

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



448000002

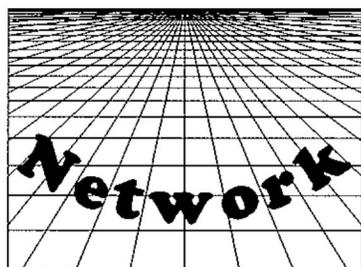
Network for Cooperation in Integrated Water
Resource Management..., Nº 5 June 1997

Latin America and the Caribbean (ECLAC)

Nº 5 June 1997

CIRCULAR Nº 5

In this issue of the Circular, we present the second part of the discussion on regulation of private-sector participation in water-related services. The editorial addresses the issue of integrated water resources management with local participation at the river basin level in the countries of the region.



Policies geared to multi-purpose management of water resources in river basins reflect different approaches and have developed unevenly in the countries of Latin America and the Caribbean. Since the early 1990s, with the countries of the region seeking to achieve sustainable development that reconciles economic growth, social equity and environmental sustainability, this objective has gained currency. Sustainable development presupposes sound management of river basins and particularly of water resources, given the need to harmonize the role and objectives of the different actors involved.

The countries of the region recognize the need for innovation to promote participation in integrated water management at the river basin level. To reconcile economic, social and environmental goals, decision-making must be based on a participatory system of management. However, little progress has been achieved in this regard with respect to water resources management.

The notion of a participatory administrative entity for water resource management at the river basin level holds much appeal and much practical experience

has already been accrued in Europe. Despite their general acceptability, such entities have not yet become widespread in the countries of the region because the different actors fail to agree on their mode of incorporation.

More recently, with privatization and the growing number of conflicts relating to water use (water resource management is the management of conflicts), governments and users are now forced to consider the establishment of local bodies for settling conflicts. Discussions on the need to establish participatory water management agencies at the river basin level as a means of resolving conflicts, improving administration and considering the impact of water use on the environment have intensified in the region.

Most countries of the region still lack the necessary stability and institutional coverage for multi-purpose water management at the river basin level although recent water laws attempt to institutionalize this approach. Nevertheless, a number of corporations have successfully handled different aspects of water management at the river basin level with the participation of users, the State and other actors represented on river basin boards. Many of these entities have not made any important advances in terms of integrated water resource management owing to lack of financial resources, coordination or an appropriate legal base or because of the existence of a complex administrative and financial hierarchy.

The establishment of water resource management bodies at the river basin level is a complex undertaking. Coordination of public-sector activities relating to water resources is a difficult task. For example, in addition to the regional and municipal authorities involved in management of the Bío-Bío river basin in Chile, as many as 16 public authorities operate under the nine central government ministries that implement measures affecting various aspects of water resource management in the basin.

Recent examples of local bodies for multi-purpose water resources management include consortia of municipalities for the administration of river basins, such as those existing in the state of São Paulo and similar bodies in other states in Brazil. One of the most advanced is the Intermunicipal Consortium of the Piracicaba and Capivari River Basins. The main objectives of this consortium are: (i) to represent the joint municipalities in matters of common interest; (ii) to plan and implement joint projects and measures to control and promote the proper use of water resources in these basins, in particular with respect to urban waste water treatment; and (iii) to promote coordinated methods of regional development planning, by establishing mechanisms for studies,

CONTENTS

- **Editorial remarks.**
- **Open discussion.**
- **Meetings.**
 - Inter-American Dialogue on Water Management.
 - Regional Seminar on Privatization of Water-related Public Services.
- **News of the Network: Ground Water Software.**
- **Future activities.**
 - National Congress on Hydrogeology.
 - Hispano-Argentine Seminar on Current Issues in Groundwater Hydrology.
 - LACAR'97.
 - International Drainage Workshop.
- **Courses: CIDIAT and IMTA.**
- **Internet and WWW News.**
- **Recent publications related to the integrated water resources management in the region.**

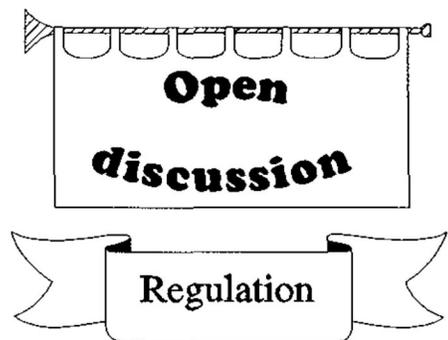
consultations, supervision and control of activities that affect water quality.

A renewed interest in river basin authorities is being shown in Mexico with the application of the 1992 National Water Act. In Peru, the municipalities of the Rímac river basin are holding discussions on the elaboration of a joint strategy for the design and implementation of an Environmental Management Plan for the Rímac River Basin.

As usual, we wish to recall that this circular is not merely a means of conveying the views of ECLAC but also an invitation to institutions in countries of the region to communicate any information on recent or future activities, work programmes, courses, publications and any other comment, concern or suggestion relating to the Network's objectives of promoting cooperation in integrated water resource management.

Transfer by the State of certain responsibilities relating to water resource management at the river basin level to the users themselves and to the local community could be a more effective means of taking account of environmental and social considerations in water resource management.

In the interests of promoting practical application of participatory multi-purpose water resources management and supporting these and other initiatives, ECLAC, with support from the Government of France, is organizing a regional meeting to be held later this year to discuss policies for integrated water resource management at the river basin level bearing in mind the number of actors involved.



In our last edition, we touched on alternative methods of dealing with specific aspects of regulation of private participation in the water resource sector. In the previous issue, we dealt with general aspects of regulating natural monopolies and conduct regulation, including issues such as the different

mechanisms for regulating prices, investments, quality of goods and services and procedures for overcoming problems of asymmetric information between the regulator and the regulatee. In this issue we discuss further the issue of structure regulation.

STRUCTURE REGULATION

Horizontal restructuring refers to the integration or separation of identical production processes, either on a territorial basis or by category of service, while vertical restructuring refers to the integration or separation of different processes that are required for making the end product or service available to the consumer.

There may be different reasons for implementing structural reforms, the most important being:

- *in the case of potentially competitive industries, such as power generation, to encourage competition, not for competition's sake but as a means of achieving cost effectiveness or eliminating or reducing the need for conduct regulation; and,*
- *in the case of industries such as drinking water and sewerage, where competition is not possible for technological reasons, to facilitate conduct regulation.*

It should be recalled that conduct regulation is a less desirable option than competition, even imperfect competition, and should be used only as a last resort when competition is not feasible and when the cost of regulation is lower than that of the deficiencies that it seeks to avoid.

Horizontal restructuring

There are two main arguments in favour of horizontal restructuring in the water resource sector.

Firstly, horizontal separation allows for more efficient systems of regulation and creates conditions for competition on capital markets. This is especially important when, as in the case of drinking water and sewerage, privatization gives rise to regional monopolies, where direct competition between different service providers is not possible for technological reasons.

The possibility of implementing more efficient regulatory systems refers specifically to yardstick or benchmark competition. The existence of various utilities that operate under similar conditions and under the common regulatory system makes it possible to implement benchmark regulation which

means ensuring that the incentive for each company depends not only on its own productivity but also on the performance of the other companies operating in the sector. The cost comparison of various real companies simulates competition through the regulatory system and makes it possible to break the information monopoly which all regulated companies always enjoy.

In the drinking water and sewerage industry in the United Kingdom, for example, a great deal of importance is attached to benchmark regulation which is used both for price regulation and for regulation of the quality of service. Since changes in the structure of the industry, especially mergers, can have adverse effects on the capacity of the regulator to make comparisons between companies, such changes are subject to regulation and are normally permitted on the sole condition that the cost reductions generated by horizontal integration are reflected in tariffs.

Secondly, in some cases, when the size of the market far exceeds the optimum scale of production, separation on a territorial basis can create direct competition between different service providers within the market. This model has been applied in different countries, mainly in the power sector, where in the area of generation, technological changes have eroded economies of scale.

Perhaps the most notable example is the electricity sector in Argentina, where large national government enterprises were separated into smaller entities. As a result of this horizontal separation and deregulation of entry, there are now many utilities competing with each other on the spot and futures markets. Since the companies are small and are not in a position to dominate the market, there is intense competition among them, which benefits consumers through better service at competitive prices.

The same model would not be directly applicable to drinking water and sewerage companies because there are no national networks for distribution of drinking water or evacuation of waste water. Moreover, it is still extremely expensive to transport water over long distances compared with the cost of production. Nevertheless, in some cases, it is possible to establish competition between regional firms for large consumers or for the right to provide services to new areas.

Vertical restructuring

Vertical integration replaces transactions that could have been coordinated through the market by intra-company transfers; it replaces the market coordination mechanism

by an administrative one. As a general rule, such integration is justifiable when it is a response of a utility that competes with others, because, in this way, transaction costs are reduced and cost-effectiveness increased. However, vertical integration that is not the result of a natural selection process in a competitive market but rather the legacy of a State monopoly should be treated with caution by the regulator. This is because vertical integration:

- can give rise to serious difficulties and greater complexity for conduct regulation; and
- can reinforce existing monopolistic powers, and above all, may enable the utilities with natural monopolistic characteristics to extend their power to other segments of the market which do not have such characteristics - and which, as such do not require active regulation by the State - by generating barriers to entry and conditions which pave the way for abusive monopolistic practices.

These considerations suggest that the regulator should try to identify the component or components of water resource infrastructure which establish a utility as a natural monopoly and attempt as far as possible to isolate those activities that may be described as an intrinsic natural monopoly, from other activities or production processes that cannot be described as such. This separation seeks to prevent companies that integrate various production segments from using one of these to obtain undue advantages from others, or from concealing inefficiencies by transferring to them profits earned elsewhere.

Vertical reforms of this type have been applied more extensively in the electricity sector. In this sector, transmission and distribution segments have natural monopolistic characteristics, while the generation sector can function under competition. However, in order to establish real and effective competition between power plants, it is essential that all firms be guaranteed equitable access to the transmission and distribution networks. This requirement generally means preventing the transmission and distribution segments from becoming integrated with the generation segment. This is what has been done in recent years in many countries, especially those with the largest markets.

However, this type of reform is more appropriate for larger, more developed economies. Indeed, vertical separation between generating operations and those of transmission and distribution implies loss of economies of scale and scope. On the other

hand, electric power is not a storable commodity; generation should therefore be immediately adaptable to demand, which varies over time. This implies the need for a coordinating mechanism at the level of the network. The establishment of such a mechanism may entail high costs making the system more complex and less reliable. In smaller less developed economies, these costs, added to the loss of economies of scale and scope, usually far outweigh the benefits of competition.

Basically, the same considerations refer to the drinking water and sewerage industry, where the close relationship between the operation of all the main infrastructure elements, and other factors are a sound argument for an integrated structure. An example of reforms that imply a certain degree of vertical separation in the sector are the contracting out of waste-water treatment services under build, operate and transfer (BOT) arrangements, also known as management with investment.

Cross subsidies

Vertical and horizontal integration are usually justified on the basis of the practice of establishing cross subsidies between different services or different markets (for example, between the urban population and the rural population). Nevertheless, other conflicting considerations also arise. Separation makes subsidies more transparent, in terms of both the cost to society and the objective of targeting the neediest segments of the population. Moreover, cross subsidies generate a greater regulatory burden and hamper competition in potentially competitive segments. Finally, the existence of an integrated firm can result in the adoption of inappropriate technologies for the areas that are supposed to be subsidized.

Diversification

Diversification provides many advantages since it permits improvements in risk management, compensation for demand fluctuations and better use of company capacity and may hold other advantages that may be reflected in lower costs and better services. However, diversification of a regulated company into non-regulated activities or of a non-regulated company towards a regulated industry may have potentially negative effects, as indicated below:

- the problems with non-regulated activities may affect the company's capacity to provide regulated services;
- diversification makes it difficult to assess

the costs of the regulated company, especially the cost of capital, and can be used to circumvent conduct regulation by transferring costs, for example through over-billing of inputs and services, between regulated and non-regulated companies; and

- the management of non-regulated activities may consume an excessive amount of the company's financial and managerial resources.

Although prohibiting diversification entirely would not be an appropriate regulatory response, the regulator should be prepared to impose certain restrictions on diversification in order to avoid potential undesirable effects. The main point is to ensure transaction transparency between regulated and unregulated activities and to guarantee access by the regulator to information he or she requires to fulfil his or her objectives.

Conclusions

Historically, resistance to structural reform was justified on the basis of the existence of economies of scale and scope. Such economies could be significant, especially in smaller countries where the separation of companies that are way below the optimal size would only generate increased costs to consumers. Moreover, structural reforms can impose high costs on the water sector. Another argument in favour of an integrated structure is the convenience of having large, influential companies that are able to compete internationally and penetrate capital markets.

On the other hand, it should be recognized that the disadvantage of maintaining the integrated structure that makes such economies feasible is the lack of competition in potentially competitive areas and greater difficulties with conduct regulation. In addition, the need to have companies that are capable of competing internationally may be met through the establishment of joint ventures.

Hence, a careful comparison should be made to ascertain whether or not potential losses of economies of scale and scope together with the higher costs of coordination and the loss of internalization of externalities outweigh the advantages of resultant competition and the increased availability of information for the regulator.

However, although at least in the short or medium term, the existence of a single company on a market may constitute a less costly production alternative, lack of competitive conditions implies that the mere

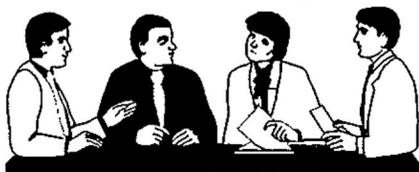
existence of economies of scale and scope does not necessarily mean that these are going to be reflected in lower production costs and greater efficiency. Monopolies, whether private or public, usually prefer a "quite life" rather than having to make a constant effort to improve efficiency.

Terence R. Lee and Andrei S. Jouravlev

If you require further information on regulating natural monopolies in the water sector, a publication entitled "*Regulation of the private provision of public water-related services*" (LC/R.1635), 8 April 1996 may be obtained through the Environment and Development Division. Based on a review of the vast body of theoretical literature on the subject and on the experiences of countries that have successfully incorporated the private sector into water-related utilities, this report outlines the principles to be taken into account in formulating a regulatory framework for the sector.

In addition, another report entitled "*La privatización de servicios públicos basados en agua*" (LC/R.1486), 11 January 1995 summarizes privatization procedures, legal aspects of these procedures, the concept of public utilities and regulation procedures, with a view to determining practices and regulations for the sector in comparative legislation.

Meetings



Dialogue II

The *Second Inter-American Dialogue on Water Management* was held in Buenos Aires, Argentina, from 1 to 6 September 1996. It was convened by the Department of Natural Resources and the Human Environment of Argentina, and organized by the National Institute for Water Sciences and Technology (INCYTH) and the Organization of American States (OAS). The topic for discussion was "Integrated management of water resources for sustainable development in the Americas" and the objective of the meeting was to arrive at a common understanding on required actions and to

propose a specific set of initiatives. Some 260 experts on water issues gathered in Buenos Aires for the conference.

The main recommendations emerging from the Dialogue were:

- Establish whenever necessary, high-level coordination mechanisms at the national level, to support the formulation, review or update of policies, legislation and technical standards on water resources.
- Implement measures for integrated water resource management, using whenever possible the river basin as the unit for planning purposes.
- Establish national commissions for basins and sub-basins of international rivers to serve as suitable mechanisms for facilitating cooperation and exchange of information and experiences.
- Establish programmes for the systematic monitoring of quantity, quality and use of surface and ground water resources, according the highest priority to areas where there is high water demand, intensive development or major risks to public health.
- Include, in the investment in the sector, an authentic source of funding for collection and storage of water information and for promoting regional and international projects that contribute to the exchange of technology for improving data collection networks in every area related to water resources.
- Endow legal systems governing the use and conservation of water resources with the scope, clarity, flexibility and long-term validity.
- Promote the participation of users and take account of them in legislation on integrated water resource management.
- Interpret the "polluter-pays" principle as "any environmental damage must be compensated for and remedied by the polluter without this implying the right to pollute".
- Take advantage of the opportunity offered by privatization of public drinking water and sewerage systems to reinforce planning and management of water resources.

Axel Dourojeanni of the ECLAC Environment and Development Division took part in the Dialogue and presented a paper entitled "*Searching for an integrated conservation and development solution*" at the workshop on "*The impact of the water crisis on freshwater ecosystems in the Latin America and Caribbean region: predicted trends and proposed policy responses*" organized by the World Wildlife Fund

(WWF). The report deals with issues such as water rights, the market for these rights, its efficiency and the need for regulation; privatization of water-related utilities; planning as a means of harmonizing private and public interests; river basin management as a means of achieving environmental sustainability; education and training in water management; and the concepts of development, sustainability and sustainable development.

Additional information on the meeting and the complete text of the Buenos Aires Declaration may be obtained at www.uwin.siu.edu/IWRN/index.html. This page also contains other useful information in particular the valuable directory of organizations related to the management of water resources in the Americas.

Regional Seminar on Privatization

The *Regional Seminar on Privatization of Water-related Public Services* was held in Mérida, Venezuela from 15 to 18 October 1996. It was funded by the Inter-American Development Bank (IDB) in conjunction with the Inter-American Center for Environmental and Territorial Development and Research. Virtually all countries of the region were represented at this seminar. ECLAC contributed by sending four regional advisors and experts from the Environment and Development Division and from its subregional headquarters in Mexico, who made presentations and assisted in conducting the seminar.

The objectives of the seminar were to provide information to regulators and authorities responsible for signing contracts with private companies for privatization of utilities; to carry out a precise and detailed study of the contractual, financial, environmental and quality control models and mechanisms currently in use; and to analyze the most common procedures for establishing regulatory bodies, defining their powers and the term of office of their members, and instituting financial mechanisms. The seminar considered aspects such as regulatory policy; industrial economics; electricity and public utilities; and legislation on public utilities, monopolies and water resources. Representatives of twelve countries reported on the situation in their respective countries.

Participants stressed the importance for all countries of the region to ensure that the

framework for privatization would guarantee efficiency and fairness in the performance of public utilities, that rates would reflect social considerations and the ability to pay and that public users would also pay for the cost of service. Regulatory capture should be avoided and the privatization and regulation process should be accompanied by the development of an oversight capacity.

It was stressed that the public sector does not have the funds to finance the necessary expansion and improvements of public utilities and that private sector involvement is indispensable. Public companies have been regulated and controlled to the point of financial and strategic strangulation and there is a serious lack of information concerning expansions and the state of infrastructure and funding.

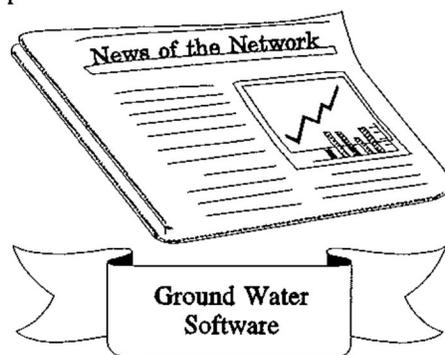
It would be appropriate to establish a regional association of regulatory agencies, which would operate independently for the purposes of sharing information and supervisory techniques, and discussing major issues.

There is a need for more thorough studies on contracts, the charter of regulatory bodies, reasonable rates of return, sequences of privatization procedures, capital markets and their potential for public utility investment. It would be advisable to establish a framework to ensure that regulation included certain common features designed to protect users; similarly standard methodologies and terminology should be designed.

Information on privatization processes underway in the region should be more easily accessible, and to this end, the Internet would be an appropriate means of

For those of you interested in the privatization of water-related public utilities in the region, we would like to inform that reports entitled "*Progress in the privatization of water-related public services: a country-by-country review for Mexico, Central America and the Caribbean*" (LC/R.1697), 30 December 1996 and "*Progress in the privatization of water-related public services: a country-by-country review for South America*" (LC/R.1697/Add.1), 2 January 1997 may be obtained through the Internet from the Environment and Development Division. The reports provide a country-by-country review of private participation in drinking water supply and sanitation, electricity, irrigation and drainage, and inland water transport.

communication. Moreover, in addition to the establishment of institutional, economic and legal instruments, the technical studies undertaken on appropriate technologies for economically disadvantaged zones should be pursued.



In the previous Circular, we advised that the programme *GWW*- *Ground Water Software for Windows* developed by the United Nations for analyzing problems related to ground water is available. In this issue, we report on two commercial programmes of *Waterloo Hydrogeologic, Inc.*:

- **Flowpath** is a two-dimensional model of ground water potential and flow lines which may be used to design the flow system, conduct simulations, view the results and produce reports. Its typical applications include designing remedial systems, simulations of capture areas, design of drainage systems, identification of preferential streamlines for risk evaluation, and study of protection of intake structures.
- **Aquifer Test** is the pumping test and slug test analysis software. Its typical applications include Theis, Neuman, Cooper-Jacob, Hantush and Bouwer-Rice evaluation methods; evaluation of confined, unconfined and semi-confined aquifers; recovery test evaluation; slug tests using Hvorslev; well performance tests; and variable discharge tests.

Further information may be obtained from the following addresses:

Waterloo Hydrogeologic, Inc.
180 Columbia St.W. - Unit 1104
Waterloo, Ontario
Canada, N2L 3L3

Telephone: +1-519-746-1798
Fax: +1-519-885-5262
E-mail: whs@flowpath.com

Waterloo Hydrogeologic Latino América
Bombero Ossa 1010, oficina 226
Santiago, Chile

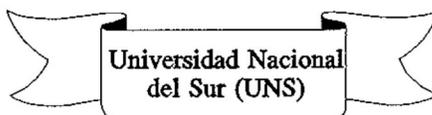
Telephone: +56-2-688-3099
Fax: +56-2-688-3099

The two Internet websites dealing with groundwater problems and that are worth consulting are:

- <http://www.groundwater.com>, of *Bannister Research & Consulting*, containing information on other websites concerning groundwater, and on firms that offer related goods and services; and
- <http://www.scisoftware.com>, of *Scientific Software Group*, a firm that offers many scientific programmes on hydrology, the environment, etc.

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				



Universidad Nacional del Sur (UNS), through its Department of Geology and under the auspices of the Argentine group of the International Association of Hydrogeologists, is organizing the *First National Congress on Hydrogeology* and the *Third Hispano-Argentine Seminar on Current Issues in Groundwater Hydrology*, to be held in the third week of September 1997 at the UNS in the city of Bahía Blanca, Argentina. The meetings of the Congress will be held in the mornings and those of the seminar, in the afternoons.

The *First National Congress on Hydrogeology* will hold a forum of experts for an exchange of ideas and discussions and for updating information on hydrogeology with emphasis on major issues relating to groundwater and techniques and strategies for research, evaluation, effective management and resource development. The presentation of work will be organized, tentatively, in compliance with the following:

- *groundwater prospecting*: new techniques, data-processing and interpretation;
- *aquifer evaluation*: hydraulic, hydrochemical methods, etc; and
- *development, management and conservation of groundwater*: extraction technology, overexploitation, pollution and preservation of groundwater quality.

This agenda is not restrictive, but may serve as guidelines for the preparation of working documents. Studies on other issues may be

presented as long as they are directly related to Congress objectives.

The work of the *Third Hispano-Argentine Seminar on Current Issues in Groundwater Hydrology* will include lectures, presentation of practical cases and round tables. These will be organized in two parts: (i) theoretical aspects of the physical environment, sampling techniques and soil and water analysis in unsaturated zone, and flow patterns and transport of solutes; and (ii) presentation and discussion of practical cases.

In addition, there will be a field trip to the area of the Napostá Grande basin (some 60 kilometres from Bahía Blanca), where there are three experimental plots, with a view to conducting a demonstration of the operation of meteorological instruments and stream gauging in the unsaturated zone (for example, the use of a neutron probe, a tensiometer and suction devices for water sampling).

Further information may be obtained from the following address:

Secretario de la Junta Ejecutiva y Organizadora
Universidad Nacional del Sur
Departamento de Geología
San Juan 670 (1er. piso)
8000 Bahía Blanca - Argentina
Telephone: 25196 - 29557
 extensions 300 - 350
Fax: 556756
E-mail: bonorino@criba.edu.ar

LACAR'97

The International Lake Environment Committee Foundation (ILEC) will hold its

The discussions to be carried out will be directed towards the following issues: lake water resources assessment and monitoring; management of lake freshwater resources; sustainable utilization of lakes; design and construction of reservoirs and management of artificial lake ecosystems; modelling tools for lake management and ecosystem conservation; formation and information: environmental education and community participation; and management of shared lake water resources and international cooperation.

Also on the agenda are special sessions on: Lake Lácár; environmental issues in tropical lakes and reservoirs; environmental issues in lakes and reservoirs in arid and semi-arid regions; environmental issues in lakes and reservoirs in cold regions; lakes and protected natural areas and administration and environmental management; follow-up to the United Nations Conference on Environment and Development (Agenda 21) and the Mar del Plata Action Plan; transfer of environmentally sound technology; regional experiences in the privatization of water-related public services; and environmental education. A number of short technical trips to the most important lakes and sites of interest in the region have also been scheduled.

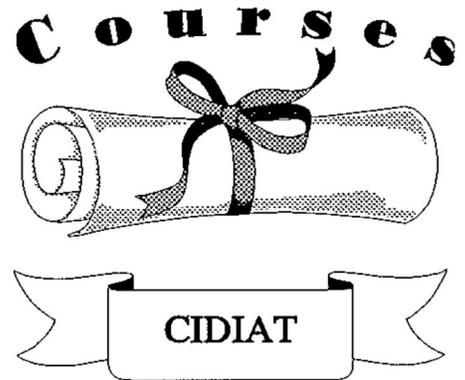
Additional information may be obtained from:

Comisión Organizadora LACAR'97
San Martín 459, piso 4°, Oficina 406
(1004) Buenos Aires - Argentina
Telephone: (+54)-1-348-8368
Fax: (+54)-1-348-8367
E-mail: lacar97@sernah.gov.ar

**International
Drainage Workshop**

held in Penang, Malaysia from 17 to 21 November 1997. The theme of the Workshop will be "Drainage for the 21st Century". Discussions will be held on the following issues: policy issues and strategies for emerging problems; planning, design and construction practices; management challenges; and training and research.

Information on meetings scheduled for 1998 may be obtained through the Internet from the data bank of the Pan American Network for Information and Documentation in Sanitary Engineering and Environmental Sciences (REPDISCA, see Circular Nº 4). For this purpose, send a message to listserv@cepis.org.pe indicating the words *GET REUNIO98* and leaving "subject" and the rest of the message blank. You will receive a reply with a list of meetings scheduled for 1998. To receive a listing of all available files, send a message with the word *INDEX*.



The following are some of the courses scheduled for 1997 by the Inter-American Centre for Environmental and Territorial Development and Research (CIDIAT) under the auspices of the Inter-American Development Bank (IDB) and with the cooperation of the Universidad de los

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_3460

