordination systems” which somehow or other manage to get some integrated river basin studies carried out. Historically, some river basin organizations were even created for the specific purpose of sponsoring a study or plan, often carried out by groups of consultants hired temporarily for the purpose. In other words, many short-lived “river basin

organizations” were only intended to direct the execution of inventories, studies, assessments or diagnoses, or draw up river basin development plans that were somewhat more complete than usual. Many of the studies on individual river basins that are currently available have been conducted by institutes of natural resources or by government ministries; these tend to produce the same results as the integrated river basin studies conducted by temporary river basin agencies.

In other cases, river basin organizations are, in practice, the management structures of investment projects corresponding to major hydraulics works in the river basin. The names given to these organizations also tend to be varied, the most common being corporations, commissions or agencies, or simply “programmes” or “special projects” which have been responsible for executing hydraulic investment projects in one or more river basins. Likewise, there have also been many national-level projects devoted to a single type of activity, which have been responsible for simultaneous studies in many river basins. These are what have become known as “national programmes” such as those targeting flood control, watercourse stabilization, soil conservation, drainage and land reclamation, river basin management or rural electrification, to mention a few examples. Some of these projects have been coordinated at river basin level, but most of the national programmes have been run independently.

With the increasing drive for municipal participation in environmental management and the acknowledgement of the vital importance of broad public participation in river basin management programmes, a new focus has developed on the issue of managing rivers basins and water bodies that are shared by urban areas and several municipalities. Local officials have become the most recent “clients” in need of working methodologies on river basin management and recovery of watercourses, with the participation of the inhabitants of their administrative areas.

A variety of historical circumstances have brought about substantial progress in establishing and operating river basin organizations, such as the 25 recently created river basin councils in Mexico. There are also some river basin organizations that have been in operation for several decades. In general, in the course of their existence they have undergone several changes of name, responsibility or degree of autonomy. None of them, however, are guaranteed to survive unless they adapt to the changing situations in politics, the economy and demands of the population. Although the efficient

operation of a river basin organization does not ensure its continuity, it does give it a certain degree of security in the face of the institutional changes that may occur in any given country.

Prior to proposing the establishment of a new river basin organization in a country it is, therefore, useful to analyse the historical development of similar organizations. It is a worthwhile exercise to look for explanations of why some of these bodies continue to exist years after their creation, while others have disappeared.

The long process of creating the legal framework for river basin organizations

The creation of formal institutional conditions for river basin organizations is at varying stages of progress in the region. Without a doubt, the best scenario involves national legislation serving as a regulatory framework for the process of creating river basin organizations while also providing for the possibility to adopt alternative approaches at state, provincial and regional level, in line with the country’s political and administrative structure.

In federal countries, and countries with regions which have greater or lesser degrees of autonomy, the legal framework for establishing river basin organizations is usually established at the respective administrative level (state, province or region). In some cases, the framework is jointly created by mayors who share a river basin or by simple agreements between the main users of water in these areas.

The legal provisions establishing these organizations should usually be part of a wider framework of water legislation, as occurs in Mexico and Brazil. However, there are also situations in which the national-level legal provisions come under legislation on decentralization, environmental laws which include provisions on territorial organization, investment promotion legislation, laws on national investment programmes or projects, or other variations arising from proposals by different ministries or regional governments.

Transboundary river basin development agreements can also provide a basis for formalizing the framework of river basin management. These agreements tend to be lasting, indeed much more so than agreements concluded at the national level. Some of the river basin organizations which have survived longest —albeit with some changes of name and responsibilities— are precisely those which come under international treaties involving bilateral or multilateral commitments.

Another major catalyst —and technical factor— in stabilizing and conferring legal status on river basin organizations are bilateral technical assistance agreements. These agreements have the virtue of providing a legal framework for the creation and operation of river basin organizations through agreements with banks or with partner countries. This arrangement puts the respective organization in a better position to withstand at least one direct attack, which can come in the form of a change in management, a change in attitude by some official or the sudden structural and operational transformation of the public agency responsible for controlling it.

The process of providing a legal framework for any type of river basin organization is slow and many fall along the wayside. The fact that a law is passed to establish such an organization represents no guarantee whatsoever that it will be implemented. The approval of legislation is only a preparatory step, which must be made in parallel with many other actions, particularly in relation to organizing and implementing the formulas needed to create and operate these organizations. For river basin organizations to become consolidated, they must also be given the capacity to raise their own funding.

Difficulties in establishing and operating river basin organizations

The establishment of river basin organizations very often faces opposition from some of the main users, sometimes from interinstitutional rivals and sometimes because they have to confront or compete openly with regional authorities. Many organizations which have been in operation for years continue to face the same set of conflicts and opposition. Not a few river basin organizations have succumbed to this problem, as the statistics of some countries show. The organizations which last longest are those which can rely on their own fund-raising system.

Probably some of the greatest obstacles to the establishment and successful operation of river basin authorities are: lack of awareness on the part of public and users of the economic advantages of having such organizations; lack of clarity about their role, which generates potential competition with other authorities and with the public and private sector; an unrepresentative management level (council, committee or board); problems with the means and legal basis of raising financing; and the fact that water management at river basin level is often dominated by a sector which has no interest in forming part of a system of shared management.

To establish a river basin organization it is therefore necessary to run several processes in parallel. It is strategically advisable to start by acknowledging any type of water administration that already exists in the river basin—whether this is a single sector user, such as irrigation, hydroelectricity or drinking water supply and sanitation, or various sectors—and involve them in the process right from the beginning. Many past failures or delays in creating river basin organizations are attributable to neglect of something as fundamental as this.

It is obviously essential to have agreements in place among the public institutions which are involved in water management. Conflicts between State agencies are very injurious to the process and often occur between ministries and agencies, even from the same sector, to the extent that one party may even boycott the initiative. Conflicts sometimes arise between local authorities or provinces and the central government for political reasons, especially if the mayor or governor belongs to the ruling party's opposition.

In general, most of the financial agents of major hydraulic works are guilty of a glaring lack of provision for financing the establishment of river basin organizations to operate and maintain the hydraulic works once they are built. This is usually considered to be allocable to current expenditure of the fiscal budget and not to project expenditure.

Conflicts over the creation of river basin organizations also arise because of the effects of existing legislation, or the lack of it. Sometimes an existing law that provides for the creation of a river basin organization is not flexible enough to allow it to achieve its purpose: it may establish conditions for the participation of actors, composition of boards or charges which are impracticable. In other cases, there is no legislation on which to base the creation of a river basin organization, afford it a legal framework or provide financial support.

The present document analyses these situations and proposes ways to overcome their shortcomings. One important recommendation is to create information centres (logistics) to support the processes of establishing river basin organizations and draw up technical specifications.

As always, our readers are encouraged to submit information on past or future activities, courses, meetings and publications, and to communicate any other comment, article, concern or suggestion related to the Network's objective of promoting cooperation in integrated water resources management in Latin America and the Caribbean.



The *First National Meeting of River Basin Councils* was held in Mexico City from 25 to 27 October, 2000. The main objective of the meeting was to evaluate progress to date in modernizing the institutional structure and process of water management, and to encourage dialogue between the different social actors involved in the new ways of managing the resource. ECLAC was present at the meeting. There follows a transcription of a document entitled “*Avances y perspectivas de los Consejos de Cuenca*” (“*Progress and perspectives of River Basin Councils*”), which was presented at the meeting by *Guillermo Chavez Zarate*, River Basin Council Coordinator of Mexico's National Water Commission (CNA).

Background

There are numerous challenges involved in meeting water needs and providing the necessary hydraulic infrastructure and services in a country whose water resources are very unevenly distributed, with large areas that suffer from severe shortages and growing competition between uses and users. In compliance with the objectives, targets and strategies proposed in the 1995-2000 Hydraulic Programme, the Mexican Federal Administration set about establishing and developing River Basin Councils, as provided in the National Water Law. These Councils are intended to operate as instances of coordination and consensus-building and thus help to improve water management, develop hydraulic infrastructure and preserve the natural resources of river basins.

The process of establishing and developing River Basin Councils approved by the CNA Technical Committee has been gradually consolidated over the last few years, and is now one of the most solid pillars of the structural changes underway in the water resources sector. The organization of River Basin Councils acknowledges four territorial levels (River Basin, Sub-basin, Micro-basin and Aquifer) to coordinate the interests of the different users recognized in the National Water Law, those of non-governmental

organizations and the three levels of government (Federal, State and Municipal). The legal and regulatory basis of the River Basin Councils, their Rules of Organization and Operation, and the public representativeness provided by the State, Subregional and Regional Users Committees and Representative Assemblies, constitute a broad and stable organizational structure, which put them in a good position to conduct modern water resources management.

Strategies

In 1997 a general strategy was proposed to overcome the difficulties inherent in a process of public participation that was becoming increasingly complex, due both to the worsening scarcity of water resources and to the growing competition among users. The implementation of this strategy was planned as four successive and interdependent stages which, applied countrywide, gradually generated a synergy of participation that reached, firstly, all the spheres of the CNA and, later, state governments, different types of users and parties involved in the organized management of the resource. The stages of the strategy were denominated: (i) planning, (ii) establishment, (iii) initial consolidation, and (iv) operation and development.

Planning. This stage consisted of promoting and disseminating the principles which underpin ordered and integrated water management. This was directed at water users, state and municipal governments, universities and institutes of higher education, and social groupings such as Associations, Professional Associations, and non-governmental organizations. Emphasis was placed on the importance of the resource for life, economic development and the preservation of ecosystems. A substantial part of this stage consisted of developing an ordered and systematic representation of the prevailing water conditions in the corresponding river basins, the concepts and scope of the River Basin Councils and their related bodies. It also included identifying and holding initial discussions on the possible priorities of a preliminary programme of work for the river basin. The early work included classifying the water users in the river basin and its surrounding area, and forming a group to promote the River Basin Council, which was commended with the task of contacting a larger number of users and representative bodies in the river basin and inviting them to participate in the future work of the Council. The work of this stage concluded with the formal establishment of State, Subregional and Regional Users Committees for each of the uses provided in the National Water Law, and with an Assembly of User Representatives who would represent users before the

corresponding River Basin Council. From the first activities of promotion and dissemination, to the holding of the Assembly of Users, this stage took between one and two years of uninterrupted work, depending on the degree of complexity and the geographical area covered by the respective River Basin Council.

Establishment. Together with the Users Spokespeople designated by the Assembly of Representatives, the second stage of creating and developing the River Basin Councils began. For each case, a formal invitation was issued to governments of the states which form part of the river basin, and the legal document (Establishment Act), which served to formalize the establishment of the Council, was jointly reviewed. This document indicates the first priorities to be addressed by each Council and requires the constitution of a Follow-up and Evaluation Group, which is responsible for implementing the decisions of the Council. The Group is also responsible for compiling and analysing new information and data needed to put to the consideration of the Council future plans, programmes and actions for water resources management in the river basin. The establishment of a River Basin Council is a stage that takes approximately 3 to 4 months, during which the agendas of the parties are reconciled, the Establishment Act is created and reviewed and the logistics needed for the formal public establishment are agreed upon.

Consolidation. This is the most important stage of the River Basin Council, since this is when the ultimate feasibility of the organization is determined. During this time the organizational and operational aspects are strengthened, as the Council's management capacities gradually develop, and it gains wider knowledge of water issues of the region, river basin and aquifer. This stage also includes the organization of participative meetings and workshops involving diagnoses and proposals of solutions to local problems.

Each of the operating Councils has a Follow-up and Evaluation Group, which is essential for consolidation. All the parties involved participate in this Group, as well as any other actors who are both representative and relevant to the future water resources management in the river basin, such as the representatives of public and private agencies, and regional or local institutes and universities.

Each Follow-up and Evaluation Group is encouraged to meet regularly (4 times during 1999 and monthly during 2000) to strengthen the organization's capacity for participation in planning, coordination and consensus-building, which are the substantive functions that the law confers upon River Basin

Councils. The meetings analyse and examine relevant issues of general interest for water policy in each river basin or water region.

In addition, as part of the consolidation strategy, it has been possible to forge stable relations and communications between the upper structure of the Councils and large sectors of users, through representation based on Users' Assemblies for each river basin and on State and Regional Users' Committees for each type of water use. This has also served to increase the representativeness and legitimacy of the River Basin Councils. In this framework, 25 constituted Assemblies have a support network of more than 350 State, Regional and Subregional Users Committees.

The initial consolidation of River Basin Councils is estimated to take about 3 years. This time covers from the establishment of the Council to the first renewal of the Users Spokespeople.

Development and operation. During this stage the River Basin Councils reach full maturity. They achieve broad operational and financial autonomy, and therefore become self-supporting. At this stage they move beyond mere user representation to coordinate processes of information and consultation with users' base organizations. This is expected to take around 5 years to achieve. During this period, the River Basin Council sets up and discharges its first Water Agenda, which clearly sets forth priorities and relevant issues. The early activities come to maturity and, through consultations and consensus, develop into Plans or Programmes of Integrated Water Management for the River Basin. By now the River Basin Council has formed its auxiliary bodies, including the Follow-up and Evaluation Group; River Basin Commissions and Committees as required depending on the regional problems identified; Technical Groundwater Committees to deal with the over-exploitation of priority aquifers in the jurisdiction of the Council; and the Water Information and Consultation Centre also becomes operational.

Results

Over a three-year period a support organization was created for joint water management. Thus far it includes 25 River Basin Councils and 6 River Basin Commissions countrywide, 3 River Basin Committees and 38 Technical Groundwater Committees (COTAS) in the aquifers which display the worse degrees of over-exploitation. Each River Basin Council has a Follow-up and Evaluation Group which involves all the parties and meets regularly to analyse and discuss the river basin's water

issues, in line with an established annual programme of activities. The Follow-up and Evaluation Group can create internal specialized working parties to provide technical support when it is required on very specific issues.

This support organization for joint water management has met on 302 occasions over the past 3 years. During 2000 the Follow-up and Evaluation Groups have held more than 100 meetings and have systematically examined issues which include the following:

- Rules of Organization and Operation for River Basin Councils.
- Balances and availability of water by river basin and by aquifer.
- Compilation and coordination of municipal, state and federal hydraulic investment programmes for 2000.
- Information systems for water management.
- Presentation and analysis of the Public Register of Water Rights (REPD) in the river basin.
- Presentation and analysis of the Regional Hydraulic Strategy Diagnosis and Guidelines.
- Presentation of the Citizen's Water Movement.
- Presentation and analysis of the bases for hydraulic programming at national, regional and river basin level.
- Identification of projects and programmes of hydraulic investment in river basins for 2001.
- Review and consensus-building on River Basin Water Problems and Proposed Solutions.

A substantial part of the programmes of activities carried out consisted of discussing and consulting with all the river basin councillors on the "Rules" which currently regulate their "Organization and Operation". Training workshops were also held on subjects such as Water Legislation and Administration, Conflict Management and Negotiation, Strategic Planning and other more technical areas related to the behaviour of surface and groundwater.

In summary, the achievements have been:

- The establishment of River Basin Councils that are strong enough to survive the change of government and which have regulated organizational and operational bases, which should facilitate water planning and management.
- Wider and better participation by users, based on water information and basic documentation.
- Better integration of all the actors involved.

- Regular, programmed training processes.
- Full assimilation of the concept of River Basin Councils and their role in water management by river basin, both by the institutions of the water resources sector and by water users.
- Stronger public and governmental support for the financial consolidation of the programmes.

Each River Basin Council will focus its attention on the issues relevant to each individual river basin, as far as its consolidation and maturity allows. Thus, while the Lerma-Chapala River Basin Council held its Fourth Ordinary Session in August 2000, at which agreement was reached on the bases for updating the river basin Surface Water Distribution Agreement, the River Basin Councils of the Yaqui-Mátape and Mayo Rivers in the States of Chihuahua and Sonora, and the Tuxpan and Jamapa Rivers in the States of Puebla, Hidalgo and Veracruz are just starting operations since their establishment in August and September, respectively.

Perspectives

At the end of the first stage of the process of creating and developing River Basin Councils, each of these organizations has a Basic Water Agenda that sets forth the problems and priorities to be addressed in the coming years; they also have Rules of Organization and Operation provided by the CNA, as provided in the regulations of the National Water Law, and they work on a first Draft Plan or Programme of Integrated Water Management for each of the country's main river basins, which has to indicate objectives, medium- and long-term strategy outlines, and identify the main investment projects and programmes for the following years. All of this is, of course, widely discussed with the participants.

As the Councils begin to participate more widely and directly in the process of planning water uses in each river basin, the new forms of joint water resources management should provide:

- A new order for administering and using water better.
- Programmes that are better structured and more deeply rooted in the regional culture in order to improve: efficiency of water use; river basin conservation and management; management and regulation of over-exploited aquifers; care and culture of water and other issues relevant to individual regions.
- Greater awareness of the shared responsibility of users and governments to resolve water availability problems and improve water quality.

- News ways of financing the provision of water services and hydraulic infrastructure systems in the river basin and making them financially self-sufficient.

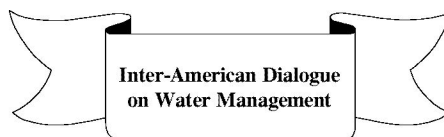
In the medium and long term, the River Basin Councils are intended to be organizations with greater powers and resources and more management autonomy, which will coordinate the efforts of users, non-governmental organizations and agencies at the three levels of government to achieve water sustainability and contribute to the economic development of the regions in which they and their operations are based.

Over the last two years, the focus has been on getting the River Basin Councils established and on laying down the foundations for their gradual consolidation. Thus, the indicators for measuring their progress and achievements have been defined in quantitative terms according to the number of agencies set up and meetings held, as well as the observation and follow-up of key points of the process.

As River Basin Councils mature and become consolidated, it is intended to provide follow-up and measure performance on the basis of the objectives and targets indicated in the corresponding water management plans and programmes. This will entail the development of a new system of management indicators to provide a better reflection of the water situation in each river basin, in quantitative and qualitative terms. These indicators should signal how and to what extent progress is being made in the implementation of objectives and targets in terms of management, sanitation, efficient water use, river basin conservation and recognition of the value of water.

Future activities

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				



The **IV Inter-American Dialogue on Water Management** will be held in Foz do Iguaçu, State of Paraná, Brazil, from September 2 to 6 of 2001. This event will continue the debate initiated in the I Dialogue (Miami, 1993), the II Dialogue (Buenos Aires, 1996) and the III Dialogue (Panama, 1998) (see Circular Letters N° 5 and 10). The IV

Dialogue will offer an opportunity to discuss lessons learned in water resources management specifically those cases involving active participation by the private sector and civil society. "*In Quest of Solutions*" is the key theme of the IV Dialogue. The debates are expected to focus on the following issues: transboundary river basins, climate vulnerability, water management in metropolitan areas and water management in arid and semiarid regions. Major international water-related events will take place in parallel with the IV Dialogue, including the IV Meeting of the Latin American Network of River Basin Organizations.

Additional information is available from:

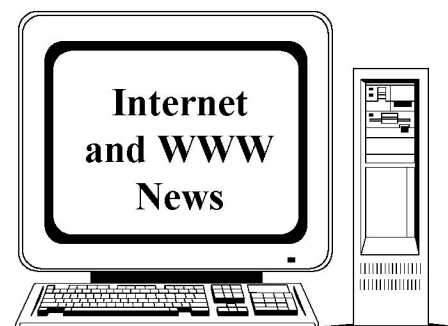
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WWW: www.iwrn.net/dialogs/dialog-4/d4.html



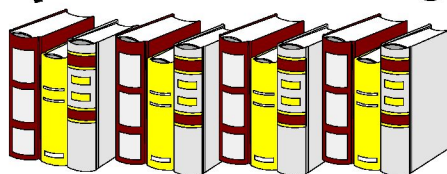
Some of the websites worth visiting for information on water resources management and use and related subjects include the following:

- The **World Commission on Dams (WCD)** was formed to: review the development effectiveness of large dams and assess alternatives; develop a framework for assessing options and decision-making processes for water resources, energy services and development; and develop internationally-acceptable criteria and guidelines for planning, designing, construction, operation, monitoring, and decommissioning of dams. The WCD has recently released its final report "*Dams and development: a new framework for decision-making*" which is available at its website (www.dams.org).
- **EcoPlata** is an inter-agency support programme for the Integrated Management of the Uruguayan Coastal Zone of the River Plate. This integrated management has been defined as "an ongoing and dynamic process that engages the government at its different levels, the stakeholders, the scientific community and the administration, and takes into consideration the community's and

sectoral interests, in the development and implementation of an integrated plan to preserve and develop the coastal resources and ecosystems". EcoPlata seeks to promote integrated management of the Uruguayan Coastal Zone of the River Plate through research in natural and social sciences, planning and policy generation. More information is available about EcoPlata at www.ecoplata.org.uy.

- The first Bolivian website to approach the issue of water legislation (www.aguabolivia.org) was created recently, as one of the projects of the **Commission for Integrated Water Management in Bolivia** (CGIAB). CGIAB is a group of public and private institutions which are involved in water management. It was established in Cochabamba in June 1998, with the assistance of the Consortium for Research and Development of the Andean Ecoregion (CONDESAN), in response to the growing debate on pending water legislation. The site outlines the major legal provisions on water resources, proposals generated by civil society, the legislation of other countries, press articles, analysis documents, a summary of the situation of water resources in Bolivia and a space for forums.
 - The Venezuelan **Lake Maracaibo Basin Oversight and Conservation Institute** (ICLAM) is an autonomous, decentralized agency of the Ministry of the Environment and Renewable Natural Resources (MARNR). Its mission is to achieve sustainable and rational management of the Lake Maracaibo Basin area. Its website (www.iclam.gov.ve) contains a wealth of information about its activities.
 - The **Nicaraguan Institute for Water Works and Sewerage Services** (INAA) is the regulatory body for the drinking water supply and sewerage sector in Nicaragua. Its website (www.inaa.gob.ni) provides information about its history since the 1960s, responsibilities, mission and vision, legal framework, rules and standards, etc. The **Nicaraguan Water Works and Sewerage Services Company** (ENACAL) is the national state-owned enterprise responsible for providing drinking water supply and sanitation services, serving 181 cities and settlements, with a total of 380 000 registered customers. Its website (www.enacal.com.ni) offers information about the achievements in the drinking water supply and sanitation sector and community development projects implemented by the company. ENACAL is conducting a **Programme of Water Supply and Sewerage Services**
- Management Modernization.** Information about this programme is available at clients.freese.com/enacal/index.html.
- The **Beteguma Foundation** is a non-governmental organization based in the city of Quibdó, Department of Chocó, Colombia, whose main objective is to promote the economic, social, cultural and environmental development of the Chocó Biogeographic Area primarily by encouraging research, education, conservation and the sustainable production of natural resources of the tropical rain forest. Its website contains lots of information about its activities and several documents such as "*La cuenca del Cabi: Madre de aguas*" (www.geocities.com/framomo/beteguma.htm).
 - Information about the activities of the **World Conservation Union Regional Office for Mesoamerica** in the fields of wetlands and coastal areas is available at www.uicnhumedales.org. This website has many interesting sections (Principal Initiatives, Wetlands and Coastal Zones Documentation Centre, Electronic Bulletin, Specialists Directory, etc.) and provides direct access to several publications such as "*Uso sostenible de manglares en América Central*" and "*Situation of integrated coastal zone management in Central America*".
 - The electronic bulletin **Semillero** is aimed at anyone working in rural development in Latin America and the Caribbean, especially in drinking water supply, forest farming, renewable energy and the empowerment of rural civil society (www.newforestsproject.com).
 - The main mission of the **Virtual Community of Water Management Sciences** is to offer the teaching and research community telematic tools for coordinating their work (agua.rediris.es).

Publications



Recent publications of the Natural Resources and Infrastructure Division on water resources management and use in Latin America and the Caribbean:

- "*Procedimientos de gestión para el desarrollo sustentable*" ("**Management procedures for sustainable development**")

by Axel Dourojeanni (LC/L.1413-P, August 2000) (*Serie Manuales* N° 10) (available in Spanish only). This guide provides tools for guiding management processes for sustainable and equitable human development in clearly defined geosocioeconomic areas. The document is based on numerous development experiences in Latin American and Caribbean regions, microregions and river basins. The manual is based on a logical sequence of steps, originally designed by Axel Dourojeanni in 1976 (see Circular N° 2). The main process is based on the adaptation of the method for optimizing decision-making known as "*Goal Programming*", which is in turn a variation of linear programming. The main contribution of this manual is that, without resorting to formulas and mathematical optimization processes, it deals in an orderly manner with the numerous issues and disciplines involved in the processes of managing human development in rural and urban areas. The sequence of steps coordinates four simultaneous decision processes: (i) implementing action; (ii) integrating disciplines, (iii) transactions among actors, and (iv) incorporating the environmental dimension. The first process targets economic development, the second is aimed at integration, the third at equity, and the fourth at environmental sustainability. The method is coordinated around a central axis of implementing action. This process is summarized in a series of 10 steps, which identify: (i) actors; (ii) criteria; (iii) problems; (iv) objectives; (v) evaluation and diagnoses of the surrounding conditions; (vi) restrictions; (vii) designing solutions; (viii) designing strategies; (ix) development of work plans, and finally (x) implementation of programmes and monitoring. The chapters of the guide explain each step of the sequence with examples applied to the territories defined by natural boundaries (river basins, coastal areas) and by political-administrative divisions (municipalities, provinces, regions and states). The manual is intended to offer guidance for the manager or assessor of development processes in determined areas for taking decisions with the participation of the actors involved in these processes. The method has the potential to be universally useful and, duly adapted, can be applied to help decision-making and strategy design at any level, from the municipality up to the national level. The manual is written to be used by both hands-on managers and by training personnel, as well as consultants who lend technical assistance in the areas and dimensions mentioned. The method has been widely used in Latin

America and the Caribbean, as well as Europe, and several cases vouch for its practical usefulness and applicability. Particular advantages are the manual's usefulness for encouraging public participation, planning and implementing interdisciplinary studies, guiding technical assistance work in rural and urban areas, helping to draw up reference frameworks for regional and river basin development projects and guiding the selection and evaluation of programmes and projects.

- ***“Water utility regulation: issues and options for Latin America and the Caribbean”*** by Andrei S. Jouravlev (LC/R.2032, 11 October 2000). Since the eighties, for a variety of reasons —some budgetary, some political/ideological, some technological, some arising from pressures from abroad, and some grounded in economic theory— the governments of Latin American and Caribbean countries have been transferring many publicly-owned companies to the private sector. Such transfers have been especially marked in manufacturing and other competitive industries as well as in energy and telecommunications, but privatization has extended now to almost all sectors of the economy, including the provision of water supply and sewerage services. Privatization is often presented as a panacea for the failure of many publicly-owned water utilities to operate efficiently and make the investments required to meet community needs. The water supply and sewerage industry is, however, a classic case of a local natural monopoly. It is perhaps the most monopolistic of all public utility industries and, as such, is uniquely resistant to most forms of competition. Direct market competition in the provision of water supply and

sewerage services within a given region would entail inefficient, wasteful and prohibitively costly duplication of the network of water mains and sewers. In addition, any such competition would be short-lived, because it will lead to the bankruptcy of the rivals and the consolidation of the monopoly. Private ownership does not make the natural monopoly problem go away. Simply converting a publicly-owned monopoly into a privately-owned one provides few, if any, incentives to reduce costs, innovate, invest at the efficient level, and respond to consumer demands. The principal reason for this is that the normal forces of competition which operate to regulate prices, service quality, etc. in competitive industries do not operate in the water supply and sewerage industry. The argument that once poorly operated and money-losing publicly-owned water utilities are privatized, performance improvement will automatically occur, is therefore a gross over-simplification of the problem. In industries with natural monopoly characteristics, incentives for allocative and productive efficiency depend critically upon the regulatory framework adopted. Natural monopoly regulation includes structure regulation, which is concerned with the way in which a market is organised (e.g., entry restrictions and measures of functional separation), and conduct regulation, which is concerned with behaviour within the market (e.g., price regulation, service quality regulation and investment regulation). The former determines which economic agents or types thereof are allowed to engage in which activities, and the latter determines the permitted behaviour of economic agents in their chosen activity or activities. Although in some cases structure regulation and

conduct regulation are alternatives to one another, to be effective, the regulation of natural monopolies usually requires a combination of the two. The issues to be confronted and options to be considered in developing an adequate regulatory framework for the water supply and sewerage industry in Latin American and Caribbean countries are the subject of this paper. It reviews a vast body of recent theoretical and empirical literature on economic regulation and private sector participation, including the experience of the countries where privatization and regulatory reforms have advanced most and its applicability to the countries of Latin America and the Caribbean. Emphasis is given to the implications of the asymmetry of information between regulator and regulated utilities as well as to the regulation of prices, service quality, investments, and diversification. The possible underinvestment problem arising from the limited commitment powers of governments and regulators, and the implications of the existence of separate regulators with different duties and powers are also discussed, as are the possibilities of introducing competition and facilitating regulation through horizontal and vertical restructuring.

The publications of the Natural Resources and Infrastructure Division are available in two formats: (i) as printed documents, single copies of which are sent free of charge by airmail (while supplies last), and (ii) as electronic files (Microsoft Word or PDF formats) which are distributed over the Internet as attachments. Requests should be sent to ajouravlev@eclac.cl or the *Natural Resources and Infrastructure Division, CEPAL, Casilla 179-D, Santiago, Chile*.

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