

BE INVOLVED IN THE
TWINBASINTM PROJECT (P. 5)

INTERNATIONAL NETWORK
OF BASIN ORGANIZATIONS

RESEAU INTERNATIONAL
DES ORGANISMES DE BASSIN

RED INTERNACIONAL
DE ORGANISMOS DE CUENCA

December 2003 - January 2004 - N° 12

The network newsletter

INBO: THE MARTINIQUE IS HOSTING THE VITH WORLD GENERAL ASSEMBLY

INBO now regroups 158 Member Organizations or Permanent Observers in more than 50 countries over the world and works to support the creation and strengthening of Basin Organizations for better integrated water resource management in rivers, lakes and aquifers.

The World General Assembly of INBO only takes place every two years and is open to all Basin Organizations, Administrations in charge of water, International Cooperation Organizations, NGOs interested in this modern approach to good governance.

Among the major topics dealt with, there are:

- **The conclusions of the International Year on Fresh Water 2003**, the 3rd World Water Forum of Kyoto, the G8 of Evian, NEPAD, etc.;
- **The "basins" components of the European and Canadian Water Initiatives**, launched during the World Summit of Johannesburg;
- **The international commissions and the management of transboundary rivers**: continuation of the International Conference of Thonon-les-Bains;
- **The implementation of the European Water Framework Directive**, the first regulation, immediately applicable in 25 countries, based on the management of national and transboundary basins on the scale of a continent, that plans for good ecological status of surface and ground water before 2015 (program of the European Group of Basin Organizations for the implementation of the Framework Directive);

- **The "Associated Program INBO - Global Water Partnership - for assisting the creation and development of basin organizations over the world"**. The twinning arrangements between basins (TWINBASIN project), the pilot projects, training, towards a worldwide Water Information and Documentation System, etc.;



Pierre Baril and Madeleine Jouye De Grandmaison

- **The international programs on basin management**: the World Bank and Regional Development Banks, the United Nations, DS-WSS, UNESCO, WMO, Green Cross International, WWF, IUCN, etc.;
- **The special cases of "Basin Islands"**;
- **The progress and projects of the Regional Networks of Basin Organizations** in Africa (**ANBO**), Latin America (**LANBO**), Central and Eastern Europe (**CEENBO**) and the Mediterranean (**MENBO**).

Mrs. Madeleine Jouye De Grandmaison, President of the Basin Committee of the Martinique and Vice President of the Regional Council, has been elected by the Member Organizations to fill this international Presidency of INBO.

Several field topics such as the prevention of extreme phenomena (floods, erosion, drought), integrated groundwater management, monitoring and the participation of the Civil Society are also dealt with.

According to the Network statutes, France, the Country organizing the General Assembly, is taking charge of INBO Presidency for 2 years till 2006:



INBO SUCCESS AT THE IIIRD WORLD WATER FORUM

"TEN COMMANDMENTS" FOR BETTER INTEGRATED WATER RESOURCE MANAGEMENT AT THE LEVEL OF RIVER BASINS

- I** *Freshwater is a common good.*
- II** *Integrated Water Resource Management should aim at meeting, in a sustainable and inter-sectoral manner, all essential and legitimate needs, at protecting against risk and at preserving and rehabilitating ecosystems,*
- III** *The basins of rivers, lakes and aquifers are the territories suited for organizing the integrated management of water resources and ecosystems.*
- IV** *In each country, a clear legal framework must specify the rights and obligations, institutional responsibilities, the processes and means needed for good water governance.*
- V** *The representatives of populations, local Authorities, water users and of organizations representing collective interest, should participate in this management, especially in Basin Councils or Committees.*
- VI** *Information, awareness and education of populations and of their representatives are required.*
- VII** *Master plans or basin management plans should be prepared, through dialogue and transparency, to set the objectives to be achieved on the medium term.*
- VIII** *Reliable, representative, harmonized and easily accessible integrated information and monitoring systems and specific research programs should be set up in each basin.*
- IX** *The establishment of financing systems, based on the consumers and polluters' contribution and common cause, is required in each basin to ensure the implementation of successive priority action plans and the smooth operation of community utilities. These contributions, defined by consensus in Basin Committees, should be managed at the level of the basin by a specialized, technical and financial "Agency".*
- X** *As regards large transboundary rivers, lakes or aquifers, cooperation agreements should be signed by riparian countries and the Management Plans designed at the level of the basins, especially in international or transboundary Basin Commissions, Authorities or Organizations.*

▼ Seven Ministers participated in INBO Round Table in Shiga on 20 March 2003



▼ Participants came from all over the world for better water management



INBO AT THE CITIZEN'S HOUSE OF WATER

Respecting Japanese tradition and set up as an agora, the Citizen's House was one of the most attractive features of the Forum. Citizens of all walks of life gathered there to discuss integrated water management principles and practices as well as the Millennium Goals: civil society stakeholders, service providers of the public, para-public and commercial sectors, opinion leaders, financiers, representatives of local and national governments as well as children and youths.

Debated topics included the inequalities of access to drinking water and sanitation services, governance and ethics, private, public and NGO partnerships, financial flows, management and responsibility, public participation, the role of women and children and access to information.

The issue of watershed-based management took center stage during the INBO's workshop on organizing the participation of water users in Basin Committees. Chaired by Mr. Pierre Baril, President of INBO, the workshop also demonstrated the close-knit relationships between the debated themes.

The Citizen's House of Water was also the seat of the first **"World Assembly of Water Wisdom"** whose members converged from all continents to craft and adopt the "Citizen's Commitment for the Right to Water".

Brought to the Kyoto Ministerial Conference by Mikhail Gorbachev, the Commitment reaffirms the basic human right to water and the States' responsibility for its implementation, and states that citizens and local communities have a right to information, decision-making, access to financing mechanisms and a right of appeal.

To support its declarations, the **"World Assembly of Water Wisdom"** suggests the signing of a global water convention, the implementation of international monitoring networks that will safeguard the poor's interests and promote sustainable alternatives in development, and the creation of the function of water mediators or ombudspersons.

The Assembly also decided to regularly publish a country-based report entitled "Clean water, working water and sanitation access inequalities and the role and implication of citizens in decision-making". It is an ISW initiative in collaboration with GCI, ALMAE and the WSSCC.

It was estimated that the Citizen's House has drawn 3,500 visitors.

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INBO IN KYOTO:

4 MEETINGS WERE NOT TO BE MISSED!

In the very tightly packed program of the Kyoto Forum, the International Network of Basin Organizations (INBO) organized four meetings with its partners:

● ON TUESDAY 18 MARCH IN KYOTO

"Kyoto International Conference Hall": at the Agora of the "Citizen's House of Water":

Debate: "How to organize the participation of water users in Basin Committees?"

in partnership with the International Secretariat for Water (ISW) of Montreal.

● ON WEDNESDAY 19 MARCH IN OSAKA

"Osaka International Convention Center": during the session on "Water and Information"

Presentation: "The Euro-Mediterranean Water Information and Documentation System (EMWIS): 27 countries exchange their data" at the initiative of the Technical Unit and all the National Focal Points of EMWIS.

● ON THURSDAY 20 MARCH IN SHIGA

"OTSU Prince Hotel": Meeting on "Integrated Water Resource and River Basin Management"

Official session: "Progress in water management at the level of river basins over the world" with the participation of all the attending members of INBO.

● ON FRIDAY 21 MARCH IN SHIGA

"OTSU Prince Hotel": Meeting on "Integrated Water Resource and River Basin Management"

Official session: "And now what ambitions for Basin Organizations?" with the members of INBO Liaison Bureau and GWP.

The photos of these events are available on the website:

www.inbo-news.org
(Kyoto section)

INTERNATIONAL ORGANIZATIONS URGE G8 WORLD LEADERS TO ALLOCATE FUNDS TO PROMOTE COOPERATION OVER TRANSBOUNDARY WATERS FOR DEVELOPMENT, SECURITY AND PEACE

TRANSBOUNDARY WATERS AND SECURITY:

Sustainable water resources management is essential for achieving the Millennium Development Goals, ecosystem protection and social and political stability across the world. Water is a possible cause of tension but also, more importantly, a powerful source of cooperation. However, many longstanding water-related disputes still remain unresolved and the growing demand for finite freshwater resources heightens the risk of future conflicts.

The sustainable management of the 263 transboundary rivers or lakes and many more hundred aquifers, the basins of which contain more than half the territory and population of the world, presents major challenges and is of strategic importance for the immediate and long-term future. There are 59 transboundary river basins in Africa alone, accounting for 80% of the continent's surface water resources. Management of these essential shared resources is crucial for poverty reduction strategies.

INTEGRATED TRANSBOUNDARY WATER RESOURCES AND BASIN MANAGEMENT:

The implementation of Integrated Water Resources Management (IWRM) needs political will and a long-term financial commitment.

This should include: (a) the development and adoption of new national water laws which introduce or reinforce IWRM and basin management techniques; (b) the establishment and strengthening of national and international river basin organizations; (c) the adoption of international conventions, treaties, and/or declarations concerning the management of freshwater; (d) the implementation of coherent systems of monitoring, exchange of appropriate information and the setting up of relevant databases; (e) the elaboration and adoption of national and regional master plans for water; and (f) the creation of sound funding systems based on common causes and solidarity within basins.

But, international law and development support for cooperation in transboundary river, lake and aquifer basins are currently insufficient to meet these challenges.

The vast majority of States did not take the opportunity to reconfirm their commitment to cooperate over transboundary basins by either including this goal in the outcomes of the World Summit on Sustainable Development (August 2002), or in the Ministerial Declaration of the 3rd World Water Forum (March 2003).

Greater political will and actions are urgently needed, as manifested in earlier declarations, such as those signed in Rio (1992), Paris (1998), the Hague (2000) and Bonn (2001).

The establishment of transboundary Basin Organizations has been a success in many basins at the international and national levels, such as the Rhine, Lake Geneva, the Great Lakes and St Lawrence, the Senegal, the Mekong or the Murray Darling, but many transboundary basin institutions do not have sufficient authority, capacity or resources. What is worse, the majority of transboundary basins have no interstate water institutions at all.

The need for the widespread establishment or reinforcement of Basin Organizations to improve governance and facilitate stakeholder participation is in line with the recommendations of the international community to elaborate a common vision for basin management.



The G8 Heads of State and Government beside J. Chirac

GUIDING PRINCIPLES AND RECOMMENDATIONS:

Greater political will and integrated pragmatic actions which respect cultural and geographic diversity are urgently needed to alleviate poverty and sustain ecosystems.

International assistance should promote cooperation in transboundary river and aquifer basins by financing and facilitating communication and the creation or reinforcement of joint institutions between basin States and stakeholders.

In many regions of the developing world there is no infrastructure for even the collection and exchange of data with neighboring countries: international financial commitment is vital and should be increased.

A funding mechanism should be adapted to support activities specifically related to the management of transboundary shared water bodies.

If fifty transboundary river, lake and aquifer basins are identified as priorities for reasons of international security, and as \$2 million are needed per year over ten years to establish a permanent, stable and reliable cooperation mechanism and institutions in each of them, the total investment would be US\$ 1 billion.

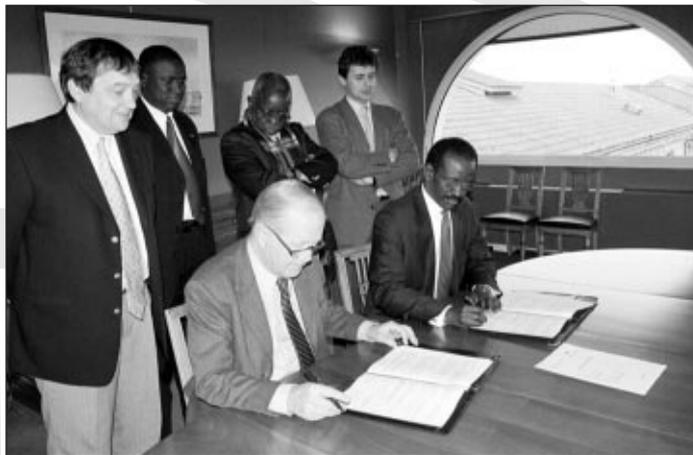
SIGNATORY INTERNATIONAL ORGANIZATIONS URGE G8 WORLD LEADERS TO FINANCIALLY SUPPORT THE LONG TERM PROCESS OF INSTITUTIONALIZATION OF TRANSBOUNDARY WATER MANAGEMENT.

The World Water Council, Green Cross International, the Global Water Partnership, IUCN (World Conservation Union), the International Network of Basin Organizations (INBO), the International Secretariat for Water, "Programme Solidarité Eau" and the World Wide Fund for Nature (WWF), ask the World Leaders meeting in Evian for the G8 Summit to recognize the management of transboundary rivers, lakes and aquifers basins as a priority and to allocate \$1 billion during the next 10 years to finance interstate cooperation over this strategic issue.

This very realistic figure represents less than 1/1000 of the hundreds of billions that need to be invested during the next 10 years, in order to meet the Millennium Development and Johannesburg Water Goals.

<http://www.g8.fr>

PROMOTING TWINNING BETWEEN BASINS TO REINFORCE PRACTICES OF INTEGRATED WATER RESOURCE MANAGEMENT



Signature of the twinning agreement by Mr. FRANÇOIS PONCET (Adour-Garonne Water Agency – France) and Mr. OULD MERZOUG, (Organization for the Development of the Senegal River – OMVS)

In order to build the capacity of Basin Organizations for managing water resources, INBO is promoting bilateral twinning arrangements, as testified the Associated Program with the Global Water Partnership (GWP); indeed, direct exchanges seem to be the more reliable way of disseminating the good practices and strengthening the human resources of our Organizations.

The TWINBASIN^{xn} project aims at facilitating these twinning arrangements, by defining a framework for action, by enabling the move of staffs between twin agencies and by capitalizing the knowledge thus acquired.

This initiative of the Basin Organizations will be opened to the other major stakeholders (Administrations, Universities, companies), to work together for facilitating these twinning arrangements.

The tool thus developed will focus on the capitalization of the acquired know-how to share it on the widest scale possible. Special attention will be paid to the relations between Basins and research to increase the dissemination of research results to the users and thus improve management according to demand.

The project outputs will include:

- ▶ guides and agreement models for arranging beneficial twinning arrangements,

- ▶ exchanges on today topics (transboundary waters, public participation, modeling, monitoring, etc.),
- ▶ scholarships to facilitate the mobility of executives between basins (0.5 to 2-month practical courses),
- ▶ tools for managing knowledge and distance training, etc.

Participation in the TWINBASIN^{xn} community will be open: it will "only" be necessary to support the project principles, to sign the TWINBASIN^{xn} protocol (the MoU – Memorandum of Understanding) to become member, then to commit himself to participate in the exchanges, through Specific Working Groups (Specific Interest Groups-SIGs), specialized on such and such topic of interest.

The work will be mainly remotely carried out, by relying on an appropriate computerized tool, with, however, opportunities of encounters during INBO General Assemblies.

Web-conferences will be organized with experts to disseminate the results of the research, as well as the reports of the staffs involved in the exchanges.

The project will financially support exchanges of staff members, about 50%, on the average, of the travel and stay expenses in the twin Organization; this amount could be modulated according

to the organization of departure (the modulation will be later defined by the Steering Committee of the project).

The project should regroup 150 members before 4 to 5 years (Basin Organizations, Administrations, Universities, etc.). To start its activities, it will rely on a group of about 20 founder members, representatives of the stakeholders concerned, who will compose **the project Steering Committee:**

Coordinator : International Network of Basin Organizations, International Office for Water (France), Seine-Normandie Water Agency (France), Ea - Water Pole (France), Confederación Hidrográfica del Júcar - MENBO (Spain), GWP (Sweden), Techware (Italy), RZGW - Gdansk (Poland), National Water Authority - OVF (Hungary), Interstate Coordination Water Commission - ICWC Aral Sea (Uzbekistan), Jara Tirta I Corporation (Indonesia), African Network of Basin Organizations (Niger), River Basin Agency Algérois - Hodna - Soumman (Algeria), River Basin Agency – Sebou (Morocco), Organization for the Development of the Senegal River - OMVS (Senegal), Comisión Nacional del Agua (Mexico), Apele Romane (Romania).

A group of partners, including the International Office for Water, GWP and Techware, will constitute the operational team of the project (Twin-Basin Support Service), in charge of the daily operating of the network (in particular for allocating and managing mobility scholarships) and of its promotion.

The project has been selected within the framework of the "Global change and ecosystems" priority of the 6th Framework Program for European Research during the first invitation to tender. The European financing of the project will cover the operating expenses of the network (travels of the Steering Committee members, tool development, mobility scholarships, management of SIGs, dissemination of results, etc.), i.e. about € 900,000 for a 48-month period.

The official launch of the project is taking place on 25 January 2004, during INBO General Assembly in the Martinique (French Antilles)

All INBO members are invited to this event.

DO PARTICIPATE IN THE TWINBASIN^{xn} PROJECT
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Signature of the twinning agreement between Mr. P.A. ROCHE (Seine-Normandie Water Agency - France) and Mr. Mekki ABROUK (Algérois-Hodna-Soumman Basin Agency - Algeria)

REGIONAL NETWORKS

EUROPE-INBO:

CREATION OF A "GROUP OF EUROPEAN BASIN ORGANIZATIONS FOR IMPLEMENTING THE FRAMEWORK DIRECTIVE" VALENCIA - SPAIN - 11 / 12 NOVEMBER 2003



123 Delegates from 19 Countries

123 Delegates of Governmental Administrations responsible for managing water resources, of Basin Organizations and Non Governmental Organizations, coming from Albania, Belgium, Estonia, France, Greece, Hungary, Italy, Lithuania, Macedonia, Morocco, Moldavia, Norway, Poland, Portugal, Romania, Spain, Switzerland, Ukraine, United Kingdom and the European Commission, met in Valencia, on 11 and 12 November 2003, under the auspices of the International Network of Basin Organizations (INBO), of the Mediterranean Network of Basin Organizations (MENBO) and of the Central and Eastern European Network of Basin Organizations (CEENBO), at the invitation of the Jucar Hydrological Confederation and Spanish Authorities.

They agreed on the following resolutions:

- as the new European Water Framework Directive aims at achieving good ecological status for surface and ground waters with 2015 as deadline,
- as it is based on an implementation at basin or water district level,
- as, after the first step of its transposition into each national legal framework, the WFD is now entering in its active and operational phase of implementation by Basin Organizations,

either existing or in a creating process, or by water district Authorities,

- as this implementation might be complex and is based on new concepts and methods for sound water management,
- taking into account the very ambitious objectives to reach and important tasks to be executed.

The Organizations represented in Valencia wish to be able to better exchange their information and experiences with, and to point out the difficulties encountered to the national Authorities concerned and the European Commission with a willingness of stronger cooperation between them and at European level.

"EUROP-INBO"

For this purpose, they decided to set up, within INBO and without building any new structure, a "Group of European Basin Organizations for implementing the WFD", open to all concerned Organizations of the European Union and bordering countries wishing to be associated.

This Group aims at facilitating the implementation of the WFD by Basin Organizations involved in the enlarged European Union, in candidate States and other interested Eastern European

and Mediterranean Countries, especially leading to common initiatives, aiming:

- to participate in the local, national and international discussions on integrated water resources management and sound and sustainable development of river basins and aquifers,
- to develop exchanges of information, experiences and expertise between interested Basin Organizations,
- to strengthen cooperation between the countries bordering transboundary rivers, lakes and aquifers,
- to evaluate the activities undertaken and to disseminate their results, especially through publications and appropriate training programs,
- to design and promote common projects for achieving these objectives,
- to facilitate the development of useful management tools and models,
- to promote the exchange of information and data essential for knowledge of the resources, uses and pollution and required for forecasting natural hazards and accidents, for defining multi-year plans for joint and consistent actions and for evaluating the common policies implemented,

- to assist with the establishment of financing systems, based on the "user-polluter pays" principles and on common cause in the basin,
- to promote training programs for the managers, executives and technicians of the Member Organizations and, more generally, for all stakeholders in water management,
- to promote the participation of the populations concerned in planning processes and sustainable water resource management.

IN PRACTICE:

All the interested Partner Organizations agreed to meet again within 12 months and later at least once a year or at each significant step of the implementation of the European Water Framework Directive.

Poland proposed to host the next plenary meeting and will jointly choose the place and dates with INBO Permanent Technical Secretariat, with the assistance of a Coordinating Committee, chaired by the representative of the organization that hosted the last meeting, the Jucar Hydrological Confederation for the coming period.

INBO Permanent Technical Secretariat will handle the secretariat of the Coordination Committee.

*Teodoro Estrela Monreal
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CEENBO

LIAISON BUREAU TULCEA, ROMANIA – 11 - 13 SEPTEMBER 2003



The Liaison Bureau of the Central and Eastern European Network of Basin Organizations (CEENBO) took place on 12 September 2003, in Tulcea / Romania in the Danube Delta, at the invitation of "Apele Romane".

The participants came from most of the Member Countries: Bulgaria, Czech Republic, Hungary, Serbia & Montenegro, Slovenia and Romania. Moldova was also represented by Mr. Ion Savga, Vice-President of the Complex "Apele Moldovei" / "Moldavian Waters".

The 25 participants were welcomed by CEENBO President, Mr. Costica Sofronie,

Mrs. I. Bogdan, Romanian Ministry of Agriculture, Forestry, Waters and the Environment, and Mr. Petru Serban, National Administration "Apele Romane".

As Secretary of CEENBO, Mrs. Daniela Radulescu, presented a progress report on the actions undertaken since the Liaison Bureau held in Calimanesti, last year.

Mrs. Madeleine De Grandmaison, President of the Martinique Basin Committee (France) and Mr. Jean-François Donzier, INBO Secretary, also presented the conclusions of the last INBO Liaison Bureau meeting, held in the Martinique (France), in June 2003.

The "EUROPE-INBO" project was actively discussed. The idea of a European Group of Basin Organizations was born a few months ago.

CEENBO is directly involved in this project, which aims to create a working community for the implementation of the European Water Framework Directive. Mr. Donzier presented the 2nd stage of GWP / INBO Associated Program. Some projects of the Asso-

ciated Program could be presented by Poland, Bulgaria, Slovenia and Romania which have proposed six projects corresponding to the four objectives of the Associated Program.

Mrs. Aliona Haisan presented the Romanian National Focal Point of: *Aqu@docINTER*".

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LANBO

LATIN-AMERICAN NETWORK OF BASIN ORGANIZATIONS

LANBO has several ongoing projects

- 1 An agreement was signed with IADB to carry out an inventory of all Basin Organizations in Latin America and the Caribbean,
- 2 The launching of two case studies, one in Central America and the other in South America, with financial support from IADB and the World Bank,
- 3 Support to the INBO / GWP Associated Program for Latin America,
- 4 Participation in the European Initiative on Water in Latin America,
- 5 LANBO considers opening up to the Organizations of micro and sub-basins,
- 6 The training of the personnel of Basin Organizations in the region will rely on the participation of CAPNET, with the support of the Mexican IMTA and the Argentinean INAA. Other partners are looked for to create a Regional Network for the training on the institutional and operational provisions for Water Resource Management at the level of river basins.

A new Operational Structure for the Permanent Technical Secretariat

The Permanent Technical Secretariat plans to reform itself to better serve the Basin Organizations of the region, with better capabilities and a quicker and more direct response.

It is planned to create:

- ❖ a Secretariat for services to the partners, in the Mexican "Comisión Nacional del Agua", especially regarding information and documentation,
- ❖ a Secretariat for Technological Development and Training, in the Mexican IMTA, in liaison with CAPNET,

It is also planned that Mr. Raymundo Garrido (Brazil), first LANBO President, take the responsibility of promoting the drawing up of "expert" documents for LANBO and INBO, of developing international relations and organizing regular meetings and forums to allow exchanges of experiences between the Basin Organizations.

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SEMIDE EMWIS

Euro-Mediterranean Water Information System

FOURTEEN COUNTRIES ARE ALREADY ONLINE

The Euro-Mediterranean Information System on know-how in the Water Sector - EMWIS - now offers direct access to the information managed by 14 countries of the Mediterranean region (Algeria, Cyprus, France, Greece, Israel, Italy, Jordan, Lebanon, Malta, Morocco, Palestine, Portugal, Spain and Turkey).

Other countries have already operational National Focal Points (Austria, Belgium, Egypt, Luxembourg, Syria and Tunisia).

- **Phase 2 :**
Greater support to the Southern countries of the Basin

In July 2003, the EU agreed to cofinance the second phase of EMWIS, i.e. a budget amounting to more than 3.3 Million Euros paid by the European Commis-

sion, France, Italy, Spain and the other participating countries.

While keeping in line with the overall objective of strengthening regional cooperation in the water area, the approach consists in developing EMWIS as an Integrated Network of National Water Information Systems. Thus, the Mediterranean Partner Countries will benefit from a specific support to develop their own national systems in conformity with the standards set at the regional level. Arabic will be introduced in addition to the English and French languages to meet the needs of the eight Arabic-speaking countries of the Euro-Mediterranean Partnership.

The current services will be consolidated: the multilingual topical directory (that inventories more than 2,500 organizations), the electronic flash (more than 5,500 recipients), the electronic forums, legislation, etc. Topical activi-

ties (analyses, syntheses and events), focusing on the topics of the Turin Action Plan (1999), will be developed to provide new contents at the regional level.

Activities were undertaken in 2003 to continue promoting EMWIS as a preamble to the effective start of this second phase:

- **finalization of mini CD-ROMs**, with a credit card format, which incorporate various presentations of EMWIS in French and English, and the "newsletters". The PowerPoint presentation of EMWIS has already been translated into Arabic;
- **continuation of the improvement of Internet connections for the Algerian** (satellite connection) **and Jordanian** (specialized cable connection) **Focal Points;**
- **continuous updating of the Technical Unit's server;**

- **three publications of EMWIS electronic flash**, disseminated to 1,350 people in the French version and to 4,100 people in the English version;

- **continuation of the development of the topical directory on water;**
- **presentation of EMWIS during international events**, such as the Kyoto World Water Forum, workshops, seminars and conferences on water in the Mediterranean in Madrid and Montpellier.

- **A tool for European Cooperation in the Mediterranean**

The European Commission has chosen EMWIS as the information and cooperation tool for the Regional Euro-Mediterranean Program on Local Water Management (MEDA-Water) and the Mediterranean Component of the European Water Initiative.

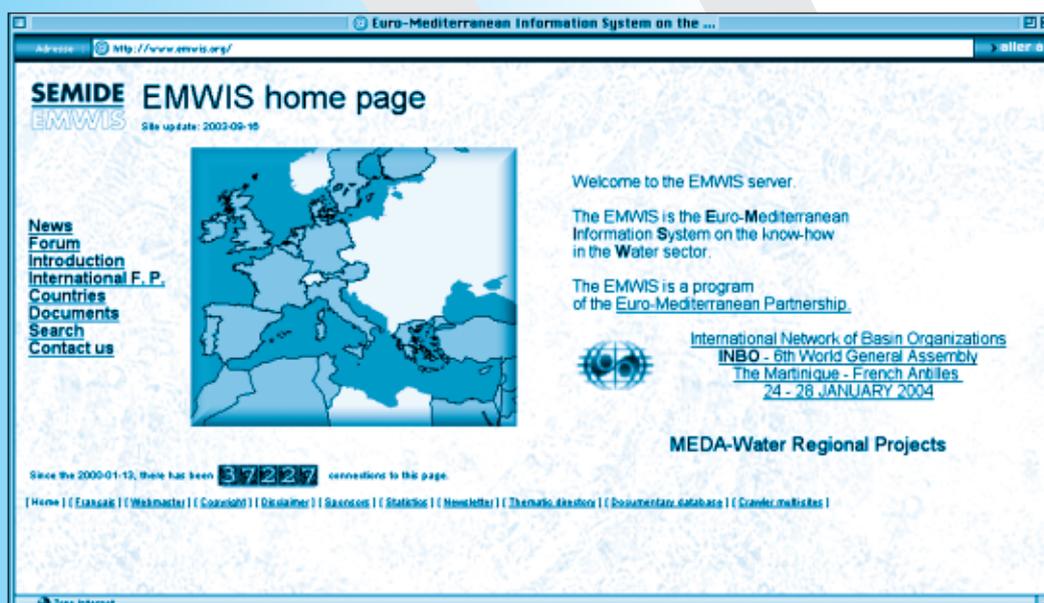
Therefore, the progress made in the MEDA-Water program and in the 8 projects launched in 2003 is presented on the EMWIS website. A close collaboration is kept with "national facilitators" and the "IME", the organization in charge of following up the MEDA Water Program.

- **Synergy with the Mediterranean Network of Basin Organizations**

Following the cooperation agreement signed with INBO in May 2002, EMWIS has relayed the first General Assembly of the Regional Mediterranean Network (MENBO), Valencia (November 2003), and rerouted the website :

www.inbo-news.org

<http://www.emwis.org>



WATER INFORMATION SYSTEM



The Network focuses on the European Water Framework Directive

The **Aqu@docINTER** network has been extending between IOWater (France) and VITUKI (Hungary), IMGW (Poland), Povodi Moravy (Czech Republic), and Apele Romane (Romania).

It has already a portal of water activities in these countries, especially focusing on the European Framework Directive of 2000.

In addition to **multilingual access to the water-related documentary bases** of these countries, to on-line texts and to experts' directories, its new objective aims at informing monthly on practical, institutional, economic, ecological, technical progress and on the results of ongoing research in each country to achieve the objectives of the Framework Directive.

<http://www.aquadocinter.org>

It should be remembered that the Framework Directive includes result-oriented objectives to achieve water quality and especially the good (ecological, physico-chemical, etc.) status of water masses before 2015.

A network informing all the water stakeholders of the significant progress made in the countries on this topic was worth creating to achieve these objectives.

In addition, it is also necessary to inform on the measures taken for public participation in water management, on the in-depth economic analyses needed to assess water cost and its paying by the users, etc.

The **Aqu@docINTER** portal also provides, thanks to its water-related information specialists in each country, a summary of the events and news on these topics: publication of national guides for

implementing the Directive, assessment of the "good ecological status", research on the economic analysis of water prices, cost recovery, investments, pilot projects for public participation, etc.



AWIS AFRICAN WATER INFORMATION AND DOCUMENTATION SYSTEM

The African Water Information and Documentation System (AWIS) will rely on the networking of different Regional Resource Centers (AWIS InfoDesks) to share and ex-

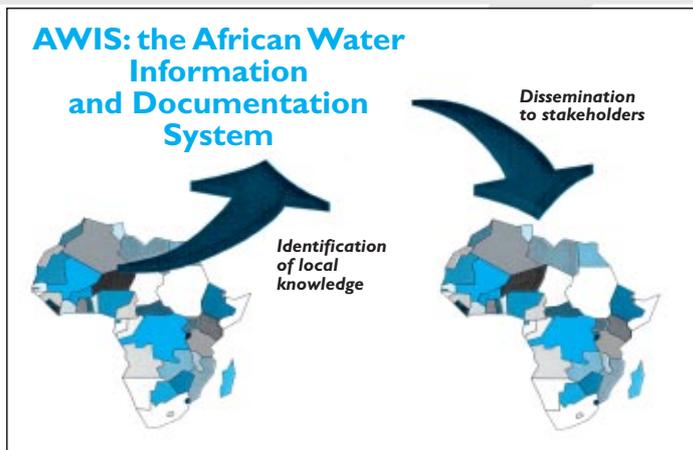
change the information indispensable to their activities, either documentary bases for instance or information on the operators or the sharing of techniques or experience.

These AWIS-IDs will be focal points and relays between the users, the local, national, regional or international specialized bases.

The African Resource Centers (AWIS-IDs), correspondents and coordinators of the system at the local level (physical link with the users), will be supported by a **Coordination Unit** which will coordinate the system by applying the orientations defined by a **Steering Committee**, itself advised by a **Consultative Group** made up of the different users.

AWIS is intended for all the stakeholders in the water sector: governmental administrations, basin organizations, local authorities, water suppliers, operators of sanitation utilities, large public developers, consulting firms, organizations of irrigation users, NGOs, research organizations, training centers, etc.

AWIS is neither English nor French nor Portuguese speaking, etc. It is an African tool for the exchange of water-related information with real multilingualism.



WHAT IS WATER GOVERNANCE?

DEFINITION

Governance is the manner in which Power is exercised in resource management (social, human, economic and natural aspects), the organization of decision-making processes, of management and control. It is also the way in which the Government communicates (both ways) with the citizens in general, the organized groups, NGOs, the para-public institutions, the private institutions, etc.

It is the capacity of the Government to prepare and formulate policies that meet the needs of the populations and economic stakeholders, to enforce them and control their implementation, to evaluate their impacts and to make forecasts.

THE OBJECTIVES TO ACHIEVE

It is necessary to modify the current complex, made up of the political, social, economic, administrative and cultural systems, to develop and manage water resources and to provide efficient water services to all levels of the society, social (poor, rural populations, etc.), geographical (rural areas, mountains, etc.) and economic levels (ecosystems, small agriculture, industry, etc.).

THE ELEMENTS COMPOSING GOVERNANCE

- ★ democracy,
- ★ a system enabling the dissemination of information,
- ★ free media,
- ★ the decentralization of decision-making,
- ★ accountability,
- ★ a legislative framework for water and a regulatory framework for water policy,
- ★ a legal framework for the implementation of this policy,
- ★ a legislative framework for water service markets and investments,
- ★ adapted, competent and operating institutions,
- ★ capacity for the administration,
- ★ stakeholders' involvement,
- ★ a system enabling the representation of stakeholders in a democratic way,

- ★ transparency for decisions, finances, budgets and economic data - prices, investments, financing, results,
- ★ the non-exclusion of part of the population,
- ★ a public-private partnership,
- ★ a control system with real power, means and skilled staff.

ESSENTIAL COMPONENTS OF A WATER POLICY

➤ Policy should be established for the whole country with instruments for its adaptation and some freedom of action at local levels (avoiding system stiffness). In particular, the geographical and hydrological scales should be taken into account and through dialogue with the users.

➤ Water policy should define implementation priorities (everything cannot be done at the same time), should establish a hierarchy of water resources and uses (for instance ; high quality groundwater is rather reserved for drinking water), rules for crisis management: process for arbitration/choice between uses, management and the solving of conflicts.

➤ The State should coordinate between water policy and other policies: agricultural policy, urban planning, energy, etc., and thus establish a system of policy coordination at the national level and between the different sectors. The State should be prepared to arbitrate at the national level as some uses may be very harmful.

1 Planning

The implementation of a Policy Framework takes place within a geographical framework (the river basin) and a time framework (medium and long term planning).

2 Administrative management

Organizing water management is incumbent to the State, that is assigning responsibilities (Control? Penalties for abuses? Levy of taxes? Financing? Authorizations or allocation? etc.),

and creating the bodies needed for this management. On the contrary, administrative management can be partly carried out by non governmental organizations.

3 Technical management

The links and types of relation between manager and technical people in charge must be defined together with their respective responsibilities.

4 Stable economic circuit

Action in the framework of a Water Policy requires significant financial commitments, i.e. the financing of investments and of ongoing operations.

This requires stability and a guarantee of financial resources.

5 Knowledge

Water Policy requires knowledge of the resources to be defined. It is the same for its implementation.

Knowledge should be organized at the national level to be well used.

The rules and administrative management should be correctly disseminated and explained in order to convince the majority of the population of following these rules. This will be easier if the rules have been defined by dialoguing with the users.

HOW TO PROGRESS?

One knows globally which are the necessary ingredients so that governance is effective. On the other hand, its complexity requires to be very pragmatic.

What is important, is to start actions which will make this governance progress, according to a road or a trajectory which depends almost exclusively on the state and characteristics of the country.

After having targeted and organized the points to be improved into a hierarchy, it is a question of showing the way (with possibly several hypotheses) which the country should follow within the time planned. Then we can define programs of action, a time table, etc.

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UNEP – DDP

DAMS AND DEVELOPMENT

UNEP and DDP (Dams and Development Project) proposed INBO to become a member of the Forum on Dams and Development, the 2nd meeting of which took place in Geneva from 24 to 26 September 2003.

During this meeting, Mr. Lionel ROBAUX, INBO representative, reminded that a dam is firstly an instrument for serving development and not an end in itself.

He also underlined that most of the problems remaining to be solved could find a solution by thinking at the level of the basin and establishing bodies that gather all the parties involved in water management.

In other words a Basin Committee!

For some participants the surprise was great to discover that such Organizations already existed!

Among the questions asked during the Forum, the following can be underlined:

- 1 How organize a framework for national and regional dialogue?
- 2 How guarantee a comprehensive option assessment?
- 3 How convince the population?
- 4 How fully benefit of all the advantages of an existing dam?
- 5 How meet the commitments made?
- 6 And, of course, how secure the financing of the dam and sustainable development?

All these topics must be dealt with in workshops organized in the coming months by donors and other interested parties.

APFM: ASSOCIATED PROGRAM ON FLOOD MANAGEMENT

The Associated Program on Flood Management (APFM) is a joint initiative of the World Meteorological Organization (WMO) and the Global Water Partnership (GWP).

INTEGRATED FLOOD MANAGEMENT (IFM)

This new notion aims at maximizing the efficient use of floodplains and minimizing loss of life and economic loss. IFM recognizes that a river basin is a dynamic system in which there are many interactions between land and water bodies. It attempts to improve the functioning of the river basin as a whole rather than simply fixing local problems. There is, and obviously will continue to be, a need to determine future flood losses in order to try to reduce them.

APFM'S ACTIVITIES

The main activities of the APFM are the compilation of advisory material including an

IFM concept paper, the collection of good practices on flood management and the development and implementation of regional pilot projects to try out the various aspects of IFM.

➔ Case studies on flood management

The people in charge of APFM are collecting case studies on flood management from various regions of the world with the objectives of extracting lessons learned and good practices. The direct outcomes of the case study collection and synthesis process were the identification of the key aspects and the conditions that need to be fulfilled when applying IFM.

➔ Regional Pilot Projects

Pilot projects are under implementation with the GWP's Regional Technical Advisory Committees (RTACs) to demonstrate the applicability of IFM principles in South Asia, South America, and Central America.



REFERENCE CENTER ON FLOOD MANAGEMENT

The APFM Reference Center on Flood Management will provide strategic advice on IFM to practitioners worldwide.

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UNESCO LAUNCHING OF THE SECOND PHASE OF "PCCP"

PCCP (from Potential Conflict to Cooperation Potential) started in 2001 and is a UNESCO-IHP (International Hydrological Program) contribution to the to WWAP (World Water Assessment Program).

PCCP objective is to promote and tip the balance in favor of cooperation potential for water resource management away from potential conflict over the world.

PCCP's first phase ended in June 2003 and during this period, a number of experts from around the world were associated to the project. They sought to develop tools that can assist parties concerned with water management to share this resource.

Thus, a legal working group has presented the role of law and institutions in the transition from potential conflict to cooperation. It has identified the assets of the international legal system as well as its gaps.

A number of studies on negotiation techniques were conducted. They explicitly set out the basic rules of alternative dispute resolution methods. These techniques are gathered in a Report.

Real world water conflicts were considered through a number of case studies. They draw lessons from both the root causes of such conflicts as well as from examples of successful cooperation.

Detailed studies provided the means for identifying international river basins at risk, and for monitoring the level of cooperation in the world's 263 International Basins.

Finally, PCCP has promoted the development of educational tools on the prevention of water conflicts. A training course workbook on "Participation, Consensus Building and Conflict Management" was prepared by the United States Army Corps of Engineers.

A Partnership for Transboundary Waters has been initiated with Oregon State University. Waternet (a Network of ten universities in Southern Africa and the UNESCO-IHE Institute for Water Education) has conceived and developed four course modules on shared water resource management. Pilot lectures were already held in November 2002 in Maputo and Cape Town.

Most of the works mentioned above are available on the PCCP's Website and on a CD-ROM. They are also published and available free of charge since November 2003.

In its second phase, that has just started, PCCP will carry out further **research related to the tools available for the anticipation and the resolution of water conflicts.** It will also concentrate on the development of water conflict indicators in coordination with IHP.

It will adapt the educational tools developed during the first phase to different geographical areas. PCCP will also aim to increase the number of case studies and to involve a larger number of official stakeholders in the preparation of these exercises.

Finally, as a new modality of this second phase, **a Water Cooperation Facility will be established** in cooperation with the Permanent Court of Arbitration, the World Water Council and the Universities Partnership for Transboundary Waters.

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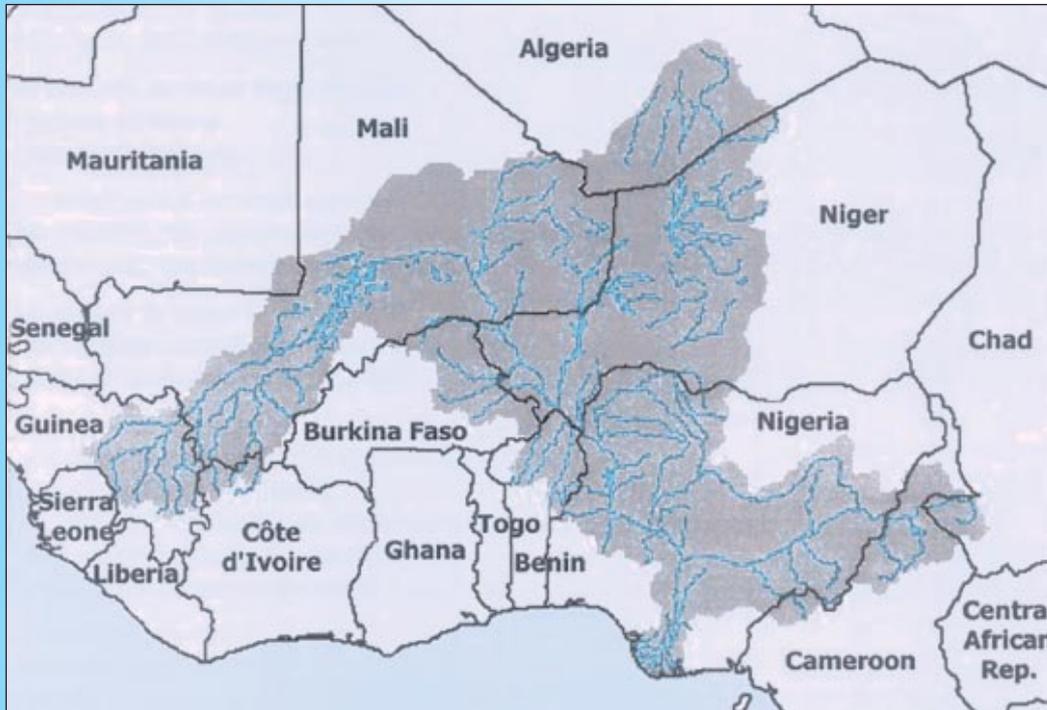
www.unesco.org/water/wwap/pccp



AFRICA

9 COUNTRIES SHARE THE NIGER RIVER BASIN

A CONSTRUCTIVE AUDIT OF THE NBA



The riparian States of the Niger River and its tributaries created in November 1964 the Niger River Commission (NRC) with the aim of "encouraging, promoting and coordinating the studies and programs related to the development of the basin resources".

After seventeen years, the States decided to change the NRC into another institution, whose assignments would be more extended, **the Niger Basin Authority (NBA)** with 9 Member Countries: Burkina Faso, Benin, Cameroon, Chad, Ivory Coast, Guinea, Mali, Niger and Nigeria.

However the financial and institutional crises continued in spite of a mandate reviewed in 1987, which assigned to the NBA the following objectives:

- harmonizing and coordinating national policies for the development of the Basin's resources;
- participating in planning and development by drafting and implementing a plan for the basin's integrated development;
- promoting and participating in the design and exploitation of infrastructures and joint projects;

- controlling and regulating any form of navigation in the river, its tributaries and sub-tributaries in accordance with the "Niamey Act";
- participating in the formulation of requests for assistance and in the mobilization of funds for the studies and works required for developing the basin resources.

The preparation in 1998 of a three-year action plan (2000-2002) and its implementation enabled NBA to gradually boost its activities. The statutory meetings are regularly held, most countries pay their contribution and the development partners have restarted their assistance.

However, even if NBA has carried out many studies, those are not yet translated into real activities for the wellbeing of the riparian populations.

Indeed, NBA suffers from:

- insufficiency of technical and operational capacities to formulate and implement actions related to the objectives assigned to the NBA.
- lack of dialogue and coordination between the NBA and the Member Coun-

tries regarding the planning and implementation of development actions in the basin.

- lack of concerted and joint actions to test the legal and institutional mechanisms, defined in the NBA, and to be a catalyst for concerted global cooperation on the basin scale, that would lead to appropriate sub-regional strategies, based on a clear shared vision of the Niger basin development.

This situation led the executive body of the NBA to take some corrective measures and to organize an institutional and organizational audit. The World Bank entrusted this audit to experts from the International Office for Water and ANBO. It dealt with the following topics:

● NBA mandate

Redefinition of the mandate, role and responsibilities of NBA.

According to the analyses made, an appropriate structure was proposed. The latter fits in with the NBA mandate and specifies the role and responsibilities to take account of the need for strengthening cooperation between the Member States.

● NBA Organization

Proposal of a clear and operating organizational scheme for NBA.

A more efficient and operational administration is proposed.

● Distribution key of the countries' participation to the NBA operation

Recommendations for improving the distribution key of the States' financial contributions (to the NBA operating cost and activities) are provided.

● Capacity building and human resources

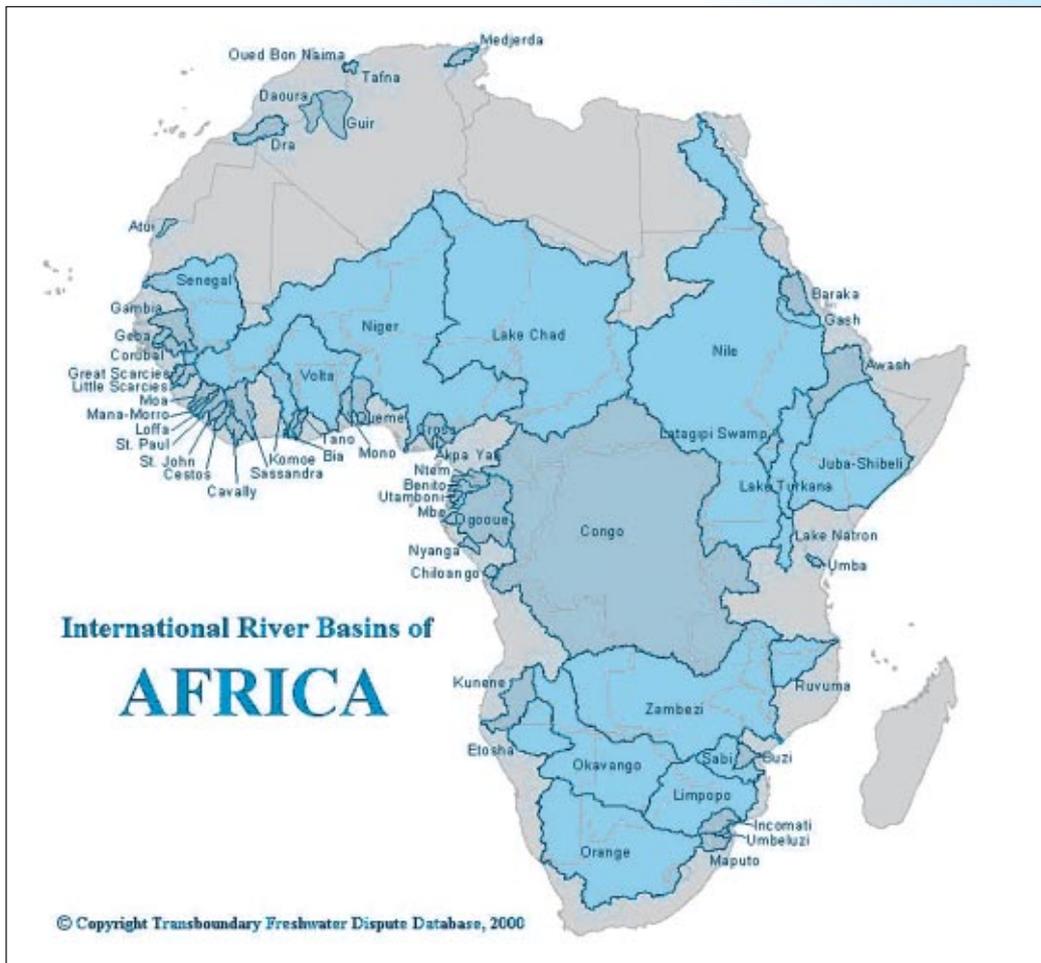
Assessment of the human resources of the NBA Secretariat as compared to its assignments:

The collaborators' profiles needed and performance criteria are defined and clearly formulated to enable the staff to carry out NBA assignments.

The functions, jobs and profiles are defined to make NBA operational and performing.

The main goal of this audit is to provide NBA with a legal and institutional framework, truly operational on the long term, orientated towards the sustainable development of the basin for the wellbeing of the riparian populations.

It happens at a time when a "clear and shared vision" is developing, in line with a "political declaration that defines the long-term objectives and the commitments of the States to an action program". It will now be the reference framework for any initiative for national or regional development in the basin.



Water resources management is becoming one of the major challenges for international cooperation in Africa.

Many African countries have started these last years an in-depth legal and institutional reform focusing on a water policy organized according to the integrated management concept (IWRM) and based on river basins. However, most of the Countries have worked alone up to now and reforms are long to get implemented.

Many bi and multilateral donors, especially European ones, NGOs or large private companies have been working beside Governments, Local Authorities and rural or urban groups of people for a long time and now they wish to strengthen and better coordinate their actions in this sector.

Many international meetings have been organized to facilitate the implementation of a better governance of water resources on the regional scale.

It is now especially necessary to implement sustainable water management on the African continent, in accordance with the commitments and the recommendations of the international Community made in the Conferences of Paris (1998), The Hague (2000), Bonn (2001) and in the World Summit (Johannesburg, September 2002).

The European Water Initiative was launched in Johannesburg on 3 September 2002.

This initiative includes five components, the first two being dedicated to Africa:

- an "access to water supply and sanitation" component, with special emphasis on sanitation in periurban areas, led by Denmark;
- an "Integrated Water Resources Management" (IWRM) component, led by France, focusing in particular **on African transboundary river basins that cover most of the continent and concen-**

trate the main surface and ground water resources.

The French Ministry for Foreign Affairs requested the International Office for Water for assistance in the analysis and proposal stage of the "large rivers" component: a first step of this second component consisted in an inventory, whose method was validated by the main partners involved. The inventory aimed at analyzing the situation and at **characterizing 10 major transboundary basins in Africa, based on about twenty studied cases.**

The interim report of this step was presented during a meeting in Paris in September 2003 to representatives of the European Commission, of Member States and different NGOs and organizations (GWP).

The Ouagadougou Conference in October 2003 was then a significant step of the process with the identification of the first four basins in which the European Initiative will start (Lake Chad, Lake Victoria, Orange, Volta), French Cooperation also supporting the Niger.

The second phase will include two steps:

- 1 Drafting of a methodology to develop basin action plans suited to the African situations;
- 2 The implementation of this methodology in each of the chosen basins, in collaboration with the African and European partners, to make a proposal for action plans complying with IWRM criteria (contents, priorities, budgets).

This phase should be completed in summer 2004.

This European Initiative on the IWRM topic will "facilitate" a better management of African transboundary rivers and the preparation of National IWRM Plans in the concerned riparian countries.

Conference of AMCOW Ministers, Ouagadougou, 2 – 3 October



ETHIOPIA

TOWARDS WATER MANAGEMENT AT THE LEVEL OF RIVER BASINS



The Ethiopian delegation received at the DGCID by Mr. Stephan

In its bilateral cooperation program, France supports the Ethiopian Ministry of Water Resources on the following topics:

- ➔ access to drinking water in rural and urban areas,
- ➔ integrated river basin management on a national and sub-regional scale, when transboundary rivers are involved,

➔ development of irrigated agriculture and electric power.

The Ethiopian Minister of Water Resources had shown an interest in the French institutions involved in water resources management and suggested the organization of a study tour for a group of top executives led by the Vice Minister, Mr. Mesfin.

The program, managed by IOWater, was implemented between 30 August and 7

September 2003. It included:

- ➔ an introduction to the cooperation program of the French Ministry for Foreign Affairs,

➔ an introduction to IOWater activities (institutional support, training and information systems),

➔ a visit of organizations and companies: Rhone-Mediterranean-Corsica Water Agency, National Rhone Company, Canal de Provence Company, Bas-Rhone Languedoc Company, decentralized departments of the State (DIRENs), private companies (BCEOM, etc.) and others (AGROPOLIS, VERSEAU association).

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KENYA

EWASO NG'IRO NORTH DEVELOPMENT AUTHORITY

The Ewaso Ng'iro North River Basin is a typical example of a highland-lowland system - rich highland area surrounded by a vast area of lowlands lacking resources.

The just concluded Ewaso Ng'iro North River Catchment

and Water Resources Management Study, which was funded by the African Development Bank and executed by the Ewaso Ng'iro North Development Authority (ENNDA), identified the need of having integrated development plans covering

the entire Basin to address this long-term challenge.

There is a need for the Authority to undertake the collection of information on resource development and utilization.

This implies that ENNDA has to establish and operate an effective database as well as conducting strategic research and ecological monitoring.

An updated database would be pivotal in facilitating decision making and in guiding the activities on resource development.

ENNDA thus acquired an operational database with data on hydrology, climate, socioeconomic features as well as key environmental thematic areas of the Basin. **ENNDA intends to build on this and develop a well-structured Geographic Information System (GIS)** where it will initiate a process of making dynamic themes using satellite images. The possibility of linking this River Basin database with other national databases is being considered particularly for the purpose of sharing information in a well-established network.

One of the priorities is the development of drought-monitoring indicators and an Early Warning System. A drought situation is economically disastrous and the failure to provide strategic information from the Early Warning System on drought occurrence has previously exposed the pastoral communities to the

vagaries of nature and this has contributed significantly to the escalating poverty encountered in parts of the Basin.

There is therefore a need for a more focused monitoring system with capacity to deliver reliable information from the Early Warning System on the status of water supply as well as bore holes, preferably at weekly intervals.

In addition to the database, ENNDA will undertake long-term monitoring of the vegetation cover in Rangelands and water resources. This monitoring will require active collaboration with research groups interested in operating in the Basin.

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SRI LANKA - MAHAWELLI AUTHORITY

DECENTRALIZATION AND BASIN MANAGEMENT



For more than a thousand years, the Authorities that have succeeded themselves on the island have wished to control the too abundant rainfalls during monsoon and insufficient water resources outside the monsoon. The result has been a water-related civilization whose best modern example is the "Mahawelli Authority of Sri Lanka" (MASL).

This institution covers 40% of the island territory: large hydraulic works, water storage, hydropower, regulation, distribution, conveyance of raw water, irrigation, collection, processing and commercialization of agricultural products, providing of fertilizers, seeds and phytosanitary products, schools, recreational facilities and even cemeteries were built and are managed in a centralized manner.

Flow regulation is guaranteed by an outstanding network of canals and subterranean tunnels that connect the main

ivers of the Eastern and North-Western part of the island to the south.

But, after decades of development, the MASL is still not able to get energized.

Under the impulse of the World Bank, a huge program started for transforming the Authority: new distribution of tasks, subcontracting of secondary tasks, decentralization of decisions and the billing of the water service will be needed on the short term, even only to enhance the work that has been carried out for so many years.

Decentralization of the management of the various interconnected basins has been initiated. To be careful, the people in charge firstly selected a consistent sub-system, the Kala Oya basin, North West of the island. They insisted on **the creation of a new pilot body, the Kala Oya Basin Management Organization (KOBMO).**

It is a new organization, originating from the central office, but different: although it loses its economic and development role, it gains that of environmental developer. It should, above all, have a decentralized decision power involving the civil society. A pilot Basin Committee is now starting to learn how to operate.

At the end of the program, the World Bank requested to IOWater-INBO an evaluation of the proposed reforms and a transfer of experiences. Two

French experts went to Sri Lanka and their assignment was much appreciated. It dealt with legislative and institutional aspects:

➔ **the draft water law which is being submitted to the Parliament** still includes some seeds for conflicts and dysfunction;

➔ the planned organization does not seem to specify enough the responsibilities of each party concerned, nor the effective implementation of the needed coordination, in particular **the responsibilities and powers of the Basin Committee.**

The planning and programming of projects still not rely enough on the regulation demand approach. They are made difficult by the weaknesses of the economic indicators used. Communication about the projects is still insufficient.

To summarize, the intents of this reform of the Mahaweli Authority of Sri Lanka must face significant challenges to obtain economic, social and environmental results.

The mandate of the Kala Oya Basin Management Organization (KOBMO) will be to satisfactorily resolve the issues and form a prosperous society and healthy ecosystem in the Basin:

❖ water shortages in the irrigation schemes and for domestic use,

❖ deterioration of water quality due to pollution caused by agricultural chemicals, domestic waste, small industries and commercial services,

❖ water shortages in wildlife parks and in wetlands during certain dry periods,

❖ poor quality of groundwater and competition for its use,

❖ limitations in basic knowledge of groundwater availability,

❖ degradation of watersheds due to the lowering of the capacity of reservoirs caused by sedimentation,

❖ illegal tapping of water in irrigation schemes and from main canals,

❖ unauthorized occupation of river/stream reservations leading to bank erosion,

❖ degradation of river beds arising from extensive sand mining,

❖ limitations in institutional arrangements for the enforcement of laws and regulations,

❖ lack of coordination for addressing cross-cutting themes in the water and related natural resources sector.

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CHINA

WATER, ENVIRONMENT AND FOOD SECURITY: A CASE STUDY OF THE HAIHE RIVER BASIN

The Haihe River Basin is one of the most developed regions in China. With the rapid economic development and increases in water demand, the river basin has been enduring increasing water stress. Water for the ecosystem use has been compromised and the environment has been deteriorating. Water shortage has become a bottleneck to the further development of the economy and grain production, particularly wheat.

The feasibility of transferring the Yangtze River water to the north is being discussed.

Water scarcity and associated problems have imposed increasing constraints to the economic development in the basin. Agricultural water has been continuously transferred to the industrial and municipal sectors. Irrigation has relied increasingly on depriving the ecosystem of water and on non-renewable fossil groundwater.

Transferring water from the Yangtze River has been favored by the Chinese leaders, but other measures, including pricing, water saving and wastewater treatment should also be considered. This situation also implies that implementing effective water saving measures in the industrial and municipal sectors is necessary.

Agricultural water use holds a large weight in the water balance in the Basin. Given the

current low irrigation efficiency, the potential for water saving is relatively large. Meanwhile, crop structural adjustment can also reduce the water use per unit of product value.

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CENTRAL ASIA

IRTYSH - RUSSIA - KAZAKHSTAN

MANAGEMENT OF TRANSBOUNDARY WATER RESOURCES

The objective of the project, which was completed at the end of 2003, was to facilitate the joint management of the Irtysh waters by the Russian Federation and the Republic of Kazakhstan. It included:

- 1 the improvement and modernization of networks for monitoring the water resources of the basin,
- 2 the development of a hydrological simulation model for the Irtysh river,
- 3 the setting-up of the Basin Information System (IRBIS),
- 4 the organization of institutional arrangements for cooperation and the exchange of basin data between the two States.

The project, financed by the French Fund for Global Environment, included the part-time secondment of experts from the IOWater / ANTEA / SAFEGE consortium over three years to provide technical assistance to the parties involved, through mixed working groups, the financing of punctual measurement campaigns and light equipment, the organization of concertation and follow-up meetings and capacity building for the institutions involved.

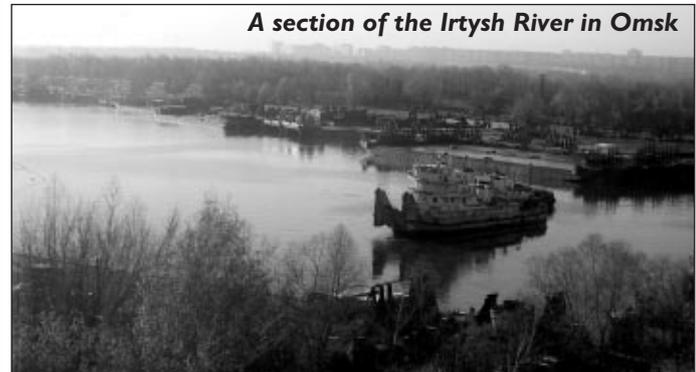
The Basin Information System (IRBIS)

One of the Working Groups, led by IOWater, was responsible for developing the IRBIS information system: "Irtysh River Basin Information System".

This system aims to produce and disseminate the information expected by the Irtysh Commission and needed for public information, while enhancing the organization of data production and modeling results.

In order to achieve these objectives and taking into account the existing international agreements, the approach, adopted in a first step for IRBIS system, was to enable the integration of available data into an information system, harmonized in terms of structure and concepts used.

At the organizational level, the presented structure plans that each country will take care of data integration in its area, while using common frames of reference. This information may also be easily exchanged to meet the needs of the commission that will disseminate the obtained results on its website.



A section of the Irtysh River in Omsk

At the technical level, the working group especially took care of:

- the inventory of the organizations that collect data and/or manage information systems, and the analysis of their practices;
- the purchase of the computerized equipment needed for the first data syntheses and for producing the expected information;
- the creation of the first ACCESS tables and GIS layers, with, in particular, the ones on administrative and hydrographic references;
- assistance with organizing the acquisition of the required data;
- the training of the concerned human resources on the software used (Arcview, Access);

- the processing of the first syntheses (maps, lists, statistics, etc.).

Therefore, at project completion, the International Commission of the Irtysh River Basin will have a first operational information system, based on:

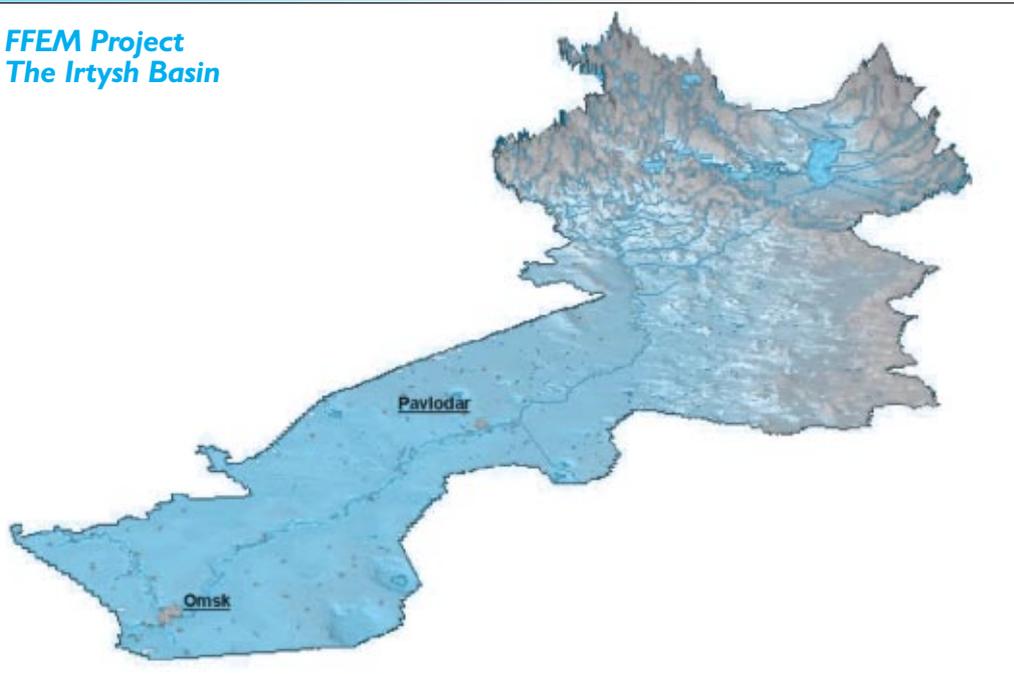
- **an alphanumeric database;**
- **a geographic information system** for enhancing the mapping of data;
- **a web server** (developed in French and Russian) for disseminating information.

Modernization of institutions

The activities of the institutional assistance implemented in the project, aimed at:

- ❖ acquiring information on the work carried out by the Russian-Kazakh Commission,
- ❖ analyzing the legislation of each country of the Irtysh basin in terms of water management,
- ❖ developing modern principles for water management at the level of river basins,
- ❖ proposing a structure and activities for a specific International Commission for the Irtysh valley that may later integrate China,
- ❖ analyzing rules for the management and operation of Irtysh dams to outline the problems arising from these management choices and find a solution that both parties could agree to.

FFEM Project The Irtysh Basin



UZBEKISTAN

IMPROVEMENT OF THE WATER MANAGEMENT ORGANIZATION

On July 21, 2003, the Cabinet of Ministers of the Republic of Uzbekistan approved a provision about "Perfection of the Water Sector Management Organization in the Republic of Uzbekistan". **Ten Basin Administrations have been established for the management of irrigation systems and main canals.**

The main tasks of these new Basin Organizations are as follows:

- ❖ rational water resource use, based on market principles and advanced technologies;
- ❖ a continuous and timely water supply to consumers;

- ❖ technical reliability of irrigation systems and hydraulic infrastructures;
- ❖ sound water resources management within a basin and better efficiency;
- ❖ reliable water accounting for.

The setting up of these Basin Administrations implies the handing over of main water assets, funds, technical machinery, personnel and budgets by the oblast and rayon Agriculture Departments.

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PROGRAM "SCIENCE FOR PEACE IN THE SOUTH PRIARALIE"

The disastrous ecological situation, caused by the Aral Sea shrinking, is a concern for the population living in this region: saline land and salty swamps appeared, salt and dust transportation increases desertification.

Valuable assistance came from the NATO Scientific Council, which financed the "Science for Peace" program for implementing the project **"Integrated Water Resources Management in the Aral Sea Basin and the recharge of groundwater bodies in the South Priaralie"**.

The main tasks of the project were the following:

- a Development Scheme for the South Priaralie;
- preparation of a "decision-making support system", including a GIS and a set of models, for wetland restoration in the Amu-Darya delta;

A field survey of all water bodies, in hydrological, biological and chemical terms, was carried out.

A model, allowing the simulation of flows and of the water

body filling and emptying regime, was tested on the Sudochie dam under construction to keep the delta's sustainable ecological profile free from any river flow fluctuation.

A training program was organized:

- in Tashkent, Uzbekistan, on GIS and modeling for 24 persons;
- in Montpellier, France, on wetland management for 4 persons;
- in Antwerp, Belgium, on MIKE-11 model for 5 persons.

Thanks to specialists from the Netherlands, France and Denmark, a multicriteria analysis of ecological projects under complex hydrological conditions enabled the preparation of a decision-making support system for this region.

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FERGANA VALLEY:

PILOT PROJECT FOR POSSIBLE REFORMS IN CENTRAL ASIA

This project was initiated in 2002 with the following goals:

- To propose different solutions for water management improvement and to demonstrate the ways towards integrated water resources management;

- To demonstrate real opportunities for increases in water and land productivity.

The Fergana Valley was selected as a pilot area. It is an ancient oasis where the age of irrigated agriculture and civilization is estimated at several millennia.

The project activities are organized in three provinces in the valley: Fergana (Uzbekistan), Osh (Kyrgyz Republic), and Sogd (Tajikistan), where 10 pilot farms were studied.

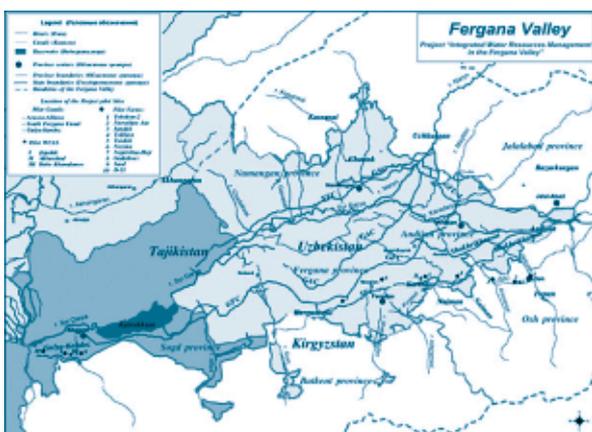
The main project executing Agencies are the International Water Management Institute (IWMI) and the Scientific Information Center of the Interstate Commission for Water Coordination (SIC ICWC). The Donor is the Swiss Agency for Development and Cooperation (SDC).

The following main outputs are expected after three years (before April 2005):

- ◆ integrated water resources management in the Fergana Valley,
- ◆ a new institutional framework with the participation of all stakeholders,

- ◆ the development of Water User Associations,
- ◆ capacity building for the water management staff of different entities, for creating a communication network for all participants and for developing an information system and a set of models,
- ◆ a prototype of a legal base for regulating the implementation of water management in pilot areas,
- ◆ measures for ensuring a sustainable and equitable water supply,
- ◆ concrete proposals and recommendations to decision-makers for replication of the project results.

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PACIFIC - NORTH AMERICA

AUSTRALIA

THE MURRAY DARLING BASIN INITIATIVE

The Murray Darling Basin is over one million square kilometers in area and stretches across four States and the Australian Capital Territory (ACT), all of which are party to the Murray Darling Basin Agreement 1992 with the Commonwealth (Federal Government).

The collective efforts of the four States, the Commonwealth and the ACT to manage the resources of the Basin are known as the Murray Darling Basin Initiative. In its broadest sense the Initiative involves two separate but related issues, namely:

- the sharing of the waters of the Basin between the States of New South Wales (NSW), Victoria and South Australia,
- the development of policies and programs to promote the integrated catchment management of the Basin.

The institutional arrangements for the Initiative are set out in the Agreement. They are as follows:

The Ministerial Council, which was established in 1985, is responsible for determining

policy issues of common interest. It is the peak body under the Initiative.

The Council consists of Ministers from each State, the Commonwealth and from the ACT (who has observer status), who have prime responsibility for matters relating to water and environment and the Commonwealth Minister chairs the Council.

The Initiative is in effect an inter-jurisdictional compact between the Commonwealth and States. It requires high-level political engagement.

The Community Advisory Committee (CAC) was established in 1986 for advising the Ministerial Council on matters referred to it and to provide advice on the views of the Basin's committees.

The CAC is comprised of an independent chair and 26 members, 21 of whom are chosen on a catchment or regional basis, four are drawn from non-government groups and the last represents the Aboriginals.

Under the leadership of current Chair, the CAC has been

an active, independent, and powerful community voice.

The Murray Darling Basin Commission, which can be traced back to 1917, was the peak body under the various Agreements. Since 1985, the Commission has answered to the Ministerial Council.

The current Commission was established in 1992 and requires members who between them represent "water, land and environmental resource management." Two Deputy Commissioners are also appointed. The ACT has observer status.

Traditionally, Commissioners have been the heads of State Government Departments and deputy level secretaries of the relevant Commonwealth Departments. An independent President, appointed by unanimous vote of the Ministerial Council, chairs the Commission.

The Commission is responsible for advising the Ministerial Council in relation to the "planning, development and management of the water, land and other environmental re-

sources" of the Basin and giving effect to decisions of the Council and for administering the Agreement, including the sharing and distribution of the waters of the River Murray, overseeing and directing the implementation of approved works and measures, and coordinating efforts at achieving integrated natural resource management across the Basin.

The Office of the Commission:

The Commission has the power to employ staff, which it does through the Canberra based Office.

This Office has more than 70 highly skilled staff. The Office also provides support to the Ministerial Council, the Commission and the CAC.

The Office is responsible for managing the sharing and distribution of water and Natural Resource Management.

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www.iucn.org/themes/law

www.mdbc.gov.au

QUEBEC



The river basin management approach, chosen by Quebec, is a participatory one based on the involvement of local stakeholders. It is gradual by focusing on 33 priority river basins in a first stage.

These Basin Organizations, created on a voluntary basis, are small bodies whose first responsibility is to dialogue, at local and regional level, with all water stakeholders in order to formulate a Water Master Plan (WMP). Having a statute of non profit legal entity (NGO), the Basin Organizations are made up of members representing all the local and regional, private and public water stakeholders (representatives of municipalities, of citizen groups, water users and of the Ministries concerned).

The Association of the Basin Organizations of Quebec ("ROBVQ") is also a NGO whose mandate is to represent the Basin Organizations with the governmental bodies and to make known integrated water management at the level of river basins to all organizations and people involved and concerned with this topic. It has among its members the current 27 Basin Organizations out of the 33 priority river basins of Quebec.

The WMP will be implemented by using Basin Contracts, individual or collective voluntary commitments of the water stakeholders who want to get involved in activities for the protection, rehabilitation and development of water resources and aquatic ecosystems. The Basin Organization has the power of providing recommendations and influencing, especially by publishing the WMP and the follow-up of the commitments made.

A structured integrated river basin management in Quebec also requires the preparation of guidelines and other technical documents. A first reference document was drafted by the Ministry of the Environment to specify the role of the Basin Organizations, their representativeness, the participation of the population, the use of knowledge for decision-making support and the dissemination of information.

Lastly, the Ministry of the Environment is reconsidering the coordination of the State's actions and quickly developing the National Water Fund that should finance integrated river basin management on the long term in Quebec.

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LATIN AMERICA

ECLAC

PUBLICATION OF THE FOURTH WORKSHOP OF BASIN ORGANIZATIONS' MANAGERS

The fourth workshop of the Managers of Latin American and Caribbean Basin Organizations was jointly organized by the Economic Commission for Latin America and the Caribbean (ECLAC) and the Technical Advisory Council for South America (SAM-TAC) of the Global Water Partnership (GWP). It took place at the home office of ECLAC (Santiago de Chile), on 22 and 23 April 2002. The main objective was to gather experts on integrated water management to agree on the establishment of cooperation mechanisms, that would enable supporting the processes oriented towards river basin management in the Latin American and Caribbean countries.

This report, that has just been published, includes a summary of the debates, the conclusions and agreements, the program, the list of participants and some papers presented during the workshop. It also includes appendices on some topics, such as the Associated Program of the International Network of Basin Organizations (INBO) and GWP, the ECLAC proposal to study the possibility of creating a logistic center for supporting initiatives on integrated river basin management in the countries of the region, and the proceedings of workshops already organized in 1996 in Brazil, in 1997 in Chile and in 1998 in Argentina.

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PERU

THE BASIN VISION IN CIVIL ENGINEERING

The River Basin is the natural drainage area of all the waters that run within its limits.

The Basin-Water-Life trinomial is essential, but it can be deeply modified by natural phenomena and, above all, by human action.

The civil engineer must seriously study whether the projects can integrate into the natural dynamics of the basins or may greatly modify this dynamics and then take the necessary corrective and recovery measures in a reasonable time, in harmony with the natural conditions. If he/she does not act in this way, irreversible and disastrous situations may occur on the short or long term.

Before building a hydraulic infrastructure or any kind of work, the engineer must well assess the consequences, and not reduce the problem to an exclusive work of structural and hydraulic design. As water is obviously essential for life, the engineer must pay particular attention to all the factors that make this water available to the ecosystems it feeds, to

the populations of living organisms that it carries or that benefit from it.

Indirect factors often influence the natural balance and should be taken into account and analyzed.

A project appraisal should not be restricted to the immediate aspects of the technical design of works.

Each project generates a risk. The engineer should learn that engineering is not only working equations that are only an interpretation of reality. He must know, but also control, the criteria, enrich them with the observation of nature, with thoughts and the exchange of ideas and a permanent study of the findings of other professions and keep all this in mind when making a decision.

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PANAMA

ENVIRONMENTAL DEVELOPMENT AND CITIZENS' INVOLVEMENT

The National Environment Authority (ANAM), managed by Ricardo Anguizola, is implementing the General Law on the Environment in Panama.

This law includes the Inter-institutional System for the Environment that creates mechanisms for coordinating public institutions to harmo-

nize their policies, avoid conflicts and gaps in responsibilities and to achieve, with constancy and efficiency, the objectives and goals of the law.

It also organizes the National Advisory Commission for the Environment and the Regional, Provincial and Local Advisory Commissions for the Environment with the participation of the Civil Society for analyzing environmental issues and making remarks, recommendations and proposals to the Administration of the Environment.

The Panamean territory is divided into nine Provinces, 74 Counties or Municipalities, 588 Departments and 5 administrative Regions and includes 13 Ecological Areas.

In the Chiriqui Province, the Environmental Bureau is developing community and school environmental programs in

agreement with the Governor, Miguel A. Fanovich, and with the Regional Environment Authority, managed by the engineer Venero Marquinez.

The Environmental Bureau has initiated the creation of community groups for the protection of the environment together with school teams composed of students at all school and university levels. The Higher School of Biotechnology actively participates in this educational program on the environment and also supports projects, such as the ecological and environmental protection of the Rio Piedra, located in the municipal area of Boqueron.

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BRAZIL

WATER MANAGEMENT FOR A BETTER BRAZIL

Water resource management in Brazil has been boosted with the promulgation of the Water Law of 8 January 1997. This Law instituted the National Water Resource Policy and created the National Water Resource Management System. Although very widely discussed among the various democratic currents of the Brazilian society, this law presents fundamental principles for the democratization of water management, including the active participation of the society and decentralized decision-making.

The National Water Resource Policy aims to integrate the social, political and institutional forces which are currently governing Brazil, by giving more and more value to social action in the formulation and implementation of public policies.

The social participation in the decision-making process, in matters related to water issues in our country, will be definitely a tonic to our policy, taking in consideration the Brazilian territorial dimension and its vast and rich cultural, social and environmental diversity.

The efforts aiming to manage waters for a better Brazil should not be restricted to the unilateral action of the government. Therefore, it is necessary to strengthen communication channels and dialogue with the society. In this sense, the representation of the National Water Resources Council has been amplified, by doubling the number of its members, from twenty-nine to fifty-seven and specific actions are promoted to consolidate the River Basin Committees, which are indeed collegiate entities composed of representatives

from the public power, the organized civil society and the productive sector. The committees are duly legitimate to arbitrate conflicts in first hearing and to promote debates about issues related to water, according to the National Water Resources Management System.

Access to water supply is a fundamental human right and is essential for the subsistence of populations. Therefore, a necessary minimal quantity of water should be ensured, in order to meet these basic needs, in conformity with Agenda 21, through a set of integrated actions between the government and the organized civil society.

This joint effort incorporates actions of environmental education and sanitation, the recovery of water resources and forests, the fight against water losses and desertification, the preservation of groundwater, and finally the adoption of low-cost measures to promote access to drinking water.

The key ideas of these political initiatives meet the government's commitment to implement a new pattern of ecological, sustainable, fair and economic development, where social participation and control are fundamental principles, for the shared management of waters and for the expansion of citizenship. Knowing how to care for waters is a challenge to the fulfillment of this commitment.

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ORGANIZATION OF RESEARCH ON WATER RESOURCES

Many studies have been carried out since the Federal Law of 1997, and organizations have been created, mainly Basin Committees in which most decisions must be made on the use of water resources.

However, much research is needed in many scientific areas: aquatic biology - the country now encounters a problem of a plague of exotic organisms, brought by big boats -; the reuse of water in several production sectors, the development of intermittent rivers; the involvement of the society in decision-making; better knowledge of aquifers and their incorporation into surface water management; the definition of the social value of water and how to take this parameter into consideration in public policy; etc.

The organization of research on water resources is planned for achieving the results prioritized in water management. Two bodies have been created to work together: **the Sectoral Fund for Water Resources in the Ministry of Sciences and Technology, and the Technical Chamber of Sciences and Technology in the National Council for Water Resources (CNRH).**

► **The budget of the Sectoral Fund for Water Resources (CT-Hydro)** is paid by the hydropower sector as a compensation for the floods caused by water releases from dam-reservoirs. CT-Hydro was created in July 2000 and its budget amounts to about US\$ 7,000,000 each year.

CT-Hydro complies with the rules established by a Management Committee. It is made up of three representatives from the Ministry of Sciences and Technology, a representative from the Ministry of Mines and Energy, two representatives from the Ministry of the Environment - one from the National Water Agency and the other from the Secretariat for Water Resources -, a representative from the relevant scientific community and a representative of the water users.

Up to now, this Committee has initiated several projects, mainly on management, the definition of development tools and training programs.

► **The Technical Chamber of Sciences and Technology** was created in 1999 and should formulate general guidelines for technical training and scientific and technological development.

It organized regional meetings with the academic community of the country, State organizations and the water users and now prepares the creation of a database with information on scientific development.

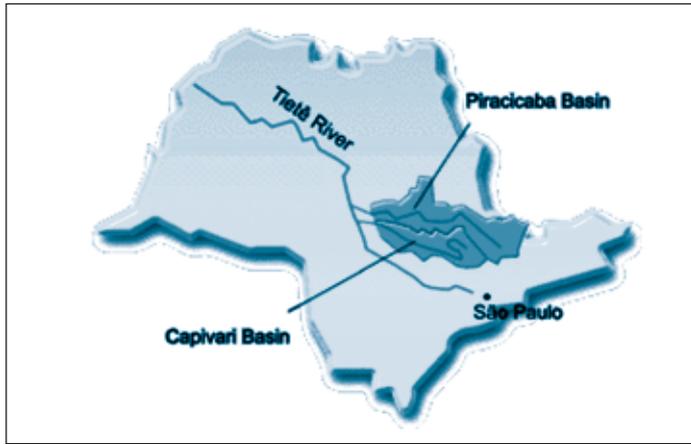
The next step will be the definition of priorities and the drawing up of guidelines that will be discussed by the National Council for Water Resources before being presented to the CT-Hydro Management Committee to orient the use of the financial resources of the Sectoral Fund for Water Resources.

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SÃO PAULO / MINAS GERAIS

PIRACICABA-CAPIVARI-JUNDIAÍ (PCJ) CONSORTIUM



The General Assembly of the Federal Committee of the Piracicaba, Capivari and Jundiá River Basins (PCJ) was held on March 31, 2003, in Piracicaba, with the presence of the Minister for the Environment, Mrs. Marina Silva, the National Secretary for Water Resources, João Bosco Senra, the President-Director of the National Water Agency (Agência Nacional de Águas - ANA), Jerson Kelman, the representative from the General Directorate of Hydraulic Projects and Water Quality, and the Minister for the Environment of Spain, Fernando Octavio de Toledo y Ubieto, among other authorities.

The Minister for the Environment complimented the Basin Organization on the way it set up a System for Water Resource Management. She announced that efforts will be made to guarantee action means by charging for the use of water in federal rivers.

Among the assignments of the PCJ Committee, whose area of jurisdiction includes territories in the States of Minas Gerais and São Paulo, is the determining of the amount of the taxes on the use of "federal rivers", such as the Jaguari and Piracicaba Rivers. The resources thus raised will be managed by the National Water Agency (Agência Nacional de Águas - ANA), which will return the funds to the river basins where they originated, based on recommendations made by the River Basin Committee. The expectation of technicians and regional Authorities is that this water tax paid on a federal level, which will be put into effect by means of presidential decree, will accelerate the approval of the São Paulo State bill by the legislature.

Taxes on water use

The State Bill that allows for charging the use of water in the State of São Paulo is presently awaiting approval by the State Legislature. The River Basin Committees want 100% of the funds raised to return to the basins where they originated, while the State Government wants to use 30% of the total amount to create a fund which would then be distributed to the 21 São Paulo State Committees.

The PCJ Consortium, the PCJ Committee and the Federation of Industries of São Paulo State (FIESP) are mobilizing the members of other Committees so that, in a hearing with the Governor and State Deputies, they can reach an agreement leading to passing the bill to charge for the use of water, on the State level.

The Piracicaba-Capivari-Jundiá Consortium, through its Investment Program in the Jaguari River Basin, was classified among the three best projects presented at the International Resource Award 2002. The program of the PCJ Consortium proposes actions in the area of environmental education for river bank reforestation and fighting against water losses, using the resources generated by charging R\$ 0,01 per cubic meter of water used in the municipalities of Amparo, Holambra, Jaguariúna and Pedreira.

The ceremony of the Award took place in March, in the city of Zurich, Switzerland. The prize of US\$ 15,000 was received by the Mayor of Itatiba and the President of the PCJ Consortium, José Roberto Fumach, who was accompanied by the Secretary for Water Resources of the Ministry of

the Environment, João Bosco Senra and by the Executive Secretary of the PCJ Consortium, Francisco Carlos Castro Lahóz.

The PCJ River Basins will treat 55% of sewage by 2004

A survey, undertaken by the PCJ Consortium team in city water and sanitation utilities in the 62 municipalities that make up the basins of the Piracicaba, Capivari e Jundiá rivers, revealed an encouraging scenario related to the treatment of domestic sewage, considered the major polluting agent of water in the region. If the schedule of sanitation works is followed, by the end of next year 55% of domestic sewage will undergo treatment in the region. According to the survey, carried out in June, **only 24% of urban effluents undergo any kind of treatment.**

The treatment plants planned for the city of Campinas will do the most to clean up the rivers in the region. The city of Campinas currently treats 10% of its sewage and should raise that treatment level to 70% by the end of 2004. Some of these sewage treatment plants are already under construction and will increase the level of city sewage treatment by more than 35%, and should reach the 70% level when the plant of the Anhumas River starts functioning, by December 2004.

Training Course on Water Resources Management

As part of the commemoration of the International Year of Fresh Water, the PCJ Consortium hosted a Training Course on Water Resources Management for technicians of public administrations, private companies, sanitation utilities, River Basin Committee members, NGOs, etc.

This course offers access to basic information on water resources management, and its concepts and instruments. Another topic that will be dealt with is the management system used by the PCJ River Basins.

The main goal of this course is to give the participants access to the necessary subsidies/information, so they can take a more productive role in the management of water resources.

The "Action for Water" Award

The Piracicaba-Capivari-Jundiá Consortium created, in 2000, the "Action for Water" Award, in order to stimulate a variety of environmental actions to recover and preserve water springs in the region. The award is given once a year to public organizations, companies and the civil society.

This year, the "Action for Water" Award 2004 will be given to projects and developments in the sector, that produced better "Quality" water in the PCJ region through sewage and effluent treatment.

Besides activities directly related to the quality of water, the projects may also include information on environmental actions developed by the participants in the areas of environmental education, reforestation, fighting against water losses, water recycling, and the disposal of solid wastes, having impacts on water quality, all of which will be considered in the final assessment of projects.

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URUGUAY

THE URUGUAYAN RIVER BASINS



The Plata river basin, located in Uruguay, has plenty of water resources.

It is a valuable heritage, that should be strategically developed. For this reason, it is essential to preserve water quality by imposing regulations and corrective measures to minimize harmful effects and increase the involvement of the society.

It is necessary to develop indicators on resource quality.

The basin is the territorial unit in which are observed the different components of the system and their interrelations, and in this way, making ecological assessments enables the definition of indicators for environmental management.

Systematic, consistent and integrated information coming from different sources should be collected at the level of the basins and sub-basins.

In the last few years, the increasing knowledge of impacts of human action on the environment has raised the awareness of the public who exerts pressure on the Governments and International Agencies

Water quality

Uruguay is carrying out studies on the quality of national and international waters.

The inter-sectoral management of the environment must be based on standards and indicators, the definition and implementation of which require an active involvement of the civil society.

In our country, Decree 253/79, a regulation of the Water Act (law 14.850/78), enabled the establishment of Standards for preventing water resource pollution through water quality control, designating the National Directorate of the Environment and the National Hydrographic Directorate as the responsible agencies.

Quality objectives

In order to define Quality Objectives for all national water resources, a preliminary study is carried out for each particular case before any classification of the watercourses: flow rate (presence or lack of flow), average frequency, population density on the banks, presence of reservoirs, area of influence on the impounded water bodies, conservation of aquatic ecosystems. In the cases where there are conflicts over resource use, the prevailing criterion will be the most demanding use as regards water quality.

The NHD has classified the watercourses and divided the country into six basins.

These basins have been divided into sub-basins for hydrological follow-up and water quality.

1 - The Uruguay River Basin

This river has a good status, especially the water in the main channel, due to a low mineralization and the self-purifying capacity of its high flow. For 17 years, a study of the river quality has been jointly carried out by Uruguay and Argentina as part of the activities of the Administrative Commission for the Uruguay River (CARU)

2 - The Basin of the Plata River that is influenced by the Atlantic Ocean, that generates an area with high variability of salinity.

3 - The Basin of the Atlantic Ocean includes rivers that directly flow into the Ocean and the coastal lagoon chain that goes from the Sauce lagoon at Maldonado to the Merin lagoon on the border with Brazil. Water quality is good for recreational activities together with marvelous landscapes. Montevideo City and the urban corridor generate high anthropogenic pollution.

4 - Basin of the Merin Lagoon

The Merin Lagoon is shared with Brazil and suffers from a high pressure caused by agricultural development.

5 - The Rio Negro Basin

This river, that crosses Uruguay, has been developed for the production of electric energy. This has modified its characteristics as it has three large dam-reservoirs. There is currently a conflict of use with the agricultural sector (rice) and forest exploitation.

6 - The Basin of the Rio Santa Lucia is of strategic importance as it supplies water to the metropolitan region of Montevideo. More than half of the Uruguayan population uses this freshwater source for its needs. It is highly polluted by urban and industrial wastewater to which must be added urban solid wastes whose management is not regulated.

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THE ADMINISTRATIVE COMMISSION OF THE URUGUAY RIVER

The Uruguay River basin occupies a surface area of 380,000 km². Its flow is approximately 4,500/s. The population of both riverbanks, Argentinean and Uruguayan, is over 750,000 inhabitants. It is one of the richest areas for agricultural and cattle production. The River is 1,750 km long and runs through the territories of Brazil, Argentina and Uruguay. **The "Treaty of Limits" signed by Argentina and Uruguay on February 26, 1975, establishes the "Statute of the Uruguay River"**.

The Administrative Commission of the Uruguay River (Comisión Administradora del Río Uruguay - CARU) is an In-

ternational Organization, created by both States, with the purpose of institutionalizing a system of global administration of the shared river.

Among its high-priority tasks, the Commission aims to **formulate an Environmental Protection Plan for the River**. The general objective of the Plan is to promote, through a combined effort, the protection of the water resources and to preserve the natural environment as a response to the increasing demands for the sustainable development of the region.

It proposes the participation of the public and private entities

of both countries, as main executors of numerous activities and as social stakeholders participating actively in the Plan implementation. It also foresees the implementation of a **System by which groups of people interested in collaborating**, can participate voluntarily by carrying out many different tasks within each of the operative areas of the plan.

The search for information, realized by means of consultations with the different municipalities that border the river and by the organization of specific workshops, enabled the definition of 7 Strategic Thematic Areas: coastal contamination, fishing resources, recre-

ational activities and tourism, affectation of coastal areas, ecology, institutional capacity building and environmental information.

The critical zones were determined by the Control and Monitoring Programs of CARU and Municipalities, which constitute one of the main pillars of the plan to evaluate the tendencies of resource quality and the effectiveness of the actions undertaken.

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ECUADOR

THE PAUTE RIVER BASIN: CREATION OF THE BASIN COUNCIL

In spite of many efforts, the vision of integrated management of natural resources in a basin had not yet been put into practice. **The creation of the Paute Basin Council on 5 June 2002, in accordance with the Implementation Decree, is the beginning of a new and innovative form of integrated water management and development in Ecuador.** This River Basin is the most important of the country as it provides more than 40% of the energy consumed in Ecuador.

"Integrated Water Resource Management is a set of policies, norms, operational, administrative, financial and control activities, accompanied by all related strategies, that must be implemented by the stakeholders involved in the Basin, to make water and the other related resources available, by applying sustainable development principles, while reconciling development and water resources management actions."

This concept of integrated management of a territory is based on the mediation of conflicts between users. However, its implementation in a country such as Ecuador, with such features as weak governance, low coverage of basic services, economic instability, cultural and ethnic diversity, and, above all, a very complex social reality, marked by emigration, unemployment, insufficient employ, may become a very difficult task to fulfill.

It is important to underline that new environmental management approaches had been pending in that region for a few years. They enabled the birth of a culture different from the rest of the country with a strong identity of the inhabitants with the environments, their protection, management and above all their development. Cuenca is the only town of Ecuador that treats its wastewater, with a coverage rate close to 100%; the only national natural reserve park

whose management is conceded is also located in this region; one of the rare landfills with an environmental authorization operates there and the first River Basin Council is located in the Paute Basin. These facts show a different conception of environmental management to which may be added the work of scientists, who have continuously involved the Universities of the region in research, training and education of technicians, professionals and politicians on the management of natural resources, and, among the proposals they have made, was that of basin management through **integrated water management.**

All these factors have generated a process in which the creation of the Paute Basin Council has been one of the most significant results.

At present, the Paute Basin Council relies on a project, financed by the European Union, to implement its management tools. This 4-year project,

amounting to € 14,000,000, € 11,000,000 from the EU and € 3,000,000 from the Government of Ecuador, aims to provide the council with a system for monitoring water quantity and quality in the basin, to create a system for the payment of environmental services, to create systems for training on integrated management in the country, training and education on the environment, programs for the development of agricultural, health and development activities, all these activities being the operating basis of the Council which thus legitimizes its existence.

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MEXICO

REFORM OF THE LAW ON NATIONAL WATERS

Mexico is currently in a period of great changes. The President of the Republic, Vicente Fox, shares the opinion of the legislators of the various parties represented in the Union Congress, that **it is necessary to revise and, in this specific case, to upgrade, modernize and enhance the legal framework that governs the National Waters of Mexico** and to pass a new Water Law, that prioritizes the decentralization of responsibilities and decision-making, and a most decisive involvement of the users and organizations of the civil society. However, they still discuss about the strategy to adopt in order to achieve these objectives and to reach a consensus.

On 5 June 2003, the President received a Decree from the Congress that "amends, adds and deletes various clauses of the National Water Law", in

order to publish it in the Official Journal of the Federation. The Decree plans the change of the current National Water Commission ("Comisión Nacional del Agua - CNA)", an organization that depends on the Secretariat of the Environment and Natural Resources, into a "decentralized organization" with legal status and its own assets.

The reforms approved by the Congress also imply **the change of the current Regional Directorates of the CNA into true Basin Organizations.** Integrated water resource management would be declared of public use with a national security approach. **The currently operating Basin Councils would thus become more important as collegial organizations,** with a mixed and truly representative participation, as coordination, dialogue, support and advisory bodies between the

CNA and the new "Basin Organizations" to formulate and implement programs and actions for better water management and the development of hydraulic infrastructures.

President Fox sent the original Decree back to Congress on 1 September 2003 **with seventeen remarks, dealing with the conformity of the reforms with Article 27 of the Mexican Constitution,** which sets the legal framework governing the Federal Public Administration, so that the legal and fiscal problems arising from the autonomy granted to the CNA, that decreases the responsibilities and assignments of the central Government regarding the authorization, the extension and cancellation of concessions of water rights and the related fiscal authority, can be solved.

A significant change in water resource management is under way in Mexico. The debate will continue in the coming months up to reaching final consensus.

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MEXICO

"COMISIÓN NACIONAL DEL AGUA - CNA"

In 2003, the French-Mexican cooperation, financed by the French Ministry for Foreign Affairs and CNA, dealt with the following actions:

PLANNING

In order to improve the Mexican planning tools, a conceptual and operational methodology is needed at the national level and at the level of the two pilot basins: Mexico Valley and Yucatan.

French assistance dealt with the analysis of the planning documents provided for by the Mexican Authorities, the preparation of proposals to improve their documents using the French experience (the method applied in the French SDAGEs and SAGEs), emphasizing successes and correcting weaknesses and taking into account the specific aspects of the Mexican context.

Two pilot basins were used for the preparation of experimental Basin Master plans in accordance with the recommendations of the National Hydrological Program (2001-2006): the Mexico Valley Basin twinned with Seine-Normandy ("urban" basins) on the one hand, and the Rio Panuco Basin twinned with the Loire-Brittany Water Agency ("agricultural" basins) on the other.

APPLICATION OF THE "USER-PAYS" PRINCIPLE

No integrated water resource management policy can really be effective without any mobilization of sustainable financing. The financial participation of users is essential and based on the application of the "user-pays" principle.

The assistance focused on analyzing the successes and failures of the current Mexican tax recovery system (basic principles and application), on preparing proposals for improvement, taking into account the French experience and that of other European countries.

LAUNCHING OF THE FIRST WATER INFORMATION AND FIRST STEPS TOWARDS THE CREATION OF THE MEXICAN

With the decentralization of water resource management, the "Basin Councils" created in Mexico have quickly felt the need to access to the information required to enable them making the appropriate decisions.

In order to meet this demand, the GCC ("Gerencia de los Consejos de Cuenca" - a unit of the CNA) in charge of coordinating the setting-up of these "basin councils", has been studying for more than 2 years the possibility of developing information centers, called CICAS (Centros de Información y Consulta sobre el Agua) in each basin.

For this purpose, various information assignments and experts' missions, carried out in 2000 and 2002 by the International Office for Water and French Water Agencies, had already provided technical assistance with the definition of the organizational and technical references required for a consistent development of the first CICAS.

These assignments continued in 2003, thanks to the "Program of Assistance to Mexico in the Water Sector" also financed by the French Ministry for Foreign Affairs.

At the beginning of 2003, the "GCC" proposals, relative to the "CICA" and "RMIA" projects, were positively accepted at the local and national levels:

- ▶ validation by the "CNA" of the conceptual draft;
- ▶ the first coordination meetings inside the "CNA", and inter-institutional ones with INEGI, SEMARNAT and IMTA, with a view of preparing cooperation protocols between them;
- ▶ introduction of the "CICA" and "RMIA" concepts in the new water law passed by the Parliament (see box next page);
- ▶ unanimous adoption by the Basin Committees of the Yucatan Peninsula and Mexico Valley (a basin which includes Mexico City), of the technical and financial

projects proposed for launching the pilot "CICAS".

The Governor of Quintana Roo already designated a full-time engineer to contribute to the development of the Yucatan "CICA".

Year 2003 was thus a study of the practical and effective implementation of the "CICAS" and "RMIA".

It also enabled:

- ❖ the creation of the first "RMIA" working groups;
- ❖ the organization of a coordination unit for the "CICAS" in the "GCC";
- ❖ the mobilization of the funds and staff required for the first two "CICAS";
- ❖ the training of the people in charge of the 2 pilot "CICAS" and of the "RMIA", during a study tour in France for analyzing the French experience in the management of water data and information;

Inicio - Microsoft Internet Explorer

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COMISION NACIONAL DEL AGUA

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Internet

CONSULTATION CENTERS (CICAs) AN WATER INFORMATION NETWORK (RMIA)

- ❖ the technical organization and the launching of activities of the first 2 "CICAs";
- ❖ the promotion of the first results to other basin committees.

Each "CICA" should indeed play the role:

- of a database on the basin water resources,
- of a documentation and information center gathering all the available documents on the surface and ground water resources in the basin,

- of a center for the education and awareness of the water users and local population.

It is also planned that all "CICAs" adopt common frames of reference and work methods, made consistent at the federal level to feed the "RMIA".



2nd National Meeting of Basin Councils
October 2003 - Mexico DC



- * the development of technical and managerial tools with the corresponding training materials;
- * the drafting of partnership conventions with all the relevant information and documentation producers (universities, associations, private companies, schools, etc.);
- * the drawing up of operational rules for the "CICAs" ensuring dynamic management.

A quick implementation of the "CICAs" was requested by the representatives of the Basin and Groundwater Councils during their second National Meeting, which took place in Mexico DC at the end of October 2003.

THE REFORM OF THE FEDERAL WATER LAW

The reform of the Law on National Waters is now passed by the two assemblies and is awaiting the signature of the President of the Republic.

According to this reform, the "CNA" will become a decentralized organization, a governmental body, with legal identity and financial autonomy.

This reform gives an official character to the "CICA/RMIA" project in its clause 15: "Hydrological planning at the national level and at the level of the basins will rely on a National Network and System for Water-related Data and Information ("RMIA") for which the "CNA" is responsible and on Information and Consultation Centers for Water ("CICAs"), of a regional nature, whose creation will be supported by the Commission and by the Basin Organizations".

In order to achieve these objectives, the CNA/IOWater cooperation already enabled:

- ❖ the preparation of a short-term action plan;
- ❖ the preparation of a provisional website;
- ❖ the preparation of a model for the "on-line" management of information on the organizations, stakeholders of water resource management at the level of each basin.

The expertise provided in 2003 led to:

- * the definition of the architecture and specifications of the information management and processing system (directory, data, books, articles, studies, etc., either hard-copy or in an electronic form on the basin scale);

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All information
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on the WEB
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TRANSBOUNDARY RIVER AND LAKE BASINS MANAGEMENT OHRID, 13 AND 15 OCTOBER 2003

The Committee on the Environment, Agriculture and Local and Regional Affairs of the Parliamentary Assembly of the Council of Europe (PACE) organized a colloquy on the management of transboundary River and Lake Basins in Ohrid, in Macedonia, from 13 to 15 October 2003.

In the framework of the International Year on Freshwater, the Committee had already decided to prepare a report on the "Need for European support for protecting and saving the Dojran, Prespa and Ohrid lakes", for which Mr. Latchezar Toshev (Bulgaria) is Rapporteur.

At its meeting in Yerevan in June 2002, the Committee had already heard a presentation on the problems of transboundary cooperation between Armenia and Azerbaijan concerning the Sevan lake. The question of transboundary river and lakes basins could serve as a basis and opportunity for renewed cooperation among member States at the national, regional and local levels.

This Ohrid Colloquy provided an opportunity for parallel discussion about the local situation, including the problems encountered in managing the three aforementioned lakes, and the concept of integrated transboundary management of water resources at the basin level, while exploring the prospects for general transboundary cooperation with an eye to improving regional stability.

Mr Toshev's report will incorporate the conclusions of the Ohrid Colloquy and the topical issues arising out of the Management of transboundary river and lake basins in terms of good governance, sustainable development, involvement of local and/or regional authorities and conflict prevention and resolution. The text will be presented during the first quarter of 2004, and will serve as a recommendation for the Committee of Ministers of Member States of the Council of Europe and the relevant international organizations.

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TO THE WEST, SOMETHING NEW!

The Water Framework Directive (WFD) has an original approach to water management, especially due to **the importance given to the economic aspects**, either for the analysis of water uses or for the choice of the measures needed to achieve its objectives.

The implementation of this innovative approach requires that all the stakeholders master the concepts, methods and the often complex economic notions.

Although the "WATECO" methodological guide, prepared for the Framework Directive, is an essential tool, it must be approved by all stakeholders, who have a very diverse knowledge of economics. A popularization and dissemination work must be carried out: this is **the WEST (Water EconomicS Training) project**, entrusted to IOWater by the European Commission (DG Environment).

The WEST project aims to develop specific training tools that take this diversity of knowledge into account to give each stakeholder the information needed to complete its assignment (economic study, program definition, decision-making, etc.). Three target groups were selected to ensure appropriateness between training tools and users:

- **the decision-makers**, who will define the orientations of water management in the districts and who will thus use the economic works as tools for decision-making support;
- **the water professionals**, who will prepare the operational documents (management plan in particular) and who will rely on outside experts whenever necessary. They will have a role of interface between decision-makers and experts;
- **the economists**, to whom will be entrusted the studies needed for the preparation of this management plan. Their knowledge of water management in general, of the WFD in particular and lastly of the significance of economics in this process will be prevailing.

The developed products are adapted to each group and case studies are widely used.

This project, launched at the end of 2002, was completed in October 2003. The European Commission will widely disseminate these tools in the coming months to allow their most widespread use and a consistent practice within the European Union.

360
"PowerPoints"
on-line!

IWRM.NET

FOR AN OVERVIEW OF WATER-RELATED RESEARCH IN EUROPE

The IWRM.Net project will consist in an exhaustive inventory of the water-related research programs, financed and organized by the Member and Candidate States, to obtain a view, as reliable as possible, of the efforts made outside European funds to improve Integrated Water Resource Management (IWRM).

Using this inventory and the analysis of ongoing programs, a workshop will gather about fifty managers of these programs to examine the conditions for exchange, and even for sharing, which could be developed between them. These links, to be defined, could be supported by the 6th Framework Program for Research and Development (ERA.Net),

a system implemented to support the creation of a European Research Area.

The project is managed by the International Network of Basin Organizations and is implemented by the Permanent Technical Secretariat.

This 9-month project is financed by the European Commission – DG Research.



THE RHINE

A "RHINE NETWORK", FOR BETTER PARTICIPATORY MANAGEMENT OF THE RIVER



The Rhine River basin shows great diversity in nature, climate, geography and culture. **The Rhine region is one of the most populated and industrialized regions of Europe.**

These intensive activities, industrial and agricultural, have impacts on the alluvial ecosystems, on the pollution of groundwater and water of the Rhine and its tributaries, or on the worsening of floods.

There is a rich and varied local knowledge of water management in the whole Rhine basin, together with initiatives from citizens, associations, private sector, public sector, municipalities and transboundary organizations.

These local practices are especially significant with the view of implementing the European Water Framework Directive that gives a new impulse to the involvement of the public in water management as soon as possible, with a true citizens' participation.

The aim of the "Rhine Network" is to identify and develop local practices of participatory management of water resources, to strengthen European cooperation on the scale of the river basin and to disseminate the acquired local knowledge.

The activities carried out in this project will include **6 real case studies** and the same number of groups of local stakeholders along the Rhine. Participatory practices will be

evaluated and compared for each case and then disseminated to promote the best ones:

- 1 revitalization of the upper Rhine (F, D, CH),
- 2 development of the Dreisam in Feiburg (D),
- 3 protection of springs in Luxembourg (L),
- 4 classification of the delta wetlands (NL),
- 5 renaturalization of banks in Karlsruhe (D),
- 6 flood prevention in the Moselle / Saar basin (F, D).

In addition to these case studies, public information and awareness activities will be organized on the basin scale:

- local information workshops on the active participation of the civil society in water management (Main, upper Rhine, Moselle / Saar, Rhine delta);
- organization of a poetic contest "Rivers of pictures, rivers of words" in the schools of the Upper Rhine and Moselle / Saar, with a mobile exhibition;
- organization of a "Bathing Day" in the Rhine to entice the population back to the river;
- organization of the "Neckar festival", gathering about a hundred events in the entire Neckar basin.

Knowledge gained on the different participation techniques will then be discussed with the public in topical exchange workshops to prepare an **"operational guide for participation"** addressing stakeholders in water management.

The obtained results will be presented and discussed during a restitution seminar and widely disseminated later.

The evaluation of participatory management practices and

the drafting of the operational guide, will enable the capitalization of the best practices, before widely disseminating them to water stakeholders.

The project partners are:

- ❖ **Naturlandstiftung Saar (D), main contractor,**
- ❖ **Solidarité Eau Europe (F), coordinator,**
- ❖ Ministry of Culture of the Saar Lander (D),

- ❖ Ministry of the Environment of the Baden Wurttemberg Lander (D),
- ❖ Ecologic (D),
- ❖ Bundesverband der Bürgerinitiativen Umweltschutz – AK Wasser (D),
- ❖ Regiowasser (D),
- ❖ Office of the Environment of Karlsruhe city (D),
- ❖ Hellef Foundation for Nature (L),
- ❖ Stichting Reinwater (NL),
- ❖ European Rivers Network (F),
- ❖ Saarguemines agglomeration (F),
- ❖ International Office for Water (F).

The project will have a permanent mechanism available that will enable new Swiss, French, German and Dutch partners to join the work.

The total budget of the project amounts to 3.600 Million EURO, half financed by the European INTERREG IIIb North West European (NWE) program.

WFD COMMUNITY

REMOTE TRAINING AND COLLABORATIVE WORK

The objective of the experimental WFD-Community project is the remote training of young executives of basin organizations. The basic principle is the creation of a community of professionals who exchange the different aspects of their activities and mutually train themselves under the leadership of instructors and with the support of tutors.

The training topic is the implementation of the European Water Framework Directive (WFD).

Work is remotely done, using an electronic tool that facilitates structured exchanges, the capitalization of know-

ledge, collaborative work, etc. and the remote intervening of experts through web-conferences.

This 36-month project will mobilize the members of the International Network of Basin Organizations, the Gdansk Water Foundation in Poland, Hydrocontrol in Italy, the National Water Administration in Romania, the Polytechnical University of Bucharest and IOWater.

It is supported by the European Leonardo da Vinci program.

SPAIN

AN INTEGRATED INFORMATION SYSTEM FOR THE TAGUS BASIN

The Tagus Hydrological Confederation celebrated its fiftieth anniversary this year by giving a big impulse to the modernization of a geographic information system and other interesting data, essential for managing uses, infrastructures and water rights. It was designed as an active and dynamic system that will develop with the integration of new data and applications and will improve with the updating of those already existing.

The system covers 29,903 river beds, using the "river layer" of the official digital maps, on a 1/25.000 scale, of the National Geographic Institute (planimetry, altimetry and digital model of the land). This mapping covers the basin rivers with a total length of 63,000 km, as well as river banks, dam reservoirs, municipalities, provinces, autonomous communities, human settlements and altimetry, with water level curves every 10 meters.

Other databases, available to the organization, are associated with these geographic data, such as data from the National Statistic Institute (INE) on each human settlement and municipality, or on the population and demand for each town, obtained when the Tagus Basin Hydrological Plan was prepared.

The system has also included other data issued from the work previously carried out by the Confederation inside its geographic limits (basins, hydrographic areas (14), river sub-basins (77) and sub-zones (216) natural zones (ZEAPAS, LIC, vulnerable zones or special protected areas) and monitoring networks: measurement and meteorological stations, the networks SÁIH (Automatic Hydrological Information System), SAICA (Automatic Information System on Water Quality) and ICA (Information on Water Quality), a network on drinking water quality and a network on fish-

ing water. The surface water resource infrastructures, groundwater wells and discharge authorizations have also been introduced for their geo-referencing.

The system allows the viewing of all information on a grid made of colored photos of the land, geo-referenced on a 1/10.000 scale with pixels of 1 and 0.8 meters, and the visualization of other available maps of the main river beds on a 1/2.000 scale. A GIS coverage is created with flood lines for specific return period, based on studies made for the delimitation of the public water zones and on standards for the exploitation of the different dams.

The system is available on the Confederation Intranet on a server managed by the Oracle 8i database, to which access is possible with Arc View, Mapinfo and Geomedia applications, that make the various types of consultation easier, the ones of

hydrological nature - from the calculation of a basin surface area at a given point to a series of inputs - and others specific to databases.

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FRANCE

"SANDRE":

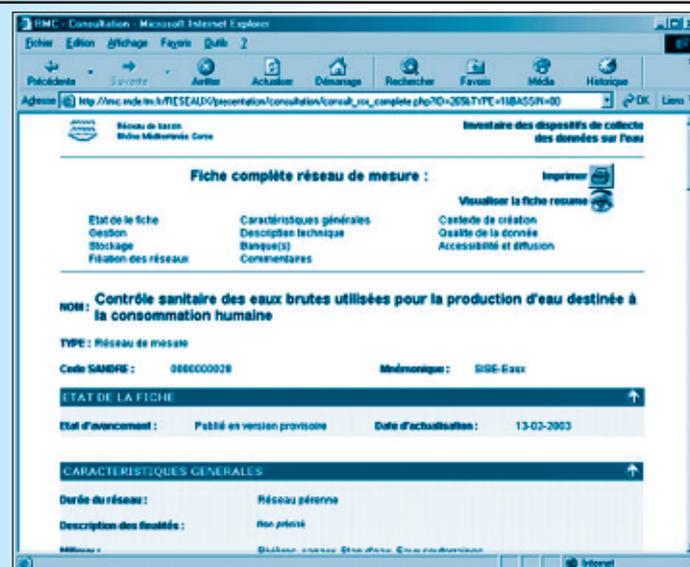
THE CATALOGUE OF WATER DATA "SOURCES"

The water data "sources" include all the "collection tools": monitoring networks, surveys, self-monitoring networks and all administrative and technical instruments.

Knowledge of these collection tools is a prerequisite to the implementation of a **Water Information System** on the French territory.

IOWater, with the support of the Ministry of Ecology and Sustainable Development (MEDD), has started, within the **National Center for Water-related Information and Documentation (SANDRE)**, the creation of a database including all the description sheets of the French collection tools.

The SANDRE, whose tasks concern the standardization of water data and the implementation of national (cartographic and topical)



reference frames, drafted a standard description sheet (metadata) that details stakeholders, produced data, their entry into databases and their availability.

The SANDRE has implemented a computerized tool, based on Internet technologies, that guarantees to the public easy access to this catalogue and also offers a secured area for the entry, modification and valida-

tion of the sheets by the various data producers.

Based on the Internet, this system includes two levels for its organization: **the level of each basin** for the tools that fall within its competence and **the national level**. A sophisticated synchronization system enables the consultation of these datasheets at these two levels.

The first available site including these description sheets is the one implemented in the Rhone-Mediterranean-Corsica basin, accessible at:

<http://rmc.rnde.tm.fr>



"AFEID":

IRRIGATION AND CONFLICT MANAGEMENT

The 20th European Regional Conference of the International Commission on Irrigation and Drainage (ICID) took place in Montpellier, France, in September 2003.

The French branch of ICID, the **French Association for the study of irrigation and drainage (AFEID)** organized a think-tank on the topic: "irrigation and concerted management of conflicts in the Euro-Mediterranean region".

With the climate change that can be felt in the region, conflicts increase about the distribution of water resources. Some examples were given in Spain, Macedonia, Algeria and Russia.

Strategies for preventing conflicts were presented on the Gignac canal in France, in Algeria, Ukraine, on the Amu Darya, in Macedonia, and in Eritrea.

But working groups particularly paid attention to the tools, firstly to supports for making negotiation possible and for developing information systems, then to the institutional, technical and economic tools.

The International Office for Water and the National Bas-Rhone-Languedoc Company directed the session on the organization of water management as a tool for solving conflicts.

French case studies were presented:

- 1 conflict on water abstractions for irrigation in the Beauce;
- 2 the distribution of the Serre Ponçons dam in the Durance plain;
- 3 the programs for managing low water levels in the basins of the Garonne tributaries;
- 4 the case of the Aveyron basin on the same topic;
- 5 the multisectoral conflicts about water in the Orb basin.

The analysis of the presented cases evidences that:

- ◆ the information and its widest dissemination greatly ease a true negotiation on conflicts and related stakes, this information must be transparent and produced by professionals;

◆ the credibility of negotiations and compromises thus reached implies that these are quickly implemented. This credibility requires a reliable operator as soon as the negotiations start and during the ulterior management of competitions on uses.

In other words, for the information to be produced in a professional manner an operator organized for solving conflicts is needed.

Everyone insisted on demonstrating the importance of a responsible "organization", in place and active in the field. This organization can be a large national corporation, an association of irrigation users, a representative of the State, a basin institution or a regional development company, in any case, someone legally instituted for managing the crisis: to arbitrate, direct and coordinate and carry out a serious abstraction control.

All the parties involved cannot do anything without any expert and professional organization: it must be active, transparent, accessible, the same

for everyone, and understandable by the largest number.

In order to save water, the participants underlined the need to find incentive measures, but they rejected the price incentive. They preferred a limited consumption of water volumes with incentive tariffs and serious abstraction controls. In any case, certainly not a market of water rights!

People are now concerned with the ecological interests at stake: the recovery of water quality, of river quality, of the quality of fauna and flora have motivated some participants.

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WWW.SITESAGE.ORG

THE "SAGES" HAVE NOW THEIR OWN WEBSITE



According to the Water Law of 1992, there are now about **100 Water Development and Management Schemes (SAGES)** in France at various advancement stages, including 10 whose implementation started at the beginning of 2003.

In order to inform the SAGE managers and their partners

(elected officials and other members of Local Water Commissions, State departments, Water Agencies, etc.), the International Office for Water opened a specific website in August 2002.

Since its opening in June 2002, the site has already been accessed by more than 170,000 visitors.

This site provides various kinds of information and services:

- SAGE description sheets: these documents, drawn up in a single format, present the main features of each SAGE: stakes, objectives, institutional and administrative aspects (composition of the LWC, presidency, etc.), progress made, studies and actions undertaken, etc. The local documents, provided by the managers, are available on the site, such as SAGE projects, summary reviews. Any manager can benefit from this service upon request.
- The SAGE progress reports are presented using a national map, per basin and using summary tables.
- Various reference documents are available and can be downloaded: legislation and regulations in

force, SDAGE for the 6 basins, methodological guides, map guides with pictograms, etc.

➤ Users have access to practical information, such as oncoming events, links to websites, etc.

Its exchange scope is a strong characteristic, the site proposes a forum, which is managed and regulated by IOWater.

The publication of an electronic Newsletter enables the subscribing users to get informed of the latest news of the site.

<http://www.sitesage.org>

In the East of France, the river Doubs, the main tributary of the Saône, flows successively through nearly 90 km of French and Swiss territory including forty km along the Franco-Swiss border.

Its perfectly preserved course is marked by alternating canyons and lakes which are ecologically rich and display an exceptional potential for salmon production. However, over 26 km of the river's border reaches, this potential is heavily impacted upon by a series of three lock-operated hydro-electrical installations which create so-called "short-circuited" sections over 9 km of the river's length. The impact of these developments is the determining factor affecting the general quality of this stretch of water as regards other uses.

The construction of these dams goes back to the end of the 19th and the beginning of the 20th centuries with the exception of the largest dam, the Châtelot (16,000,000 m³), built in 1953.

The expiry of the concessions will occur between 2024 and 2032, these installations being managed by French, Swiss or Franco-Swiss companies.

A long history of negotiations

Over nearly thirty years, various Swiss and French stakeholders have been led to examine the impact of this dam complex and its operation mode and have sought to find partial solutions through improvements to the biological heritage while guaranteeing energy production (increase in compensation water allocation from 50 l/s to 250 l/s in 1969, the 1998 protocol aiming at reducing the impact of locks).

Agreement for the improvement of ecosystems

In the continuation of these efforts, the Châtelot Power Company conducted a more advanced study which concluded that the optimal flowrate, as much with regard to the functioning of aquatic environments as in relation to the technical and economic constraints, corresponded to 2m³/s, i.e., 1/10th of the interannual module.

The French partners called upon to provide parity funding (Franco-Swiss operations) of the technical project for the installation of a turbine at surface level at the base of the Dam wished to extend this modification to all the dams of the complex.



As a result, all the Swiss and French partners examined the feasibility of a joint overall project. They committed themselves through a framework agreement to undertake and finance such works, to carry out detailed scientific monitoring before and after construction enabling the quantification of improvements observed in the environment, and to supervise the overall project through a steering committee. The cost of the total project is estimated at 3,925,000 euros.

The different partners of this agreement are: the Prefecture of the Franche Comté Region, the Franche Comté Regional Council, the Doubs General Council, the Franco-Swiss Joint Commission for the Doubs, the Châtelot and Goule Power Companies, in addition to the French national electricity company (EDF), for the Refrain ins-

tallation, the National Higher Council for Fisheries, the Federation for Fishing and the Protection of the Doubs Aquatic Environment, and the RMC Water Agency.

The particular features of this project led the Water Agency to choose it as one of the 35 key items of its 8th program, thus enabling the Agency to access special funds for this purpose.

In broad terms, the solutions chosen entail the installation of a turbine operating continuously at 2m³/s at the base of the Châtelot Dam (upstream installation) as well as the adaptation of an existing turbine at the Refrain intermediary plant so as to ensure a continuous water flow of 3m³/s.

Overall, the works planned for 2004/2005 will ensure 1/10th of the interannual module or of the water flow entering the dam complex when this is less than the allocated compensation water.

By multiplying the minimum water flow by 8 over 16 km and by 5.5 over 7 km, the project will result in a clear improvement to the aquatic environment over nearly 90% of the 26 km highly affected by the locks.

This agreement is entirely within the framework proposed by INBO for the management of transboundary basins.

ARTOIS-PICARDY THE WATER PARLIAMENT FOR THE YOUNG

"Water for the Future" was the topic of the World Water Day for 2003.

Thinking now about water in the future was too good an opportunity... this year the Artois-Picardy Water Agency decided to create a **Water Parliament for the Young**. The creation of this new body in the Artois-Picardy Water Agency is an additional step within the policy for environmental education, which has been implemented for a long time in the Artois-Picardy Basin.

Composed of young pupils of second grade and representatives of the signatories of the "water eco-citizens" charter, the Water Parliament for the Young will deal with water-

related topics through visits, the study of documents and thinking about newsworthy topics, etc, under the aegis of the Basin Committee.

As the Artois-Picardy Basin is located in the Scheldt international district, exchanges with Belgium and the Netherlands will also be organized.

At a time when eco-citizenship is in everybody's mind and the Water Framework Directive requires public involvement in water management, it goes without saying that the Water Agency should meet this expectation in the best way possible.

Artois-Picardy Water Agency
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ISO 9001 CERTIFICATION FOR TAX-RELATED ACTIVITIES

The Water Agency has just been awarded the international ISO 9001/2000 certification for all its activities related to water taxes.

This certification, granted by AFAQ, concerns the Water Agency's activities that enable the adjustment, issuing and levying of these taxes and the payment, by the head office or regional delegations, of bonuses for decontamination.

This certification is the recognition of a huge joint work of the Water Agency.

This large work, started in 2000, has lasted two years and mobilized about 120 people

concerned by the water tax issue in the Water Agency. This work has widely contributed to generate a "continuous improvement" approach, main goal of the quality system.

Compliance with regulations, strict financial management, collection and availability of data that can be enhanced for other uses, acceptability and quality of the services provided to the public, development of the tax-related activities in the agency are the main lines of the Water Agency's commitment to ensuring the quality of all its "water tax" activities.

A BASIN COMMITTEE FOR CORSICA



The "Corsica Law" of 22 January 2002 led to the creation of a Basin Committee specific to the Island and to the reconfiguration of the current Rhone-Mediterranean-Corsica Basin Committee into a Rhone-Mediterranean Committee. The new Corsica Basin Committee started operating on last 10 October in Ajaccio. It is chaired by Mr. Jean Baggioni, President of the Corsica Executive Council. There are now seven Basin Committees on the French Metropolitan territory.

Composition of the Basin Committee:

In its deliberation of 17 April 2003, the Corsican Assembly defined the composition of the Corsica Basin Committee which comprises 36 members grouped into several panels:

- ❖ a panel of 14 members from local authorities,
- ❖ a panel of 14 members from the users and relevant personalities,
- ❖ a panel of 8 members, representatives of socio-professional bodies and qualified people.

Unlike other Basin Committees, there is no specific panel of State representatives: the Corsica Prefect and three members appointed by him, sit in the panel of socio-professionals and qualified people.

The President of the Corsican Executive Council is rightfully the President of the Basin Committee.

The members of the Basin Committee are designated for a six-year period.

The first session of the Basin Committee:

The Corsica Basin Committee met for the first time on 10 October 2003 during the inaugural meeting, that enabled:

- on the one hand, to proceed to its set-up: formulation of its internal rules and operating method, election of the vice-presidents and of two administrators representing Corsica in the Agency's Board of Directors;
- and, on the other, to start working with the study of two issues: the "national debate on water policy"

and the "implementation of the Framework Directive and SDAGE in Corsica".

The Corsica Basin Committee will have to meet before the end of the year to give advice on the water tax bases to be applied in 2004 in the Corsica Basin. It will also have to define the 2004 timetable which, as already known, will be strongly influenced by the implementation of the Water Framework Directive.

Consequences of these changes on the operating of the RM&C Agency:

As concerns the Water Agency, the creation of the Corsica Basin Committee caused the following institutional changes:

- a new institutional operating method in which the Agency and the two Basin Committees have to remain consistent to maintain balance between entities,
- the adaptation of the Agency's Board of Directors, now made up of 37 administrators, including 22 elected officials and users from the Rhone-Mediterranean Basin Committee,

and the "implementation of the Framework Directive and SDAGE in Corsica".

- the change of the Agency name which is now the Rhone-Mediterranean and Corsica Water Agency.

The Agency took this opportunity to rethink its visual identity, a new logo was thus defined and just officially presented to the public.

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SEINE-NORMANDY THE 8TH ACTION PROGRAM FOR 2003-2006



The Seine-Normandie Basin Committee has created **six geographic commissions** and also adopted the idea of creating a **Scientific Council**.

The 8th program of the Seine-Normandie Water Agency for 2003-2006 has been approved. This program is in line with a long-term process of achieving the result-oriented objectives of the European Water Framework Directive:

"recovering good ecological status of the basin waters".

A program for the rehabilitation of aquatic environments

The Water Agency and the Basin Committee considered this 8th program as the first one dealing with the implementation of the Framework Directive. This 4-year program (2003-2006), prepared with all the local stakeholders of the basin, is developing suited means to achieve the European objectives, the good ecological status in particular.

A policy closely linked to local territories and favoring preventive action

At the end of 2003, the priorities for action, defined for each sub-basin, complemented the general principles defined in the Program after dialoguing with the geographic commissions. These commissions, organized for each sub-basin, greatly involve local stakeholders and will follow-up the local priorities for action. The Basin Committee will rely on these commissions to organize a dialogue and the involvement of the public, planned for in article 14 of the European Water Framework Directive. This program uses some contractual tools already known by the Agency and increases supports to the stakeholders that use them: SAGE, rural contracts, basin contracts, ZAR, etc.

Implementation of efficient assessment tools

The Agency is continuing its effort for assessing the impacts of its activities on the environment. Using the most recent research findings, a modeling tool will be gradually implemented for the whole basin during the 8th program. It will enable the Agency to foresee the effects of the projects that it financially supports, no longer on a case by case basis but globally.

Renovated and more incentive support that meets our community commitments

Of course, the 8th program includes a special effort aimed at sanitation of local communities, in relation with the implementation of the Directive on Urban Waste Waters (UWW).

Support to industrialists and farmers is continuing, within the 2nd phase of the Program for the Control of Pollution from Agricultural Source (PM-POA-2) for stock breeders among others.

Better distributed taxes

- ❖ The domestic user's contribution is significantly lowered with a 18 % decrease of the index that enables the mobilization of resources for supporting the sewerage systems.
- ❖ The irrigation users' contribution is increased and rebalanced as compared to that of the other users.

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CENTRAL AND EASTERN EUROPE

PRE-ACCESSION TWINNING AGREEMENTS: REMINDER OF THE CONTEXT

The twinning process consists in providing the Central and Eastern European countries, which are members and candidates to accessing the European Union, with all the technical and administrative knowledge they require to include in their national law all the legislative and regulatory texts already passed and applied by the 15 current Member States.

Institutional capacity building through twinning between counterpart Eastern and Western administrations, is one of the priorities of the European Commission's PHARE program.

This multi-year comprehensive cooperation aims at providing each member or candidate country with the efficient and operational organization required to fulfill its future community obligations.

An agreement is thus signed by one of these Countries and the Member State selected for each twinning arrangement. It defines the expected outputs of the project, the responsibilities of each party, the implementation methods to achieve the result and their cost.

The following cooperation methods are planned for each twinning arrangement:

- the long-term and full-time secondment of civil servants (Pre-Accession Advisers) from Member States in the candidate countries,
- short assignments carried out by specialists in each Directive in the Countries concerned,
- practical training courses in the Member States' administrations and organizations concerned for experts from the Member or Candidate Countries participating in the transposition phase,

- training of personnel who will have to operate the new systems in their respective countries, and particularly training of trainers.

The European Commission has established a new process, called "Twinning Light".

It enables the development of shorter twinning projects without any need for the long-term secondment of an expert.

SLOVENIA

How better assess water quality

With the accession to the European Union and the implementation of the Water Framework Directive in the background, a PHARE twinning project was implemented between January and July 2003 by France and Slovenia. The International Office for Water intervened in the preparation and implementation of this twinning project as an operator of the French Ministry of Ecology and Sustainable Development.

Under the supervision of the Ministry of the Environment, Spatial Planning and Energy, the new Slovenian Environmental Agency was the main recipient of the project, which dealt with tools for water quality assessment.

This twinning included 5 activity areas:

- 1 analysis of Slovenian needs and presentation of the French experience in water quality assessment,
- 2 evaluation and proposal for improving the networks, monitoring surface and ground waters,
- 3 providing of tools for water quality assessment,
- 4 work on the Kamniska Bistrica basin,
- 5 additional work for preparing the computation of integrated emissions.

Various stakeholders

Once the Slovenian experts had selected the most appropriate software for assessing water quality, the provision, installation and customization of this software to the Slovenian context and data was carried out during ten assignments of experts from IFEN, Loire-Brittany Water Agency, in particular.

If the installation of the **Nopolu software**, developed by the Beture-Cerac Company was the basis of this work, **the Norber software**, developed by the Loire-Brittany

Water Agency and **SEQ-Eau** (Inter-Agency product), was also very appreciated by the Slovenian experts.

This twinning also included the presentation of the progress made by France in the implementation of the Framework Directive, especially regarding the aspects related to the delimitation and characterization of water masses.

Positive outcome

Although completed in a very short time, this project was the occasion of providing practical tools for the inventory and decision-making sup-

port regarding the aspects of water quality at the national level or on the scale of a basin. The French experts, who participated in this twinning, underlined the benefit of such projects dealing with topics corresponding to their current concerns. The work carried out for implementing the Water Framework Directive in the Member States and Accessing and Candidate Countries facilitated these exchanges, with Western and Eastern experts facing the same stakes and objectives.

"NORBER", INTERNATIONAL VERSION: A SOFTWARE FOR THE EVALUATION OF DISCHARGES

"NORBER" ("Norme d'Objectif de Rejets et Bilan d'Épuration en Rivière" - Objective Standard for discharges and purification diagnostics in rivers) is a calculation tool developed under EXCEL format by the Loire-Brittany Water Agency. It enables the simulation of the impact of point discharges on a watercourse quality.

Using the entered characteristics of the receiving environment, water quality, flow and quality objectives to be achieved, the tool automatically provides the acceptable flow to meet an objective, expressed in quality class and concentration.

In the case of a town considered as the main discharge, it enables **simulating changes in water quality for different types of discharge according to different purification performances**, while taking into account the effect of self-purification on a linear river bed up to 50 km.

"NORBER" also enables the sizing and positioning of a monitoring network according to a foreseeable change of quality class.

The production of easy-to-understand graphs and figures displaying different possible options, offers to the decision-makers and technicians the elements necessary for making pragmatic decisions to meet specific objectives.

The software is now available in the English language. It also has a new functionality that enables the addition of any new language for use (translation of a list of wordings in an Excel "dictionary" sheet). This enables the users of the different countries to get a version in their national language, thus facilitating the use of the software by institutions.

BULGARIA

IMPLEMENTATION OF THE WATER FRAMEWORK DIRECTIVE

The New Bulgarian Water Act, in force since 28 January 2000, transposed into national law some important requirements of the Water Framework Directive: river basin management, integrated water management, the "polluter pays" principles, etc. Water is becoming a national resource and water users have to pay charges for its use or for the discharge of wastewater.

In accordance with the Water Act, **four River Basin Districts were defined in our country – the Danubian, the Black Sea, the East-Aegean and the West-Aegean Districts.**

Four River Basin Directorates are the new competent management Authorities, in charge of information collection and database creation, water monitoring, water management, public relations and dissemination of information. A special Regulation, concerning the responsibilities, organization of work and structure of the Basin Directorates was officially entered into force in January 2002.

A Basin Council was also created for each Basin Directorate to support its operating and contribute to the joint and balanced water management for the benefit of the population, human health, preservation of the natural aquatic habitats and water bodies, and sustainable development. This is a very positive step forward for efficient and sustainable water management practices through the involvement of all parties concerned, including the general public.

Fourteen Regulations have been introduced to transpose the requirements of the European Directives in the field of water. Thus the Bulgarian Legislation is already harmonized with that of the European Union.

Now the challenge is to strengthen the capacity of the national and regional institutions, involved in water management, in order to achieve the effective implementation of the new legislation. For this purpose, two first pre-accession Twinning Projects have been conducted:

- A first Twinning agreement between France and Bulgaria for creating River Basin Authorities.
- A second Twinning Project on institutional capacity building at national and regional level for the implementation of Directives on drinking water, fish and shellfish water, bathing water and dangerous substances.

Recently two National Programs were developed – one for the implementation of the requirements of the Directive 76/464/EEC on Dangerous Substances and the other for the implementation of the Directive 91/271/EEC on Urban Waste Water Treatment. These two Programs have been presented to the European Commission in March 2003.

Bulgaria is also in the process of developing a National Program for the implementation of the Water Framework Directive. It includes:

- ❖ the drafting of a manual for the evaluation of procedures;
- ❖ the training on procedures for preparing a management plan for the pilot Basin;
- ❖ the training on the use of the decision-making support system;



- ◆ a twinning project for the institutional strengthening of the River Basin Authorities in the Danube River Basin;
- ◆ a support to the Bulgarian Ministry of the Environment and Water and to the Black Sea Basin Directorate by the Danish Environmental Protection Agency and Cooperation for Environment in Eastern Europe;
- ◆ a pilot project for environmental and health risk assessment in the area of the lower Danube – the Iskar Pilot Project - in order to test an integrated approach to environmental and health impact assessment, with the Italian Ministry for the Environment and Territory.

Water does not respect administrative and political boundaries. For the use and protection of transboundary water bodies, cooperative efforts of all riparian countries are required. In this respect, Bulgaria actively participates in regional initiatives and bilateral agreements with other countries in the field of water. One of the successful regional

initiatives is the International Convention for the Protection and sustainable use of the Danube River (ICPDR) in which all Danubian, Southern and Eastern European countries are now actively involved. The Republic of Bulgaria had signed and ratified this Convention. Another regional initiative is the Danube-Black Sea (DABLAS) task force, for the rehabilitation of water quality in the Danube-Black Sea basin. Our country also participates in the work of the Convention on the protection of the Black Sea against pollution.

There are shared waters, common problems and similar water status in the South-Eastern part of Europe. The idea that shared waters offer opportunities for cooperation is not new, but nowadays this idea can be proven in practice. The establishment of transboundary water institutions helps to minimize disputes between riparian States.

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CZECH REPUBLIC

The "2001 twinning" deals with the implementation of the European Framework Directive 2000/60/EC. It is carried out by a Group of Member States (United Kingdom - group leader -, Austria and France), in which are planned the organization of management plans at the level of a pilot river basin (Orlice Povodi), public participation and a network for monitoring and following-up aquatic environments.

This twinning officially started on 6 May 2002 and will end on 31 January 2004.

The permanent team is composed of two Pre-Accession Advisers, the first, Mr. James

Hunt, for the twinning duration, and the second, Sylvie Jégo, French Adour-Garonne Water Agency, for a 12-month period at the Czech Ministry of the Environment.

Significant results were obtained, especially on:

- ❖ the drafting of a manual for the evaluation of procedures;
- ❖ the training on procedures for preparing a management plan for the pilot Basin;
- ❖ the training on the use of the decision-making support system;

- ❖ the development of a strategy for long-term data management;
- ❖ the development of strategies for medium-term and short-term data management;
- ❖ a strategy for dialogue with partners and the population - with a view to using it in the preparation of a management plan in the pilot Orlice basin;
- ❖ the practical implementation of this strategy.

Others are being finalized and especially deal with:

- the economic aspects of the Framework Directive;

- an illustration: the characterization of the Orlice basin.

These activities could be carried out, thanks to the participation of experts from the French Ministry of Ecology and Sustainable Development, the Water Agencies and of the International Office for Water in particular, on the one hand, and experts from the Czech Ministries of Agriculture and the Environment and of the Orlice Povodi on the other.

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HUNGARY

PRE-ACCESSION TWINNING

Improvement of the system for controlling accidental water pollution

French experts worked to have a clear view of the structure of the main basin information used in Hungary for water management and identified the three following improvements in existing and future applications:

- ➔ need for compliance of the GIS information layers (rivers, lakes, catchment areas and limits of water bodies, etc.) with Framework Directive requirements;
- ➔ need for linking the databases of the water and environment sectors and for agreement on the use of a national reference system for all kinds of shared data;

- ➔ need for improving the collection of digital information in existing databases to prepare the emergency basin plans.

The "Monitoring of surface and ground waters" component includes recommendations for the follow-up of surface and ground waters and institutional capacity building for the implementation of the Framework Directive.

The basic elements of the ecological monitoring were institutionalized for surface water. The project, started in November 2002, was completed at the end of 2003.

Assistance with the implementation of the Water Framework Directive

The overall objective of the twinning was to assist Hungary with the readjustment of the law, regulations and national procedures to take into account some specific aspects of the Water Framework Directive and with the institutional capacity building needed to comply with the requirements of this directive regarding planning, regulations, reporting and information.

The project, led by IOWater and completed at the end of 2003, enabled an assistance to the Hungarian Ministry of the Environment and Water (MoEW) with the implementation of the regulatory procedures, defined in the Directive, by developing its national system for the control of accidental water pollution and the system for monitoring surface and ground waters.

The "Accidental water pollution" component dealt with:

- ⊛ the introduction of the "safe installations" principle,
- ⊛ the improvement of the system for the control of accidental pollution according to the WFD,
- ⊛ the transfer of knowledge and operational experience for quick and efficient responses,

- ⊛ the choice and good use of the new response techniques, consistent with the Hungarian strategy for the control of accidental pollution.

This component included a study tour in France, whose objective was to briefly present professional training in France to help the participants **create a training center on accidental pollution in Hungary**. The four main participants of the future project were in the delegation: Dr Josef Gayer and Mr. Istvan Kantor, directors of the training centers of VITUKI and ABKSZ respectively (these two units were selected to accommodate the future training courses in Hungary), Mr. Tamás Kőszeghy and Dr Eva Deseő, who initiated the project at the Ministry of the Environment and Water.

They visited three different institutions involved in this specific area of the environment: the "CEDRE" in Brest, for response to accidental pollution, the "CFDE" in Paris, for the training of environmental inspectors and the IOWater training center in La Souterraine for the training of technicians of the water sector.

HUNGARIAN WATER MANAGEMENT IS FIFTY YEARS OLD

On 1 October 1953, fifty years ago, the central body of water administration, the National Water Authority (OVF) was established together with the 12 regional water authorities, based on the basin principle.

The district water authorities took charge of the tasks of authority and supervision.

The Ministry of the Environment and Water, now supervising the OVF, organized a feast in Esztergom on the occasion of the fiftieth anniversary, to which were invited the ministers and directors of the past fifty years, including Mr. Árpád Göncz, former President of the Republic, Mr. Kálmán Rajczi, the first General Director of OVF, Mr. Antal Kovács, Dr. László Maróthy, Dr. György Schamschula, Kálmán Katona former

water Ministers, Dr. Miklós Persányi, current Minister of the Environment and Water and also Dr. József Váradi, Deputy Secretary of State.

The Minister of the Environment and Water handed over silver commemorative medals to the experts, present in this festive event, who had been working in the national water service for a very long time.

The Minister opened the exhibition on "The Hungarian Water Management is Fifty Years Old", in the Danube Museum.

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"FRANCIART, BUDAPEST 2003"

In the framework of the Hungarian-French cooperation, a conference was organized on 20 May 2003 in Budapest at the French Institute for the protection of surface waters and communal water supply.

The following papers were presented:

- ❖ water treatment in the Csepel district of Budapest;
- ❖ drinking water supply in the French Department of Finistère;
- ❖ the Public Private Partnership by the Suez-Ondeo Company;
- ❖ new developments in flood protection in Hungary by the Ministry of the Environment and Water and the National Water Authority;
- ❖ the role of the French Water Agencies.

The conference provided an opportunity to introduce the Hungarian-French water management cooperation and INBO.

In his lecture, Mr. Kálmán Papp (National Water Authority) spoke about the history of bilateral cooperation, referring to the cooperation agreements with the Seine-Normandie Water Agency and the International Office for Water (1992). He gave a detailed report about INBO organization,

goals and regional networks, namely CEENBO. The Hungarian-French cooperation was very useful for both sides, providing consultations on special technical and EU cooperation matters.

In connection with the cooperation with INBO, Mr. Gyula Szabó (VITUKI) presented **Aqu@docINTER**.

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POLAND

SUPPORT TO THE DECENTRALIZED AND PARTICIPATORY MANAGEMENT OF WATER RESOURCES

Decentralized implementation of the European Directives

The project is being implemented by the Water Management Office (BGE) under the aegis of the Ministry of the Environment, in partnership with the Polish Water Agencies (RZGWs) and Gdansk Water Foundation (GFW). It is financed by the French Ministries for Foreign Affairs and of Ecology and Sustainable Development. It took place from March 2002 to the end of 2003.

In 2003, the following activities were carried out:

- ➊ **Continuation of the cooperation between the Polish RZGWs, IOWater and the French Water Agencies**, in particular a mission of two experts from the Seine-Normandie Water Agency in March 2003 on an economic analysis for the implementation of the Framework Directive and a visit of the Warsaw RZGW to the Adour-Garonne Water Agency in July.
- ➋ **Assistance to the local and regional Authorities**: the implementation of the European Directives can only be effective if the regional and local stakeholders are informed and able to make the decisions



needed in the areas under their responsibility. For this purpose, a 1-week study tour was organized in France in October 2003 for about thirty participants from the Environmental Directorates, Voivodships and regions, and Polish local Authorities.

- ➌ **Methodology for developing an on-line information service**: a first meeting was held in November 2003 in Limoges to analyze the possibility of developing a service of this kind in Poland.

UKRAINE

LEGAL AND INSTITUTIONAL ASSISTANCE

In 1999, in the TACIS project, managed by the IOWater / Verseau group, a working group of the Ukrainian Ministry of the Environment and Natural Resources started learning about water resource management at the level of river basins.

At the end of this training period, this group started the drafting of texts for the creation of a **Commission for the South BUG basin**, having a coordination and planning assignment for actions of common interest in the basin.

The results obtained in the Bug basin have been sufficiently conclusive to go further than the pilot experiment and start a redesign on a national scale. The Ministry thus initiated a reform of the legislative and institutional framework in force.

The current cooperation project, financed by the French Ministries for Foreign Affairs and of Ecology and Sustainable Development, deals with the 4 following actions:

- transfer of legal and institutional know-how on integrated water resource management at the level of river basins, based on the European Framework Directive of 2000 and on the French Water Law,

- assistance with the drafting of a water law adapted to the Ukrainian and international context as this country has **4 large transboundary rivers: Dniepr, Dniestr, Western Bug and Donets**,
- assistance with the creation of an executive body for the South Bug Commission, starting with the Environmental Fund, and preparation of the implementation in other basins, the Dniepr included,
- drafting of documents preparing this body and defining its assignments and means, especially economic and financial means with the aim of controlling pollution and conserving water resources.

This approach shows the will of some Eastern Countries of having their water legislation changed and closer to the vision of the European Union regarding integrated water resource management.

Ukraine, together with Russia, is one of the more advanced country in this field.

TRANSBOUNDARY MANAGEMENT OF THE DNIPRO RIVER BASIN

The Dnipro River basin belongs to three countries: Belarus, Russian Federation and Ukraine. They are signatories of the Helsinki Convention of 17 March 1992, and are carrying out a consistent policy to achieve its objectives. For the last 10 years, these countries have greatly improved their relations in the environmental management sphere and signed bilateral agreements for the protection and use of transboundary waters.

The Declaration of the three Ministers of the Environment on cooperation for the improvement of the Dnipro basin ecological status was signed on 22 May 2003 in Kiev and expresses a common political will to achieve sustainable use of the basin natural resources, ecosystem preservation and good functioning, transboundary impact prevention, limitation and reduction. The Ministers declared that they were aware of the need for developing new environmental strategies, based on interdisciplinary approaches to ecosystems, on the principles of sustainable basin development and management and on the creation of a monitoring and information system for the transboundary basin.

The main mechanism for international cooperation to ensure the Dnipro river basin protection and use must be a tripartite Convention. It will establish the

general principles, objectives and parties' obligations and will provide for the creation of the Parties' Conference, the International Dnipro Basin Council and International Commission.

One of the major tasks, which can contribute to the successful achievement of the Helsinki Convention objectives, is the harmonization of the three Dnipro riparian countries' environmental legislation and its approximation to that of the European Union. For this purpose, three groups of experts from Belarus, the Russian Federation and Ukraine compiled Tables of Concordance of their national environmental legislation with the Water Framework Directive, the Directive concerning pollution prevention and control, and the Directive concerning urban waste water treatment. The next step will consist in transposing the EU legislation provisions into the three countries' national legislation in accordance with the Strategic Action Plan. This Plan is one of the major results expected after the completion of the UNDP-GEF Dnipro Basin Environmental Program.

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ROMANIA

CAPACITY BUILDING: WATER MANAGEMENT AND IMPLEMENTATION OF THE FRAMEWORK DIRECTIVE

Implementation of the Framework Directive: Characterization of river basin districts

The implementation of the Framework Directive requires a lot of work at community level and at the level of each Member State and Candidate Country. **One of the priority objectives is the establishment of a basic inventory of the river basin districts in 2004.**

Following the workshops of Warsaw (Poland), in July 2002, on the analysis of "pressures and impacts" and of Calimanesti (Romania), in November 2002, on the delimitation of "water masses", a technical seminar took place on 11 and 12 September 2003 in Tulcea, Romania.

It was jointly organized by CEENBO Secretariat and IOWater, with the support of the French Ministry of Ecology and Sustainable Development and the Romanian Authorities. Directly devoted to the preparation of the inventory of river basin districts, this workshop gathered about thirty participants (Bulgaria, Czech Republic, Hungary, Moldova, Romania, Serbia and Slovenia), who were able to present and discuss the progress made in the implementation of the Directive in each country.

The Romanian participants were from Apele Romane - a National Administration, and from the Water Directorates of Prut, Siret, Arges-Vedea, Buzau, Dobrogea-Litoral and the Wa-

ter Management System of Tulcea, the Danube Delta Biosphere Reserve Authority and Danube Delta National Research Institute.

The representatives of the French Water Agencies (Delegation of the Agencies in Brussels, Rhine-Meuse Agency), of IOWater and the University of Liege presented the French and European experience in this field: community work, French guide for the preparation of the basic inventory, a case study on the first characterization at the level of a French river basin, the gathering and organization of the necessary data, the use of models and software for assessing water quality, specificity of wetlands.

All the papers presented during the workshop have been gathered on a CD-ROM for dissemination. They are also available at:

<http://ceenbo.mobius.ro>

A visit of the Danube Delta, one of the most important and spectacular wetlands in Europe, took place on 13 September 2003.

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The Technical Seminar in Tulcea

Capacity building

The French-Romanian bilateral cooperation arrangement plans for an analysis of the feasibility of a **School for Executives addressing all the Romanian civil servants involved in water resource management.**

The implementation of the European Directives (the Framework Directive in particular) will cause changes in the organization of services and in practices that will increase more this training need.

The IOWater experts worked with the following objectives:

- analyzing the consequences of the ongoing reforms and the role assigned to the various organizations at regional and local levels;
- specifying the different tasks to carry out for the implementation of the European directives and estimating the importance of

the staff concerned and its geographic distribution;

- constituting a follow-up group, made up of an executive from each river basin, and training this group;
- preparing a questionnaire to evaluate the assignments, the skills required and training needs for each team;
- processing the replies to this questionnaire and preparing a first grid of training needs;
- assessing the existing training resources and presenting the different options for creating the School for Executives.

THE OLT RIVER BASIN: THE INTEGRATED WATER MONITORING SYSTEM

Romania acceding to the European Union, implies the development and modernization of the national integrated water monitoring system, in accordance with the requirements of the EU Directives.

A standardized observation, measurement and monitoring system is implemented in the OLT basin, using: 101 hydro-metric stations, 101 rainfall gauges, 10 lakes for studying siltation, 155 satellite stations,

6 evaporimetric stations, 75 stations for water uses, 236 hydrological bore holes, 36 stations for monitoring water quality of the 1st order, 6 stations with daily fast flow, 8 sections with weekly fast flow, 16 dams - reservoirs, 109 hydro-geological bore holes and 228 wastewater treatment plants.

The water quality monitoring stations (surface and ground water) monitor 84,0847 physical and chemical indicators, 9,260 biological indicators,

1,474 bacteriological indicators and 416 indicators for sediments, thanks to the 6 laboratories of the Water Management System.

The total monitored water-course length of 2,363 km is divided into different water quality classes: 1st class - 1,217 km, 2nd class - 678 km, 3rd class - 202 km and a "degraded" class - 266 km.

In 2002, a decrease in the concentration of toxic chemicals has been observed in the OLT basin as compared to the previous years, mainly due to very restricted industrial activities, but also to the use of less polluting technologies in some industries.

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THE MEDITERRANEAN

IUCN

WETLAND MANAGEMENT

The IUCN's Mediterranean Office is compiling a resource book on environmental flows, also referred to as instream flows or ecologically acceptable river flows. The resource book will illustrate the concepts, methods and practices to determine Environmental Flow Requirements (EFRs). Case studies from 10 countries in the Mediterranean region will show examples of what can be achieved in river basins under different levels of stress. Early work focused on minimum flows. Today the scope of EFR assessment is broader. New methods take account of interrelated considerations of minimum flows in different seasons, normal and exceptional flood flows, and flow change impacts on habitats, water quality, temperature, and nutrient and sediment fluxes, etc. Assessments are needed to inform decision-makers at all levels of catchment and river management.

Environmental flows are an emerging topic. They provide a new tool for water managers to engage in a structured process to allocate water specifically for maintaining ecological functions in rivers and the production potential of wetlands. The need for improved information and management tools to enable such action was emphasized in recent RAMSAR resolutions, and is embodied in

the EU Water Framework Directive and national policies that promote integrated river basin management.

The IUCN Center for Mediterranean Cooperation, based in Malaga, Spain, began operation in October 2001.

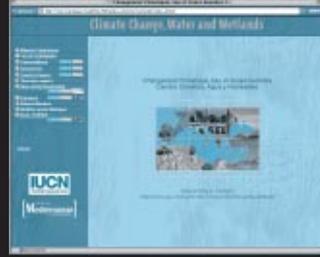
The document "The Essentials of Environmental Flows", prepared under IUCN's global Water and Nature Initiative is available at www.waterandnature.org.

The IUCN Mediterranean Center looks forward to collaborating with INBO Members in the Mediterranean region and supporting their effort to ensure the "triple bottom line" in balancing economic, social and environmental values in river and catchment management.

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CLIMATE CHANGE, WATER AND WETLANDS:



In 2002-03 the IUCN Center for Mediterranean Cooperation supported 8 country baseline studies and 4 thematic studies on this topic. These documents and more information are available at the IUCN Center's Website. www.iucnmed.org

TURKEY

INTEGRATED WATER RESOURCE MANAGEMENT AT RIVER BASIN LEVEL

Water management at the level of river basins is becoming a priority for the Turkish Authorities (Ministry of the Environment and Ministry of Agriculture in particular).

Among the topics dealt with during the mixed French-Turkish commissions, the following should be outlined:

- ❖ protection areas for the intakes of water intended for human consumption,
- ❖ the compatibility of the different water uses at the level of a river basin,
- ❖ management and conservation of water quality,
- ❖ legislative and regulatory aspects aiming at better water management.

For this purpose, a seminar on integrated water resource ma-

agement was organized with the support of the French Ministries for Foreign Affairs and of Ecology and Sustainable Development and with the participation of French experts (IOWater, Water Directorate of the Ministry of Ecology and Sustainable Development).

This seminar was attended by the different Turkish Ministries (Environment, Agriculture) and by various Turkish operators of the water sector. Its objective was, on the one hand, the finalization of a strategy document for better water resource management with the different ministries and departments concerned, and, on the other, the identification of projects that could be included in this national strategy and financed by the European Union.

ITALY

WATER FOR LIFE AND PEACE

16 Presidents of Regions, Provinces and 6 City Mayors approved "The Local and Regional Authorities Water Initiative" in Bologna on 24 and 25 September 2003.

The event was organized by Green Cross, the Emilia Romagna Region, and by the cities of Reggio Emilia and Bologna.

It was decided to double investments for decentralized cooperation projects in the water sector and the number of local partners capable of supporting sustainable development projects and to re-

duce water consumption in these regions and to re-invest these savings in water development projects in the South.

During the two days of symposiums, Local Authorities from developing countries presented their needs, difficulties, and solutions focusing on appropriate technology, experiences, local community involvement, and financial commitments.

The Local and Regional Authorities Water Initiative was presented afterwards.

"Today, a large number of institutional and local authorities are present from all parts of the world to demonstrate their strong commitment," declared Alexander Likhotal, President of Green Cross International, "this is the first success achieved by this Conference. Next year we will be able to measure the concrete results following today's commitments: the number of people who will have benefited from our projects in terms of access to drinkable and safe water."

Today's commitments will be reviewed within a year in Saragoza, Spain.

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ALGERIA

ASSISTANCE TO THE RIVER BASIN AGENCIES – "ABH"

Assistance has been provided since 1999 to the Algerian River Basin Agencies (ABH) mainly in the form of training courses and also on-site practical training in the French Water Agencies.

Different topics were dealt with, mainly communication, databases and planning.

In 2003, the program included:

Monitoring

The ABHs have already collected many data and drawn up maps and summary documents that will soon enable them to make inventories of the situation in terms of qualitative and quantitative aspects of water resources.

It is now necessary that the ABHs gather more precise data on water quality, flood hazards and on the aquatic environments and wetlands to have an overall view of the situation regarding the water sector.

Master plans

The specific training program, carried out in 2002, enabled the preparation of a work plan model for implementing the Algerian Basin Schemes and the formalization of preliminary proposals for the main orientations and for some parts of the strategy.

Each ABH, which has qualified staff to implement its Basin Scheme, must now adapt this work plan to define the orientations and, above all, the strategy according to the inventory of the situation in its own basin.

Their inventory must be completed regarding drinking water, the management of flood hazards and the management of aquatic environments and wetlands.

In 2003, the ABH managers requested that French experts intervene again to provide on-site assistance to the ABHs for the preparation of these schemes.

Cartography and Geographic Information Systems

In addition to these training activities, already started in the previous programs, two 1-week assignments in Algeria of a French specialist in water-related cartography were planned to assist the ABH with the drawing up of these maps, essential tool for the Basin Schemes.



Basin Committees

The Algerian Basin Committees are bodies for dialogue between all the water stakeholders (State, local elected representatives, users), but this tool is currently underused and it is now important to reactivate it so that the committees fully play their role of evaluating, discussing and approving these schemes.

A French expert's mission is planned for the next meetings of these bodies, in agreement with the ABH management, to help with preparing the presentation of the Basin Schemes and, in a broader sense, with the preparation of the meetings of these Basin Committees.

In addition, two members of French Basin Committees participated in the meetings of the Algerian Basin Committees for directly exchanging their experience.

Management seminar

Finally, on the occasion of "Pollutec" 2003 in Paris, a seminar addressing the managers of the Algerian ABHs was organized for a second phase of training on communication, through meetings and interviews with French specialized journalists and with people in charge of communication in the Seine-Normandy Water Agency and IOWater.

ALGIERS - HODNA – SOUMMAM BASIN AGENCY: COOPERATION WITH EUROPE IS STRENGTHENING



The French-Algerian cooperation for years 2002, 2003 and 2004 provides technical and institutional assistance to the Algerian Basin Agencies.

This program, financed by the French Embassy and led by the International Office for Water, was an indisputable assistance

with institutional and technical aspects for the engineers of the five Algerian Basin Agencies. It dealt with:

- the capacity building of the Basin Agencies for the preparation of basin master plans;

- training courses addressing engineers from the agencies and other organizations of the water sector that already concerned 30 engineers;
- information on methods for communicating with the media and the general public for better awareness to policies of good quantitative and qualitative management of water resources.

The Algiers Basin Agency signed a Twinning Agreement with the French Seine-Normandy Water Agency on 4 December 2003 during the Paris Pollutec exhibition.

At the same time, in the framework of the Algerian-Belgian cooperation, the Algiers - Hodna - Soummam Basin Agency benefited from financing for the study of integrated water management in the Mazafran basin.

The Algiers - Hodna - Soummam Basin Agency created its Basin Committee on 24 March 2003.

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Algeria hosted INBO Liaison Bureau in Tipaza, historic site located 70 km west of Algiers, from 11 to 14 December 2003.

MOROCCO

THE RIVER BASIN AGENCY OF LOUKKOS: A PARTNER AT THE SERVICE OF THE WATER SECTOR

In Morocco, the experience acquired for decades in the field of water resources development, has shown the need for an integrated, concerted and sustainable management of water resources, aiming at an optimal and adapted meeting of the diversified needs in constant increase.

To that end, Morocco adopted the law on Water of 10/1995, which introduces the legislative, economic and institutional instruments, necessary for the institution of such management. This new policy imposes the substitution to the traditional administrative approach by an integrated management through large river basins, with a view to ensuring, on the one hand, a rational and planned use of this scarce good of the national community, and on the other, its protection against pollution, wastage and overexploitation.

To fulfill this policy, seven river basin agencies were created and constitute, from now on, the regional dialogue space, where the parties concerned and interested make the decisions related to water management in a participatory way.

The River Basin Agency is a public establishment under the supervision of the Ministry of Regional Planning, Water and Environment.

It is in charge of ensuring a balance between water resources and needs between the users, of initiating and financially and technically facilitating actions for water pollution control, of managing and preserving the water public domain, and of promoting studies and research in partnership with the concerned organizations.

Its financial resources result from the collection of taxes on the abstraction and pollution of water which are applied according to the principles: user-pays and polluter-pays, whoever develops activities and removes pollution is helped.



The Loukkos hydrological basin covers an area of 15,000 km², that is 2% of the national territory. It regroups all the coastal basins limited to the north by the Mediterranean Sea, to the west by the Atlantic Ocean, to the south by the Sebou basin, and to the east by the Moulouya basin.

Since its start in May 2002, the Loukkos River Basin Agency has not stopped mobilizing its resources and abilities, and concentrating its efforts so as to get in line with this new Moroccan water policy. Its first Board of Directors took

place on June 27, 2003. On that occasion, all the stakeholders in the water sector unanimously approved the plans, the programs and the projects for water resources development in the Loukkos hydrological basin.

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TUNISIA

WATER AND SOIL CONSERVATION

The land degradation issue, a world phenomenon that affects more than 2 billion hectares, is seriously felt in Tunisia as it concerns about 50% of the country's agricultural lands where erosion affects 3 million hectares. This is a barrier to sustainable agricultural development, which is the moving force for general economic growth. In order to face this situation, several Water and Soil Conservation (WSC) programs were implemented.

The WSC methods and approach have greatly changed, from technical programs for the development and protection of large river basins in the 1980s up to the implementation of integrated projects for

sustainable development with a better involvement of the recipients for integrated management of available natural resources.

For this purpose, a strategic program was implemented in the 1990-2002 period. Its goal was adequate land development, while looking for solutions specific to the different regions of Tunisia.

In particular, the building in Tunisia of small earth dams in underprivileged rural areas contributes to the expansion of agriculture by allowing the development of irrigated areas, the watering of cattle and the creation of aquaculture while limiting erosion. These dams also enable the development of tourism.

However, these reservoirs usually enable the appearance of varied aquatic fauna that can generate infectious diseases affecting human beings, with the major risk of reintroducing malaria in Tunisia by way of culicidae.

A strict and permanent monitoring of these waters and suited prevention measures are imperative.

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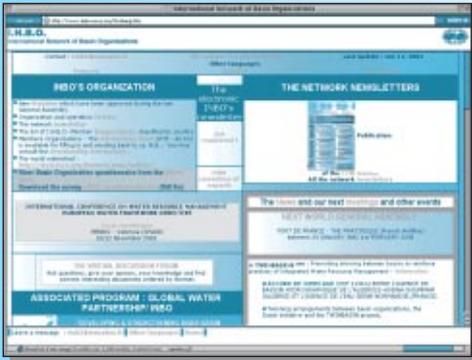
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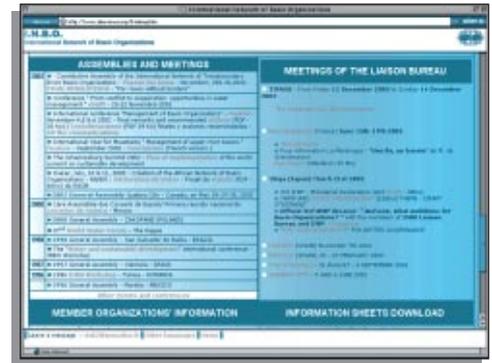
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News from the Network Members



The resolutions and documents of the Large International Meetings on River Basins



The discussion Forum of water stakeholders

The Website of Integrated Water Resources Management at the level of River Basins

The network newsletter



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