



**International
Office
for Water**
- IOW -

- **International Conference
Water and Sustainable
Development**
Paris - 19-20-21 March 1998
- **EMWIS:**
The Euro-Mediterranean
Water Information System
- **INBO:**
International Network
of Basin Organizations
- **FRANCE:**
National Water
Data Network
- **POLAND:**
Official Opening of
the Gdanska Fundacja Wody
- **MEXICO:**
Agreement for the Setting-up
of the Texcoco Training Centre
- **TURKEY:**
Integrated Programme
for Rehabilitating the Quality
of Aegean Rivers in Izmir
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IOW on the Web

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**ENGLISH
VERSION**

INTERNATIONAL NEWS

● FRANCE: "CNFME" MINISTERIAL INAUGURATION



The French
National
Training
Centre
for Water
Professions

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NATIONAL EVENTS

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FRANCE: NATIONAL TRAINING CENTRE FO

29 May 1998:

THE FRENCH MINISTER FOR THE ENVIRONMENT, DOMINIQUE VOYNET, OFFICIALLY OPENED "C.N.F.M.E."



The new Degremont-Pulsator unit for training on the operation of settling tanks using thin sludge layers

The development of continuous training is the priority of the International Office for Water (IOW).

Owing to the 4-year programme (1995-1998) for the modernization of its **French National Training Centre for Water Professions in Limoges - La Souterraine (CNFME)**, implemented within the Limousin Water Centre and in cooperation with the University and the New National School of Engineers of Limoges, IOW can now propose, on its installations, a new series of specific training courses:

- **that is addressed to all professional categories:** from engineers and executives to technicians, workers and employees. The centre receives about **4,000 professional trainees** per year, 350 to 400 of whom are foreigners,
- **that covers all specializations and positions:** design, implementation, operation, maintenance, management,...
- **that is based on the "on-the-job" training principle**, using real-size educational pilot units that reproduce the professional environment of the trainees and simulate all standard or exceptional situations that can be encountered in their daily tasks,
- **that is offered in the French, English and Spanish languages** at the request of interested organizations.

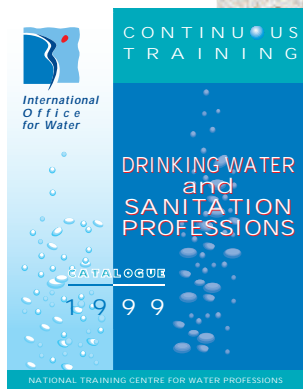
These installations are now unique in Europe on such a scale.

Above all, it deals with training focused on a real practice of water professions.

In 1999, the International Office for Water proposes three specialized catalogues:

1 - WATER AND SEWERAGE IN MUNICIPALITIES

It comprises **122 training courses** covering all large specialized fields, such as water analyses, drinking water production and supply, effectiveness and quality of drinking water supply services, the design, control and operation of sanitation systems, urban waste water treatment, pumping and electrotechnology, rehabilitation and laying of mains, remote management and automation, technical, administrative and financial management of water services, relations with users and consumers.



Setting-up and maintenance of fire hydrants

For the last two years, the Office has had two brand new pilot units at its disposal, in addition to **its complete installation for water treatment**. One concerns **leak detection** in drinking water supply systems and the other the **operation of sanitation systems** of all types.

This year, it has opened a workshop specialized on **sensors**.

Finally, a training unit on **residual sludge treatment**, connected with the **new wastewater treatment plant of La Souterraine town** and located next to the training centre, has completed the pilot units already offered in this field.

2 - WATER IN INDUSTRY

It comprises **13 training courses** in the following eight fields: analyses of process and cooling water, raw water treatment, operation of ion exchangers, operation of waste water treatment plants using activated sludge and physico-chemical treatment processes, treatment of standard and particular wastes, sludge dewatering, measurements and self-monitoring, analysis of waste water and determination of heavy metal content, and finally aid and water charges of the Water Agencies.



Flow visualization

FOR WATER PROFESSIONS - "C.N.F.M.E."

3 - WATER IN THE PLATING INDUSTRY

It comprises **10 modules** that, with applications specific to this type of activity integrated in the previous industrial training courses, deal with training on recycling techniques used at the source, decontamination of effluents and emergency electrical repairs and maintenance of mechanical equipment of treatment plants.

The Office particularly offers the trainees access to **a complete pilot decontamination plant** equipped with representative industrial machinery and to a laboratory for analyses and treatment control, but also access to **a real industrial installation which is a prototype of an integrated treatment unit**.

All training courses can be combined to constitute a real and complete curriculum of professional training.



The new wastewater treatment plant of La Souterraine

"Tailored" training courses are also organized at the request of municipalities and water companies, enterprises or industrial holdings. **They can be implemented in any foreign country in one of the international languages** (English catalogue: "Open courses", Spanish catalogue: "Cursos abiertos").

In addition, all trainees can also consult the **EAUDOC** documentation server that is one of the largest specialized libraries worldwide with more than **175,000 references**.

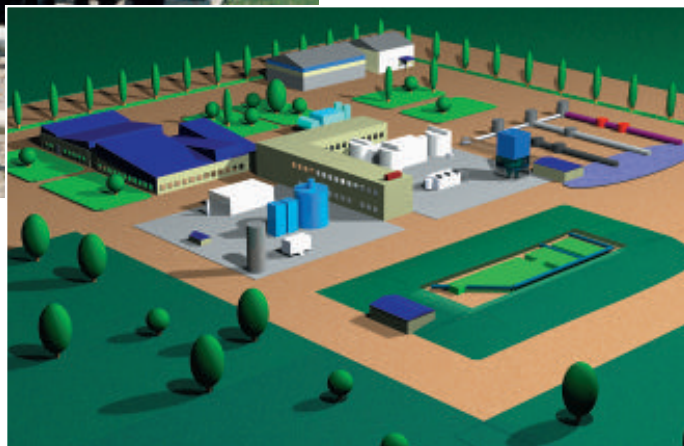
Finally, training development also includes the implementation of tools for remote training:

- Series of Technical Booklets
- Series of CD Techniques (CD-I and CD-Rom)
- Remote training via Internet (Eco Management project).

These means will allow **IOW** to propose **a global approach to human resources development** in the water sector by favouring continuing training.



The study of a sanitation network on a pilot unit



3D view of "CNFME" at La Souterraine

AN ISO 9001 CERTIFICATION

In order to guarantee that its users are satisfied by the reliability of its commitments at the lowest cost possible, "CNFME" has undertaken to apply for an ISO 9001 certification for its training activities.

This guarantee supposes the mastering of training organization and processes and of its activities.

Information

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“RNDE” improv

THE “RNDE” PARTNERS

The French National Water Data Network -RNDE- aims to improve the storage of water data and to ensure access to their data by all users.

Initiated in 1992 by the French Ministry for the Environment and the Water Agencies, “RNDE” has widened its sphere progressively to other bodies concerned:



- the Ministry for Spatial Planning and the Environment



- the Water Agencies



- the Ministry of Health



- the Higher Council for Fisheries



- the French Institute for Environment



- IFREMER



- METEO-France



- Electricity of France

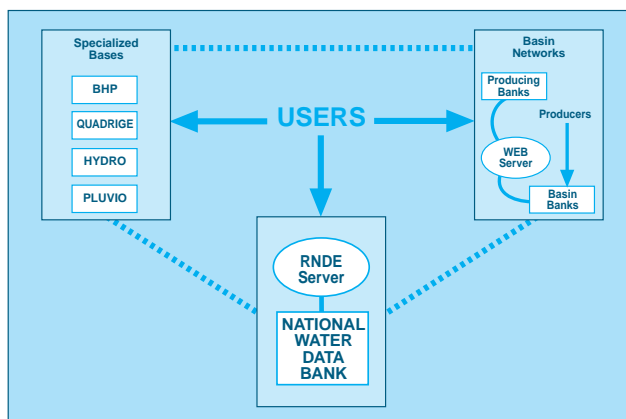


- the Research Centre for Geology and Mines



- the International Office for Water

IOW ensures the co-ordination of the project, the management of “SANDRE” and the operation of such national tools as the “RNDE server” and the National Water Data Base.



With the opening of its server on Internet, last September 1997, “RNDE” has increased access to its water data.

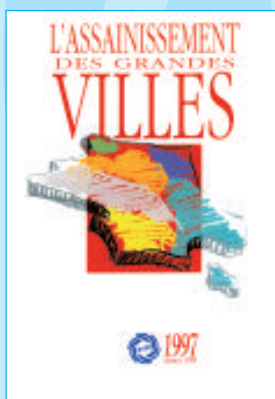
Up to date, the WEB server, named “RNDE server” offers information on the organization of the French National Water Data Network, on the standardized language established for water data (SANDRE) and on the different banks storing water data.

THE “RNDE” PUBLICATIONS

“RNDE” widely disseminates the data summaries it federates.

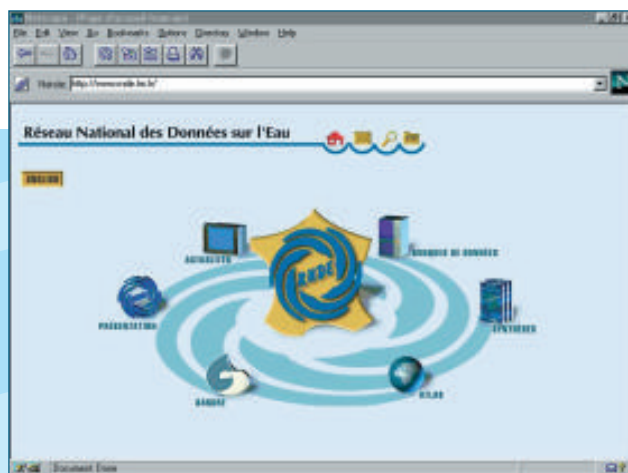
Were thus produced in 1997:

A report on sanitation in towns



A map of fish populations in french water courses

An inventory of the main industrial discharges into water



yes access to data

It also proposes “RNDE’s” publications, which can be freely consulted and downloaded.

Before the end of 1998, the “RNDE server” will go even further into data access, by offering GIS access to each monitoring station of the national networks: quality of water courses, monitoring of fish farming and of beaches and coastal waters, rainfall gauging station networks, hydrometric and piezometric networks.

The “RNDE server” is a device giving access to various data banks: the National Water Data Base (BNDE), operated by IOW, specialized banks, six river basin data bases and data producers.

**To connect yourself: <http://www.rnde.tm.fr>
or: <http://www.oieau.fr/rnde>**



“SANDRE”

“SANDRE”, the National Data Reference Centre for Water, is a common language for all water data producers and users.

“SANDRE” elaborates:

- a description of data using data dictionaries and models,
- lists of national references,
- standardized formats for electronic exchanges (EDI).

“SANDRE” has been a development group of EDI, acknowledged by EDIFRANCE as regards water, and participates in the standardization of data exchanges.

THE EUROPEAN ENVIRONMENT AGENCY

INLAND WATER: THE EUROPEAN TOPIC CENTRE RECONDUCTED UNTIL YEAR 2000



The European Inland Water Topic Centre (ETC/IW) carries out technical audits on behalf of the European Environment Agency (EEA).

This body was set up in 1995 for three years and ETC/IW’s mandate has been reconducted for the 1998-2000 period.

The tasks entrusted to ETC/IW concern some essential topics:

- **The setting-up of a European water monitoring network, EUROWATERNET**

This network, which was defined during ETC/IW’s first mandate, must allow for the production of information on aquatic ecosystems, which is reliable, representative and comparable in all States. On this subject, it is to be noted that EEA’s responsibility covers not only the 15 mem-

ber-countries of the European Union, but also Norway, Iceland and the Central European countries.

The period about to begin will see the implementation of this network, which is based in particular, on pilot experiments carried out in several European countries.

- **The preparation of European reports on the state of the environment**

Every three years, EEA has to produce a report on the state of the environment in Europe. It is entitled the DOBRIS Report. The ETC/IW has contributed to the “water” chapters, particularly the aspects of eutrophication and availability of the resource, which appeared in the Spring 1998 report.

- **Technical support for European regulations**

The European Environment Agency, in liaison with DGXI, entrusts ETC/IW with technical tasks which concern existing regulations, within the framework of the data collection imposed by these regulations, as well as the future European Directive pertaining to water resources.

Within ETC/IW, IOW, in close cooperation with IFEN, EEA’s French focal point, is actively involved in these three types of tasks, and has seconded, with the help of the Water Agencies, a permanent representative to the central team, based near London.

ETC/IW: A CONSORTIUM OF 8 ORGANIZATIONS

- AWW (Austria)
- CEDEX (Spain)
- INAG (Portugal)
- NERI (Denmark)
- NIVA (Norway)
- IOW (France)
- VMM (Flanders)
- and WRC (Great Britain), which is leader of the consortium

These organizations share the tasks according to their own expertise.

EUROPEAN COOPERATION



TECHWARE "LEADING MEMBER" FRANCE

In July 1997, the International Office for Water and the National School of Engineers of Limoges (ENSIL) signed an agreement with TECHWARE for the setting-up of a French "Regional" Bureau of this European network.

TECHWARE (TECHnology for WAtER REsources) is an international non-profit making association. This partners' network is unique in Europe and regroups universities, research and training institutes, public authorities, professional and scientific associations, independent consultants involved in the Water and Environment sectors.

Its objectives are as follows:

- facilitate European cooperation,
- promote multilingualism,
- further research and industry-university cooperation,
- promote technology transfer in the water sector.

The IOW-ENSIL group is now the "TECHWARE Leading Member" and acts as the French meeting point of members of this association in order to help them:

- obtain scholarships offered by TECHWARE,
- identify European companies that may receive trainees,

- provide information on the different EC programmes such as SOCRATES, LEONARDO da VINCI, TEMPUS, TACIS, of the EIB, EBRD and EDF.
- follow up EC's invitations to tender, find European partners and finalize the proposals in the required forms and time limits,
- set up "Specialist Groups" with European partners to prepare joint projects and request their funding from the EC.

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"ECOMANAGEMENT" THE PROJECT - TEST PHASE

EcoManagement is a tool for remote training and advice for enterprises regarding the environment. It is being developed within the "Telematic Applications" Programme of the European Union.

The test phase started in May 1998 to validate the technical and educational alternatives retained by the project group.

Should you be a small enterprise that has started an ISO 14000 environmental approach and interested in this combination between training and new information and communication tech-

nologies, the International Office for Water suggests that you join the experimental panel.

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Information

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ASSESSING OPERATORS' SKILLS

The European ADAPT programme has recently approved the ESC'EAU project, proposed by IOW with the support of the Provence-Alpes-Riviera Regional Council.

This project will enable the design and the setting-up of a **system for assessing the skill and know-how of water utilities' staff members**. The first persons to be concerned will be the operators of waste water treatment plants.

The Marseilles Water Company (SEM), the Artois-Picardy Water Agency, as well as European partners: Hydrocontrol (I), BEW (D), University of Valencia (SP), LNEC (P), are also already involved in this project and in future trials, but if other organizations wish to participate in this work, they will be very welcome.

Contact: Claude TOUTANT

REPLACEMENT OF LEAD PIPES A WIDE AWARENESS CAMPAIGN

The International Office for Water is developing a European project dealing with the replacement of lead pipes for drinking water supply, within the ADAPT Initiative and with the technical and financial support of the French Ministry of Labour and Social Affairs.

At European level, this programme regroups EETAA in Greece, Federgasagua in Italy and the Polytechnics University of Valencia in Spain.

The new European Directive imposes the reduction of the lead concentration in drinking water to such an extent that managers of water supply systems will have to replace or rehabilitate their old connections and mains in the short term.

Awareness raising and the training of contracting authorities and "plumbers" of the sector concerned are thus needed, using the design and implementation of several specific tools (brochures, technical booklets, training kits, notebooks...).

A first reflection phase, jointly carried out with the **French Confederation of Craftsmen and Small Building Enterprises (CAPEB)**, led to the drafting of an information leaflet intended for private individuals and owners of private residences

A Steering Committee has been formed that will be responsible for the formulation of guidelines to implement other tools and for the validation of their content.

A large scale awareness campaign will be organized in 1998.

Contact: Laurent PISSAVY



L'EAU POTABLE
JUSQU'AU
ROBINET



-  Votre santé est précieuse
-  Vos responsabilités
-  Les solutions techniques
-  Les adresses utiles

EUROPEAN LIFE PROGRAMME

"RIVER - WATER SHARING" A REFLECTION TOOL AT THE SERVICE OF THE MASSIF CENTRAL REGION

Whenever water resources management is mentioned, one must, at first, consider a territory or a river basin. The European Centre for Developing Innovations in Rural Areas (CEDEPI) sprung from this concept and launched the RIVER Programme: How to Succeed in Identifying and Developing Information and Experiments in Rural Areas regarding Water.

In practice, the project consists of 3-day training and communication courses, gathering all the people involved in a local river basin and concerned by water resources management. The originality of this project consists, on one hand, in gathering several categories of operators around a common issue and on the other, in the "inter-basin" dynamics which arise as the courses progress.

In the light of the first experiments carried out in 1993, CEDEPI obtained in 1994, a co-financing of the project by the European Commission on LIFE credits. This financial support helped improve the methodology of the RIVER programme, and also to extend the project.

In 1996, the Commission for Planning and Development of the Massif Central region wished to contribute to the course to concentrate interregional reflections on the management of the Massif's water resources.

The Massif Central is "the water reservoir of France" which supplies the four large river basins of the Loire, Dordogne, Garonne and the Rhone. The resource is abundant but very fragile owing to a very fine water course network and to a low storage capacity.

Reflection on the management of upper river basins and upstream/downstream solidarity is thus a priority in the Massif Central region: the "RIVER-Water sharing" programme greatly contributes to a free dialogue between the various people concerned by integrated resource management.

The Commission for Planning and Development of the Massif Central region has chosen the International Office for Water to work out a programme of ten "RIVER" actions initiated with the regional natural parks and the community syndicates of the Massif Central region.

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LIFE 1997: INDUSTRIAL POLLUTION IN THE MEUSE RIVER BASIN

In 1997-1998, the **International Office for Water** carried out a study on the industrial pollution in the Meuse river basin in collaboration with partners in each riparian country:

- **France - Rhine-Meuse Water Agency**
- **Germany - Landesumweltamt Nordrhein Westfalen**
- **The Netherlands - RIZA**
- **Belgium (Flanders) - VMM**
- **Belgium (Walloon Region) - Ministry of the Walloon Region**

This study was undertaken within the framework of the LIFE action programme (the European Commission's financial tool for the environment).

Its aim was to review and compare the methods used for assessing industrial pollution in each country in order to identify the differences that might raise comparability problems when constituting the inventories of discharges which are required by the New European Directive on water.

The various types of assessment methods thus inventoried correspond to very different objectives:

control of authorizations for operation, pricing of charges and monitoring of the effective operation of a waste water treatment plant. One or several methods may be used to establish inventories of discharges. Laws, structures, parameters, sampling methods and calculation are described and compared for each country. Particular attention was paid to the issues regarding self-monitoring and toxicity tests.

Its results were presented during a seminar in Liege on 4-5 June 1998. This seminar gathered the national and regional authorities of the Meuse river basin. The recommendations of the study were discussed and will be used by the countries and the DGXI in their reflections on the evolution of international inventories. The study report will be available in autumn 1998.

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EUROPEAN COOPERATION: A NEW FRAMEWORK

HR Wallingford Ltd, in partnership with IOW, was entrusted by the European Commission, Directorate General for Development (DG VIII), with the preparation of guidelines in the water resources sector. This project is part of the Commission's Programme on the Environment in Developing Countries.

The work has included:

- The development of lending policies and the application of the project cycle procedures by DG VIII and DG I-B,
- A review of the existing policies and strategies in countries of the European Union and other donors regarding ACP countries and developing countries in Asia, Latin America and the Middle East,
- The preparation of guidelines for the application of a sectorial

approach by EC operational staff and recipient countries.

After a first seminar, held in Brussels on 13 and 14 May, 1997, whose objective was to define the contents of the guidelines, meetings with HR Wallingford took place in summer and led to the drawing up of documents that were presented to a group of experts at EC on 28 October.

The directives described in the Terms of Reference were then finalized using the remarks made during this meeting.

The document, in French and English, was then disseminated to a panel of users.

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“EUDOC+”

A NEW SYSTEM FOR ACCESSING INFORMATION ON INTERNET

The idea is to build and develop a real integrated water information system, providing the users -whether French-speaking or not- with unique and easy access.

The appearance of new technologies and particularly Internet and hypertext navigation (surfing), the digitization of information (texts or

others) and the ease of information exchange (electronic mailboxes) permit networking and lead to important and quick changes.

“Eudoc+” will continue in this logic in networking the various French producers of water-related information and in disseminating their documentary data bases.

“JURIEUDOC”

FRENCH WATER LAW ON INTERNET

IOW has created “JURIEUDOC” which allows easy access to:

- **legal texts relative to French and European Union's legislation.**

The search can be made by text types, by using their signature or publication date or by key-words.

- **comments from specialists**, selected articles or books that explain the texts.
- **the most interesting jurisprudence**, used to appreciate how law courts solved application and interpretation problems.

Thanks to a “linkage” system used as an experiment, legal texts that derive from one another can be found automatically as well as associated comments or jurisprudence and, of course, the successive changes that occurred in the same text when they exist.

Each document is reviewed and indexed with key-words and a summary.

To date, the base comprises 1,800 referenced documents.

SDAGE AND SAGE: PEDAGOGY AND METHODOLOGY

In France, the water law of 1992 defines the principles of sound management of the resource, which aims at reconciling the protection of aquatic ecosystems with uses and economic interests.

The implementation of this policy is based on the river basins, taken into account in the regulatory and planning tools which are:

- **Master Plans for Water Management and Development (SDAGEs)**, which determined in 1996 the fundamental trends in each of the six large metropolitan watersheds. SDAGEs are today being prepared in the DOMs (French overseas “Departments”).
- **Water Management and Development Schemes (SAGEs)** are tools for local dialogue

which will be elaborated by **Local Water Commissions (LWC)** on the scale of a sub-basin.

IOW is already working with the Local Water Commission of the SAGE of Audomarois and the Basin Committee of Martinique, and other projects are under study, particularly in the Adour-Garonne basin through the implementation of information sessions for elected officials.

MULTILINGUAL INTERFACES

The International Office for Water, fully aware of the stakes at hand regarding access to water-related information on Internet, is working with partners on two new projects:

- **“AQUITRA”**: utilitarian water-related automatic translation system, essentially Spanish-French and German-French at first;

- **“MARE NOSTRUM”**: a system for terminological equivalence of water terms in French-English-Arabic.

The aim is to compile and draw up technical, legal, geographical and institutional glossaries which will facilitate a north-south transfer of information.

“VILIB”

Within the framework of the European Commission's Telematics programme, **the International Office for Water has successfully presented the VILIB “Virtual Library” project**, with seven other European partners specialized in linguistics or in the water sectors.

The aim of this project is to consult by way of Internet, water-related library catalogues, using a standard, in four different languages which are English, German, French and

Spanish. It will then be extended to full-text documents.

Our partners are the Spanish CEDEX, the Zentralbibliothek of the Forschungszentrums Jülich, and the Swedish Environmental Research Institute, the Community of European Management Schools, CRIL Engineering and TEXTEC.

Contact

<http://www.oieau.fr/eudoc>

“WATER-DAYS” FOR ELECTED OFFICIALS

PARTICIPATION OF MORE THAN 10.000 ELECTED OFFICIALS

For six years now, the International Office for Water has been developing assistance tools for decision-making at the request of French local elected officials.

These activities are in keeping with the changes that occurred in the European and French regulations relative to the water and sanitation sectors. They deal with the various aspects of this legal framework in order to enable elected officials to better appreciate the socio-economic and technical challenges that directly affect communities and users.

A multiannual, decentralized information programme has been developed within agreements signed between the National Fund for Rural Water Supply

(FNDAE), “Departments” and the Water Agencies.

For the last six years, from 1992 to 1997, IOW has already worked with 33 “General Councils” and organized 68 different specialized sessions in 111 districts in the form of “water days for elected officials”. 9,577 Mayors and leaders of Water Syndicates attended.

Sanitation is especially the concern of elected officials in French rural areas: technologies are well known but the setting-up of a public service for collective or on-site sanitation raises some questions. The purpose of these sessions is to provide practical solutions for elected officials.

“FRANCE-ENVIRONMENT-DEVELOPMENT”

A partnership agreement was signed between CFME-ACTIM (Agency for the International Promotion of French Technologies and Enterprises), ADEME (French Agency for the Environment and Energy Control) and the International Office for Water to mobilize capacities and promote know-how and technologies useful for sustainable development.

CFME-ACTIM, ADEME and IOW will intervene in a complementary manner to cooperate with foreign countries in the environmental sector on three main topics:

- **integrated management and development of renewable resources,**
- **organization and equipment of environmental services of towns,**
- **control and prevention of emissions, industrial polluting discharges and wastes, and their treatment.**

FLASH FLOOD PREVENTION

RAISING AWARENESS

IOW was requested to implement a multilingual CD-ROM for awareness raising and information whose first objective was to recall and review past disasters that occurred in the Mediterranean region and to inform elected officials of the solutions that can be used for flood prevention in river basins.



“SIMSTEP”

SIMULATE TREATMENT ON YOUR COMPUTER

SIMSTEP allows you to simulate on your computer the operation of a waste water treatment plant, using activated sludge.

Produced by combining the Topkapi supervision software of the company Areal and the BioWin simulation software of EnviroSim Ltd (Canada), this was managed by the International Office for Water.

Translations into English, German, Spanish and Danish are being made, in partnership with WTi (UK), BEW (D), Sanejament d'Aigués (SP) and the Freshwater Center (DK), for their dissemination to European countries.

This product was funded by the European Commission within the Leonardo da Vinci Programme.

“PURE WATER”

COOPERATION BETWEEN ITT FLYGT AND IOW



The “Pure Water” CD-Rom presents the solutions brought by ITT-Flygt for meeting demand for water, which is essential for human life.

It also gives a brief outlook of the **Stockholm Water Foundation**, and a progress report on research, especially of the important work undertaken by the winners of the **Stockholm Water Prize**.

“Pure Water” has been implemented by ITT Fluid Technology, New York, and IIT Flygt, Stockholm.

The teaching material used is based on the **International Office for Water's technical booklet: “What is decontamination?”**.



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INTERNATIONAL EVENTS



PARIS - MARCH 19-20-21, 1998

INTERNATIONAL CONFERENCE “WATER AND SUSTAINABLE DEVELOPMENT”

1200 DELEGATES FROM 85 COUNTRIES APPROVED THE PARIS DECLARATION

Further to the initiative of the President of the French Republic, Mr. Jacques CHIRAC, during the United Nations Extraordinary General Assembly in June 1997 in New York, the French Government invited the representatives of 85 Countries, including the members of the Commission on Sustainable Development, the Organizations of International Cooperation and the Civil Society, to participate in the International Conference on Water and Sustainable Development held in Paris on March 19-20-21, 1998.

The French Ministries for Foreign Affairs and Environment, in relation with the Ministries of Agriculture, Cooperation, Public Works, Research, Health and the Water Agencies, entrusted the International Office for Water to be the operator of this Conference, as regards technical aspects and logistics.

More than 1200 delegated participated in the workshops that took place at UNESCO. This demonstrates that the entire world is aware of the importance of a better water resources management

for the future of humanity.

The delegates unanimously approved the “**Paris Declaration**” in which they are concerned that constraints on access to water, in terms of quantity and quality, could become a major limiting factor for sustainable development.

The “**Paris Declaration**” calls upon the International Community, Public Authorities and Civil Society to give priority to providing access for all to safe drinking water and sanitation, and to mobilize themselves in order to:

- **promote integrated water resources management,**
- **mobilize adequate financial resources from public and private sectors,**
- **improve knowledge, training and information exchange.**

The delegates emphasized the importance of following up the guidance contained in the “**Programme of Priority Actions**” developed by the Experts Workshops, during which more than 270 papers were presented.

This “**Programme of Priority Actions**” is based on three main topics:

tives of users and civil society in decision-making,

- master plans for long-term water development and management, at the level of large river basins or aquifers in particular,
- multi-year priority investment programmes that take into account “user-pays” systems and the “polluter-pays” principle, and capacity to pay.

Devolution of responsibilities to local authorities should be encouraged.

It is recommended that a significant share of official development assistance be allocated for the promotion of these activities

- **the organization of trans-boundary inland water management**

To this end, it is desirable inter alia to:

- promote the exchange of reliable and comparable information between riparian countries,
- develop dialogue at all levels, including at the level of the relevant international institutions and arrangements whenever appropriate,
- define priority action plans of common interest to be implemented in order to improve water management and pollution control.

There are more than 215 trans-boundary rivers in the world. The action of bi- and multilateral donor institutions should be enhanced and facilitated for their management.

- **the collection of economic information** to improve knowledge of water costs in the different uses and monitor performance.
- **the development of training and information of both professionals and users in the water sector.**

Official Development Assistance should give priority to the establishment and development of regional training focal points, while developing, as a first step, the educational capacities of existing training institutions.

The training of trainers and the development of necessary educational materials should be promoted by organizing these training institutions into networks.

Training the least qualified staff (who represent the majority of workers in the sector) by using appropriate on-the-job training methods, should be given a high priority.

Specific actions should be strengthened to enable women to participate in the formulation and management of projects.

I - IMPROVING KNOWLEDGE OF WATER RESOURCES AND USES

It is recommended to:

- **establish and improve integrated monitoring systems** (collection, analysis, management and dissemination of data on water quantity and quality, availability and uses as well as ecosystems).

Such systems should be developed at the different relevant levels and be structured in the form of long-term monitoring systems for large river basins.

Priority should be given to harmonization and standardization allowing data exchange.

- **Strengthen regional, national and international programmes for acquiring fundamental knowledge** of major trends and their impact in particular.
- **promote the networking of interlinked and widely disseminated systems for exchanging documentation on water.**

II - PROMOTING HUMAN RESOURCES DEVELOPMENT AND INSTITUTIONAL CAPACITY BUILDING

This topic dealt with:

- **the promotion of necessary reforms** which require:
 - adequate legislation and regulations,

- effective management organizations,
- institutional bodies and procedures enabling the participation of local authorities, representa-

III - DEFINING STRATEGIES AND IDENTIFYING APPROPRIATE MEANS OF FINANCING

Water planning and management need to be taken into account within a socio-economic development context while recognizing the vital role of water in the fulfillment of basic human needs, food security, poverty alleviation and the functioning of water-related ecosystems.

To seek that the various functions of sustainable water management are funded, appropriate frameworks should be established in order to:

- **enable the mobilization of private or public funds,**

- **facilitate access to credit by decentralized management structures,**
- **provide the private investors with appropriate risk guarantee schemes** for the financing of investments,
- **set up “user-pays” pricing systems** that cover direct or indirect costs of the services with the costs billed to users who can afford to pay,
- **manage the transition towards the total recovery of operation, maintenance, replacement and management costs,**

- **take the necessary measures**, cross-subsidies in particular, to prevent management of services limiting access to water by low-income users,
- **apply efficiently the "polluter-pays" principle**,
- **take into account costs** related to the acquisition of knowledge, surface and ground water protection and development, the preservation and management of ecosystems, river basins, aquifers and the maintaining of wetlands and water flow in watercourses.

The joint action and co-financing of multilateral and bilateral donors should be emphasized, in order that recipient countries obtain maximum effectiveness from external financing, in particular for integrated regional projects.

Besides, concessional financing should first concentrate on enabling activities.

Among these, **nine priorities have been chosen:**

- ① **Meeting basic needs of underprivileged populations.**
- ② **The organization of integrated monitoring systems and databases.**
- ③ **The implementation of institutional, administrative and economic reforms.**
- ④ **Vocational and on-the-job training.**
- ⑤ **Facilitate public-private partnerships.**
- ⑥ **Sustainable management of water-related ecosystems.**
- ⑦ **Research and training.**
- ⑧ **Natural disaster (flood and drought) preparedness.**
- ⑨ **Efficiency of irrigation.**



IOW's technical team stands for posterity in front of the flags of represented countries



PARIS CONFERENCE RIVER BASIN MANAGEMENT WORKSHOP

"USERS' PARTICIPATION IN THE MANAGEMENT AND FUNDING OF BASIN ORGANIZATIONS"

The French Government invited the **International Network of Basin Organizations (INBO)**, that regroups 105 organizations in 44 countries, to organize a specialized workshop during the International Conference on Water and Sustainable Development in Paris on 20 March 1998.

This workshop that gathered more than 280 participants, recommended that a global, integrated and consistent management of water resources and related ecosystems be organized:

- ① **on the relevant scale of large river basins and aquifers;**
- ② **with the participation in decision-making of local authorities, the various categories of users and associations, beside governmental bodies;**
- ③ **based on master plans** that set long-term objectives;
- ④ **within multiannual Priority Investment Programmes** that result from these master plans;

ity Investment Programmes that result from these master plans;

- ⑤ **mobilizing appropriate funding, based on the "polluter-pays" principle and "users-pay" systems.**

INBO recommended in particular:

- the formulation of **legal frameworks** to achieve these five objectives,
- the organization and participation of users in **river basin committees**,
- the establishment of **specific river basin charges**,
- the signature of **international agreements** for the management of transboundary rivers,
- the **mobilization of Official Development Aid** to set up appropriate river basin organizations, in particular for **international rivers**.

All recommendations and papers of the International Conference on Water and Sustainable Development are available on Internet:
<http://www.oieau.fr/ciedd>

WORLD WATER COUNCIL

"RELOC"



LATIN AMERICAN NETWORK OF BASIN ORGANIZATIONS

At its first General Assembly in Montreal, Canada, on 3 September 1997, the World Water Council elected its Board of Governors and approved its Constitution:

- Dr. Mahmoud Abu-Zeid, Minister of Public Works and Water Resources of Egypt was elected President of the Council.

The new Board of Governors is composed of 38 members:

- the two other founder members, Mr. R. Coulomb and Dr. Aly Shady,
- a representative of the City of Marseilles,
- the representatives of the 10 constituent organizations: IWRA, ICID, the World Bank, IAWQ, IWSA, UNDP, UNESCO, IUCN, WSSCC and IAM,
- a further 19 members elected by the General Assembly, including Messrs. J-F. Donzier; General Manager of IOW and representative of INBO's Permanent Technical Secretariat and P-F Ténière-Buchot, Director of the French Seine-Normandie Water Agency,
- 5 Governors co-opted by the other Governors, Executive Director, Dr. Guy Le Moigne, emphasized the success of the World Water Forum in Marrakech in March 1997.

Following the second "Meeting of Basin Organizations from Latin America and the Caribbean" that was held in GUATEMALA from 29 to 31 July 1998 under the Chairmanship of Mrs. Evelyn REYNA-CHACON, at the invitation of the President of the Republic of Guatemala and of the AMATITLAN Lake Authority, the first General Assembly of the Latin American Network of Basin Organizations took place in Santa Fe de Bogota, Colombia, from 3 to 6 August, 1998.

It gathered the representatives of all organizations - INBO members from the continent who approved the statutes and nominated the Bureau, presided by Mr. Diego BRAVO BORDA, Director General of the Autonomous Corporation of CUNDINAMARCA.

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INBO

The International Office for Water (IOW) is in charge of:

- the **Permanent Technical Secretariat of the International Network of Basin Organizations (INBO)** that gathers today 105 members in 44 countries

- **implementing institutional cooperation programmes** that aim at setting up the organizations necessary for sustainable water resources management in river basins. It intervenes as an operator for French Ministries and Water Agencies mobilizing the experience and expertise they have acquired over more than 30 years.

GENERAL ASSEMBLY VALENCIA - SPAIN OCTOBER 1997

INBO GATHERS 105 ORGANIZATIONS FROM 44 COUNTRIES

The 1997 General Assembly of the International Network of Basin Organizations took place in Valencia - Spain - from October 2 to 4, at the invitation of the Spanish Authorities.

The works were honoured by the presence of Mrs. Isabel TOCINO, Spanish Minister for the Environment, who officially opened the debates, as well as Rita BARBERA, Mayoress of Valencia.

The Assembly gathered 105 delegates who represented 61 Member-Organizations from 27 countries.

It renewed the members of the Liaison Bureau that presently comprises 14 regular members and six substitute members who represent Africa, America, Asia and Europe. The delegates reaffirmed their support to INBO's Charter principles:

- **An integrated management of water resources and uses, organized in river basins,**
- **Participation of all categories of water users in River Basin Committees,**
- **Formulation of realistic medium-term objectives in the form of master plans and Priority Investment Programmes,**
- **The implementation of appropriate funding systems, based on the "user-polluter-pays" principle.**

The delegates also decided to reinforce the collective activities initiated within INBO:

- 1 **Publication of the "Network Newsletter"**, with now more than 10,000 copies disseminated twice a year in three languages (French, Spanish, English).
- 2 **Extension of the Web site** <http://www.oieau.fr/riob> with the creation of files for exchanging information, educational materials and specialists between the member-organizations.
- 3 **Development of the international multilingual documentation exchange system "AQUADOC-INTER" on Internet.**
- 4 **Organization of the International Workshop on River Basin Management on March 20, 1998, during the Paris "Water and Sustainable Development" Conference** (see article, p 11) and of a technical seminar on "the participation of users in the management and funding of basin organizations" during the next General Assembly to be held in Salvador de Bahia (Brazil) in December 1998.
- 5 **A feasibility study for an international two-week training course** on the setting-up of basin organizations.

If you wish to receive the electronic version of the "Network Newsletter" and the proceedings of INBO's events directly on your E-mail, please contact the Permanent Technical Secretariat at the following address: stp-riob@oieau.fr

TECHNICAL SEMINAR

3 OCTOBER 1997

FINANCING OF BASIN ORGANIZATIONS

This technical seminar was organized during the General Assembly of Valencia and gave member-organizations the opportunity of presenting case studies and of extended discussions, the conclusions of which are entirely reported on INBO's web site. They can be summarized as follows:

- The integrated management of water resources and ecosystems must be organized at the level of every large river basin and associate users in decision-making.
- A complete vision of all tasks, and of their corresponding costs, to be jointly or individually carried out is necessary to implement this integrated management.
- It is indispensable to define the tasks of all public or private organizations that intervene and to set up modern and effective information systems to assess the situation and its changes and monitor the effectiveness of the policies implemented.
- Regulations and standards to be

complied with and realistic objectives to be progressively reached in the long-term, must be defined in master plans and priority action plans that are usually of a five year duration.

- Funding out of public budgets alone is or will be insufficient to meet the increasing needs to cover investment, rehabilitation and operation costs and to permit a sustainable management and monitoring.
- It is thus necessary that all categories of users participate in the funding of water management in direct proportion to their net consumption and pollution, under conditions that are discussed in river basin committees, while taking into account the limited ability to pay of the poorest populations, using equalization mechanisms.
- Further to the direct funding of the cost of community services, the establishment, that may be progressive in the long-term, of specific basin taxes is an efficient means of ensuring solidarity and the mobilization of all partners.



"RIVER BASIN MANAGEMENT" WORKSHOP

PARIS CONFERENCE - 20 MARCH 1998 "PARTICIPATION OF USERS IN THE MANAGEMENT AND FUNDING OF BASIN ORGANIZATIONS"

At the invitation of the French Government and with the financial support of the six French Water Agencies, INBO organized an international workshop on 20 March 1998 at UNESCO's headquarters in Paris, during the International Conference on Water and Sustainable Development.

It gathered 280 participants and its recommendations were presented by Juan Manuel ARAGONES BELTRAN, INBO Chairman, during the Conference's ministerial session.

See the details of these recommendations on INBO's web site.

AQUADOC-INTER TOWARDS A WORLDWIDE SYSTEM FOR EXCHANGING STANDARDIZED AND MULTILINGUAL DOCUMENTATION

The "Aquadoc-Inter" project aims at exchanging, via Internet, the available institutional and economic documentation between basin organizations and central governmental bodies, members of INBO.

In the long-term, the system will rely on a **National Relay Documentation Centre** in each of the 44 interested countries that will supply the system with validated and standardized information that will be accessible on a common server to all users worldwide.

The "AQUADOC-INTER" Steering Committee gathers the National Relay Documentation Centres (NRDC) nominated by INBO's basin organizations.

It has gathered the national focal points of BELGIUM (VMM), FRANCE (IOW), HUNGARY (Vituki), MOROCCO (ONEP), MEXICO (Lerma Chapala Centre), POLAND (IMGW), ROMANIA (Apele Romane) and the CZECH REPUBLIC (Povodi Moravy).

Its first meeting was held in Limoges (France) on December 11 and 12, 1997.

Several other countries are interested in participating in the project: BRAZIL, BURKINA FASO, CHAD, IVORY COAST, KAZAKHSTAN, PERU, RUSSIA, SENEGAL ...

TRIAL OF THE FIRST MODEL

The International Office for Water, as INBO's Permanent Technical Secretariat and French NRDC, has implemented a model for the system.

This model shows how to organize information and documents. It

comprises tools for a bilingual search for information (English-French).

It is a dynamic system which centralizes exchanges, enables on-line debates and the dissemination of news, etc.

It enables the follow-up of new information loaded on the network, thanks to a system called "VIGIE".

● SEARCH ENGINES

Two famous European bilingual search engines (English-French) have been tested.

A query made in a language is translated by the system to search the relevant information in both languages. Extension to the Spanish language is envisaged at the beginning of 1999.

Their efficiency in searching information will grow when dictionaries specific to water will be developed and added.

● THE INFORMATION STRUCTURE

In a first phase, raw information is gathered and processed by engines in the following formats: text, html, RTF when images are integrated (optical character recognition -OCR- or word processed electronic documents).

The documents are presented with their title, the degree of relevance as compared to the query, the "supplier" country, their date and the weight of the information (in Ko).

The use of a "standard for the exchange of documentary information", is however necessary for feeding the system from NRDCs in all points of the planet.

A STUDY TOUR OF LATIN AMERICAN DECISIONS-MAKERS IN FRANCE

The various events concerned with water resources management that are taking place, especially within the International Network of Basin Organizations, show how much the Latin American countries are interested in sustained cooperation that mainly focuses on the two following key topics:

● technical and institutional training;

● data management, the setting-up of observation systems (basin observatories).

In order to fulfill this interest and thanks to the support of the French Ministry for Foreign Affairs, IOW organized a study tour in France from September 28 to October 1, 1997. Thus, representatives from Chile (Mr. Umberto PEÑA, from the Ministry of Public Works),

Colombia (Messrs. BRAVO and VERGARA from the Cundinamarca Regional Autonomous Corporation), Costa Rica (Mrs. BALLESTERO from the Rio Tempisque Basin), Ecuador (Mr. ROSADO from the National Water Resources Council) and from Venezuela (Mrs. Madga MONTILLA, Messrs. José Gregorio SOTTO-LANO GONZALES and Pascual G. MOLINARO FAZIO from Hidroven) visited IOW's technical and educational installations in Limoges and La Souterraine and acquired a better understanding of the functioning of the French National Training Centre for Water Professions (CNFME) and the French National Water Data Base (BNDE).

NEXT MEETINGS

● "AQUADOC-INTER" Steering Committee SALVADOR DE BAHIA, BRAZIL 1st December 1998

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● 1998 INBO's General Assembly SALVADOR DE BAHIA, BRAZIL 2,3,4 December 1998

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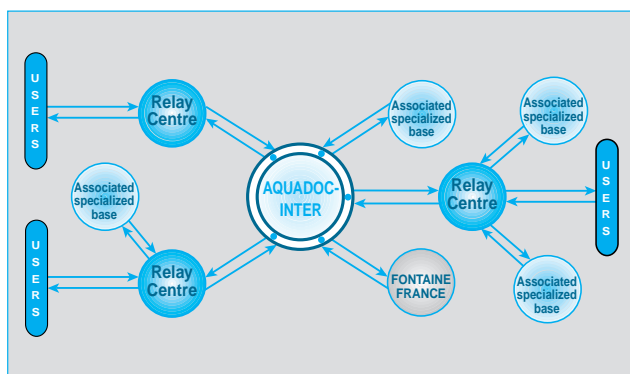
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Registration via Internet: <http://www.oieau.fr/riob>



INBO ON THE WEB <http://www.oieau.fr/riob>

- Declaration of membership
- List of member organizations
- Charter of organization and operation
- Final resolutions of General Assemblies: Morelia 96 (Mexico) and Valencia 97 (Spain)
- Proceedings and recommendations of technical and international workshops:
 - Morelia (information systems)
 - Constanza (master plans)
 - Valencia (funding)
 - Paris (users' participation)
- Information sheets on member organizations and experts
- Registration to INBO events



LATIN AMERICA

BRAZIL

TOP BRAZILIAN OFFICIALS VISITED FRANCE

Last October, Messrs. Alfonso ROMANO, Secretary for Water Resources, and Raymundo GARRIDO, Director for Federal Water Resources in the Ministry of the Environment and Mr. Vinicius BENEVIDES, Coordinator for Water Resources in DNAEE, Ministry of Mines and Energy, accompanied by Mr. Paulo TOSIN, Director of the Paraíba do Sul Technical Agency, met Messrs. Pierre ROUSSEL and François CASAL at the Ministry of the Environment, Mr. Nguyen TIEN DUC at the Seine-Normandie Water Agency, Mr. Jean-Pierre LAFOSSE of the Ministry for Foreign Affairs, Miss THIRRIOT at the Ministry of Economy and Finance and Jean-François DONZIER, General Manager of the International Office for Water.

They also visited the Lyonnaise des Eaux company, the early warning stations of Paris region with the Environment Group S.A., the National Company of the Rhone in Lyons, the Bas Rhone Languedoc Development Company in Nîmes and the Loire-Brittany Water Agency in Orleans.

A visit of IOW's installations in Limoges and La Souterraine also enabled Mr. GARRIDO to acquire a better knowledge of the French National Training Centre for Water Professions (CNFME), the National Water Data Base (BNDE) and the National Water-related Documentation and Information Centre (EAUDOC).

TOWARDS THE CREATION OF A BRAZILIAN TRAINING INSTITUTE FOR WATER MANAGEMENT

Within the new context generated by the Federal Water Law of January 1997, Mr. R. GARRIDO, Director of the Department for the Management of Federal Waters, together with the National Electricity Agency for matters of its own concern, and Mr. J. F. DONZIER, General Manager of the International Office for Water, signed resolutions that plan to develop an effective cooperation, especially

in the fields of institutional expertise, organization of information systems and, as a priority, the training of executives of Federal and State administrations, of future "Water Agencies" and of users' representatives in River Basin Committees.

The training of Brazilian executives to help them apply the new water policy is indeed a project of prime importance.

All partners concerned are aware of the need to quickly reach the phase of an effective implementation in the field of the new provisions laid down in the new federal law, in close liaison with the States, where it concerns them.

Therefore the launching of a "Brazilian Training Institute for Water Management" has been envisaged with IOW assistance in partnership with the Catholic University of Salvador (CIRA) and the Paraíba do Sul Technical Agency in Rio.

RIO - DECEMBER 1997: FIRST TRAINING COURSE

On the initiative of the Ministry of the Environment, Water Resources and Legal Amazonia, Messrs. Jean-François TALEC and David JULIEN from Loire-Brittany Water Agency, Nicolas BOURLON, Paulo TOSIN and the team from the Paraíba Technical Agency, Eduardo LANNA from the University of Rio Grande do Sul and Eduardo MESTRE from Mexico, assisted Alain BERNARD from IOW in this task.

Thanks to the excellent local organization and to the support of the Paraíba do Sul Technical Agency, of CPRM (Company of Mineral Resources Survey) and DNAEE, 47 Brazilian specialists, coming from different States of the Union and from central Ministries, participated in this course.

The high level of the participants and the results obtained may lead to the organization of two new courses in 1998.

CENTRAL AMERICA A REGIONAL COOPERATION PROGRAMME

The last meeting of members of the International Network of Basin Organizations (INBO) from COSTA RICA, GUATEMALA, HONDURAS, NICARAGUA, PANAMA and SAN SALVADOR, in July 1998, was the occasion of starting a multiannual co-operation programme.

Its **priority components** were defined during the visit of Mr. DONZIER, IOW's General Manager, in San José in November 1997, in liaison with Mr. BERGOEING, Regional Delegate for French Co-operation, Mr. PAQUET, specialist of NanCIE, Mrs. M. BALLESTERO and Mr. H. MENDEZ, members of INBO's Liaison Bureau for Latin America:

- ① **Improvement of knowledge** of water resources, different uses and withdrawals, discharges and pollution sources, quality of water and related aquatic ecosystems (Standardization of data - integrated geographic information systems, computerized exchange formats - the setting-up of national and basin observation systems - observatories).
- ② **Organization of appropriate institutional frameworks**

(legislative reforms, organization of power, the setting-up of basin organizations, users' participation in River Basin Committees, training for public servants and representatives of users and local authorities...).

- ③ **adaptation of funding systems** (corporate management of water supply and sanitation utilities and of community irrigation, application of the "user-polluter-pays" principle, feasibility studies and establishment of water charges systems to finance community investments in the basin. Registering of people liable to pay taxes, Master Plans for Water Development and Management - National Plans for water resources...).
- ④ **management of transboundary rivers** (international agreements - mixed Commissions - data exchanges).

This Action programme will include specific training on administrative know-how relative to these four priority topics, international specialized appraisal missions and real-sized field experiments on transboundary rivers, whenever possible.

MEXICO MANAGEMENT OF AGUASCALIENTES AQUIFER

Aguascalientes aquifer covers a large area and constitutes a water resource essential for the region. But it is endangered today by its high exploitation that generates a significant lowering of its level.

The BURGEAP company is undertaking an hydrological study that aims at acquiring better information on the resources and conditions of exploitation of this aquifer and at proposing solutions for improving the satisfac-

tion of needs without disrupting the balance of the aquifer.

IOW was requested to study the legal and institutional framework that would complete these technical measures.

The drinking water supply of Aguascalientes City has been delegated to the Mexican subsidiary of the Générale des Eaux: it is the first delegated management of a public water utility in Mexico.

NICARAGUA TRAINING FOR INAA

Within the training programme: "Information on Water Management Structures in France - Establishment of a water price", organized by the International Water Centre of Nancy in September 1997 and addressed to Nicaraguan executives of INAA (National Water and Sanitation Institute), Mr. Alain BERNARD from IOW lectured on:

- the organization and detailed role of the French Water Agencies,
 - integrated river basin management,
 - the need to set up river basin observation systems to gather information and monitor the natural environment,
 - the computation of water charges.
- NanCIE and IOW combine their respective means to better meet cooperation demands in Central America.

FROM ONE CONTINENT TO ANOTHER

BOLIVIA PERU

SAVE LAKE TITICACA

The Bolivian and Peruvian authorities are convinced of the benefit and urgency of combining their forces to solve the problems related to the **degradation of water resources in Lake Titicaca Basin**. The binational entity "Lake Authorities" has been working for several years to find solutions on the scale of the basin.

- **The European Commission** has funded the formulation of an "Overall binational master plan for flood control - prevention and for improving the management of Lake Titicaca, Rio Desaguadero, Lake Poopo and Lake Salar de Coipasa (TDPS System)", but this plan mainly focuses on the technical measures to be taken to improve the situation.
- Over the last 3 years, **the bilateral French-Peruvian cooperation** has mainly covered the participation of the International Office for Water, Water Agencies and the French Ministry of the Environment in meetings of "Rednamac" (Red Nacional de Manejo de Cuenca)

and **appraisals of the Peruvian and Bolivian Water Law project**.

The French Ministry of Public Works (DAEI) requested IOW to carry out an appraisal mission in May 1998, specific to the Lake Titicaca basin, in order to **identify a more ambitious institutional cooperation programme, prepare the terms of references and discuss about its advisable conditions with the different donors**.

With this in view, the **experience** acquired in the setting-up and management of the **International Commission for the Protection of Geneva Lake** is of particular interest. The incentives that led to the setting-up of this French-Swiss Commission are close to those relative to Lake Titicaca: the pollution of a transboundary lake by the economic activities of both riparian countries.



EASTERN EUROPE

UKRAINE

AN AMBITIOUS TRAINING PROGRAMME

The Seine-Normandie Water Agency, VERSEAU and the French Ministry of the Environment have been developing close relationships for several years with the Ukrainian decision-makers in the water sector.

Therefore, the International Office for Water is developing an ambitious training and assistance programme with these organizations for Ukrainian executives with the support of the TACIS-Partnership Programme and the French Ministry for Foreign Affairs.

Under the impulse of the Ministry of Environmental Protection and Nuclear safety, Ukraine is now launching a significant reform process for water resources management: during 18 months, training courses, legal and institutional assistance missions and study tours of Ukrainian executives in France will support these efforts.

A visit in July 1998 to the officials of this Ministry permitted the last arrangement update and the implementation of these training actions should start at the end of the year with an information seminar to be held in Kiev.



ASIA

KAZAKHSTAN

PILOT INTEGRATED MANAGEMENT PROJECT FOR THE IRTYSCH RIVER BASIN

During their visit to France, organized by ACTIM and HORIZONS company, Mr. BAICHEV, Prime Vice-Minister of Ecology and Biological Resources and Mr. CHAMENOV, Director of Kazguidromet, an institution responsible for hydrometeorology and pollution monitoring, were received at IOW in order to better understand the latter's activities and discuss about a cooperation project for the integrated development and management of the Irtysh river basin, that runs across China, Kazakhstan and Russia before flowing into the Ob in Omsk.

This project was launched during an interministerial working session that took place on January 15 to 17, 1997 in Almaty, in which were associated the users and

communities of the Irtysh River basin. This session managed by Messrs. BERNARD from IOW, MURAT from the French Ministry of the Environment and MARTINEZ from the Adour-Garonne Water Agency, enabled the study of the appropriate legal and institutional arrangements necessary for implementing a priority action programme, jointly proposed by ANTEA, SAFEGE and IOW, in order to improve drinking water supply and sanitation in the towns of Pavlodar, Semipalatinsk and Oust-Kamenogorsk.

The Committee of the French Fund for the Environment decided in principle to fund this project within its international water management component.

UZBEKISTAN

AMU DARYA AND SYR DARYA

A three-day seminar, funded by the French Ministry for Foreign Affairs, was organized in Tashkent and dealt with "the principles of integrated water management by way of river basins and the establishment of a dialogue within River Basin Committees". It was organized by the State Committee for the Protection of Nature.

This seminar, held under the joint chairmanship of Mr. A. KHABIBULLAEV, Minister and President of the State Committee and Mr. Jean-Claude RICHARD, French Ambassador, gathered 50

specialists from the Ministries of Agriculture, Statistics, Urban and Rural Public Utilities.

Such issues as water quality and salinization, management of the Amu Darya and Syr Darya rivers that supply water to the Aral Sea, were discussed.

The agreement, signed at the end of the session, plans to continue this cooperation on an internal river of Uzbekistan to test the river basin approach with all its components in order to later apply it to these transboundary rivers

CHINA

THE YELLOW RIVER COMMISSION IS INTERESTED IN THE FRENCH SYSTEM

IOW received delegations from the Chinese Ministry of Water Resources and Yellow River Commission in Sophia Antipolis on September 17 and October 20,

1997, to present them the French organization of water management and the role of Water Agencies.

RIVER BASIN MANAGEMENT



AFRICA

“OMVS”

ORGANIZATION FOR THE DEVELOPMENT OF THE SENEGAL RIVER

A NEW INSTITUTIONAL FRAMEWORK FOR THE MANAGEMENT OF INTERNATIONAL INFRASTRUCTURES

The Organization for the Development of the Senegal River (OMVS), established on 11th March 1972, regroups the three riparian countries of the Senegal river: Mali, Mauritania, Senegal. It provided the impetus for the building of two dams, Manantali and Diama, that have partly regulated the river since 1988. An ambitious project, using the Manantali dam for providing energy to the three countries, is under way. When this project will be completed, OMVS will have to make sure that the management of these two dams will ensure electric energy production, agricultural development and river shipping in the long-term while minimizing the adverse impacts on the environment.

In 1994, the donors of the “Energy” project, together with OMVS, analyzed the conditions necessary for the management of hydropower infrastructures and proposed stringent institutional reforms.

At OMVS’s request, International Office for Water was given the

responsibility by the French Ministry of Cooperation of assisting in the improvement of the management of common infrastructures built on the Senegal river and in the setting-up of a new institutional system: **two companies were created at the beginning of 1997: Management of Manantali Energy (SOGEM) and Diama Management and Operation (SOGED) Companies.**

Several interventions of Messrs. ARCANGELI and MANCEL from IOW enabled the preparation of the “Energy” Project evaluation, the drafting of SOGED’s statutes, the estimate of its budgets and provisional operating costs and the study of conditions for water sale.

Meanwhile, the Office carried out an audit of Diama dam and prepared a cost estimate for its rehabilitation and maintenance.

At the same time, IOW organized and supervised a priority training programme for SOGED person-



Diama Dam

nel, one with EDF (Electricity of France), for the managers of Diama dam.

This programme was completed during the first quarter of 1998 with training courses for SOGED executives, held in Water Agencies, ENGEES and Paris Chamber of Commerce.

Within the framework of this ongoing reorganization, the refocusing of OMVS’s responsibilities toward administrative tasks that are common to the three States was chosen with financial backing from the French Cooperation for a programme amounting to MFF 7,000 from 1998 to 2000:

- water sharing among the three countries and harmonization of their water laws,
- follow-up of environmental protection measures.

The following is needed to achieve these objectives:

- the establishment of information tools for the forecast and monitoring of flow rates,
- the determination of the optimal high water levels necessary for supplying water to flood recession crops, for groundwater recharge, ecosystem protection and electricity production,
- the setting-up of an observation system of the environment.

GHANA

STUDY ON THE MANAGEMENT OF TRANSBOUNDARY RIVERS

Ghana has launched a wide-ranging study to improve the management of its water resources. This ambitious programme has been supported by many bilateral (AFD) and multilateral donors (The World Bank, UNDP...) and comprised 6 components to cover all issues: institutional, regulatory, social, economic, political and financial aspects.

The French Development Agency (AFD) has selected the part concerning the “management of international waters”.

A joint venture of Ghanaian Comwasan and NII consultants, assisted by the International Office for Water, undertook the studies on this topic. The objective is to propose solutions for the

integrated management of transboundary rivers, such as Bia and Tano rivers, and the Volta in particular, that also crosses Burkina Faso, Ivory Coast, Mali, Togo and Benin.

A mission was carried out in Ghana and Burkina Faso in March 1998. It should lead to the setting-up of a joint commission by both countries for the NAKANBE (White Volta) river management.

MAURITIUS

INTEGRATED WATER RESOURCES MANAGEMENT PROJECT

In order to avoid a too fragmentary and sectoral approach of the water issue, the Mauritius Authorities decided to review the legal and institutional system of the country.

Recommendations had been formulated during the seminar on “Integrated Water Resources Management” that took place in Mauritius in May 1996, and a Task Force was created to facilitate their effective implementation.

Thanks to the support of the French Ministry of Cooperation, IOW has been participating in the Task Force work to assess the present situation and formulate proposals for a new law.

This legal and institutional assistance started during the last quarter of 1997 and a mission whose aim was to define the “main orientations of the Law” took place at the beginning of 1998 with the support of a specialist from the Ministry of the Environment. The final text of the law should be approved this year.

FROM ONE CONTINENT TO ANOTHER



THE MEDITERRANEAN

MOROCCO

OUM ER RBIA: THE PILOT AGENCY

Within the framework of the new Moroccan law that in particular plans the setting-up of River Basin Agencies and Committees, several missions had already been carried out in 1996 whose objectives were **to prepare, with the Directorate General of Water, a 2-year programme for the setting-up of an Agency in the pilot Oum Er Rbia basin.**

In December 1996, two Moroccan officials, one to be the future Director of the Oum Er Rbia Agency, came to France for a study tour in the Adour-Garonne Water Agency. It was followed by a mission in Morocco of two specialists from this Agency for legal and administrative assistance.

In agreement with the Water Directorate of the French Ministry of the Environment and IOW, the Moroccan Directorate General of Water formulated its priority requirements for 1997:

- **two 15-day training courses were organized at the Adour-Garonne Water Agency** and addressed, on one hand, to Messrs. OUBALKACE, chargé de mission and SLASSI, head of the planning department in the Regional Directorate of Oum Er Rbia, concerning communication and, on the other, to Mr. ERRAJI, head of the programming department and Mr. YACCOUBI, chargé de mission

by the Director General as regards legal, administrative and financial aspects;

- **an audit of the analysis laboratory and operating procedures** was carried out by a NanCIE specialist in Rabat and Beni Mellal;
- **a study tour, dealing with "flood warning", was carried out in Toulouse, Nîmes and Grenoble.** It concerned Messrs. BENABDEL FADEL, head of the hydrology department in the Regional Directorate of Water and HAKANI, head of the hydrology department in the Regional Directorate of Oum Er Rbia;
- **an additional training course** was organized in Morocco on the administrative aspects related to the organization of an Agency;
- **assistance dealing with communication aspects** and the awareness raising of stakeholders was addressed to Moroccan officials in charge of **preparing the first Board of Directors of the Agency.** It was carried out during the last week of February.

A new mission of the French Water Directorate and IOW was carried out at the end of November in order to prepare the 1998 cooperation programme and a more ambitious project relative to priority studies and equipment for the Oum Er Rbia basin.

TURKEY

PROTECTION OF IZMIR BAY AND OF THREE AEGEAN RIVERS

When they met in Paris on 5th March 1997, the Turkish and French Ministers for the Environment agreed to support the pilot project dealing with the integrated management of water resources (infrastructures and pollution control) of the three Aegean rivers, GEDIZ, KUZYEĞE and MENDEREZ, in the Izmir area.

A joint steering committee is composed of the Ministry of Environment, DSI, İller Bankası and SPO, on the Turkish side, and of the Ministry of Environment, the French Embassy in Turkey, the Rhone-Mediterranean-Corsica Water Agency and the International Office for Water on the French side.

This project consists of a feasibility study for a master plan dealing in particular with the following:

- **Formulation of a Priority Investment Programme,**
- **Assessment of water users' ability to pay and the simulation of a financial system based on withdrawal and pollution charges,**

- **Definition of the best adapted structures for dialogue and management,**

- **Preliminary studies for the setting-up of an integrated information system in the form of a basin observation system.**

The French Ministry of Economy, Finance and Industry has agreed to pay an amount of 3.200 million French francs out of the FASEP Fund for this programme. It will be implemented by a technical field team of Turkish partners, supported by IOW together with ANTEA, BRL Engineering and SPACE International.

According to the conclusions of this first phase, the Steering Committee will endeavour to mobilize the financial resources necessary for implementing the Priority Investment Programme, in particular by appealing to Euro-Mediterranean credits (MEDA) and to multilateral agencies, especially within the METAP III Programme.

ALGERIA

PROTECTION OF THE MITIDJA AGAINST POLLUTION

This 4-year project that was elaborated to monitor and protect the waters of the Mitidja plain that supply Algiers, is going on.

IOW is intervening as programme coordinator with our Algerian partners, associating French enterprises advanced in this field. The following actions were completed in 1997:

- **two training courses on the analyses of hydrocarbons, pesticides and eutrophication.** These training courses of a two-week duration on the average took place in June, October and

November in SAGEP and Toulouse University.

- **three research projects** on "the possibility of establishing a biological index based on the benthic macro invertebrate fauna", "Experiment on a system of absorption by cork-oak - study of the warning system" and "Mathematical model for water quality". These thirteen-week stays of Algerian officials took place in September, October and November in France (SAGEP, GEOLAB and Toulouse University).



The Gediz river

Information

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MUNICIPAL WATER SUPPLY AND SEWERAGE UTILITIES

Did you know it?

The International Office for Water proposes its expertise to governmental authorities or municipalities that would be interested in:

- the decentralized organization of drinking water supply and sanitation services,
- the corporate management of these utilities, in particular for the calculation and tariffing of water prices,
- the formulation of priority investment programmes and in project evaluation,
- a "privatization" strategy for choosing the best management method, the most appropriate contracts to sign with private companies, depending

on Authorities' choice, procedures for invitations to tender and the follow-up of their execution.

In addition, IOW can organize:

- training courses, directly in French, English or Spanish, or with a translation for other languages, in France or in each country concerned,
- information seminars for officers in charge, local elected officials in particular, as well as training courses on administrative or economic, organizational and managerial issues for executives, and
- technical courses on design, operation and maintenance addressed to all kinds of personnel concerned.



AFRICA

NIGER

OPERATION OF DRINKING WATER PRODUCTION PLANTS

Within a project aimed at strengthening the "Training" Unit of the National Water Company of Niger, led by GTZ and partly funded by the French Development Agency, IOW organized a training course addressing to operators of the GOUDEL and YANTALA water plants that supply water to Niger's capital.

This seminar provided operators with basics of chemistry, water treatment and the benefit of bacteriological control. The combi-

nation of theoretical lectures, technical visits and laboratory work could better illustrate theoretical notions. It also enabled to train the trainers so that they may pass on the information.

A visit to the drinking water production unit of TILLABERI (120 km north-west of NIAMEY), was organized as this unit suffers from a quality problem. This case study initiated reflections that should end in a rehabilitation scheme for this plant.

GHANA

At the request of OTUI company, a series of three training courses was organized on the premises of the Ghana Water and Sewerage Corporation (GWSC) and addressed to its staff. It concerned the training of:

- 10 engineers on the technology related to urban water supply,
- 8 engineers on drinking water treatment,
- 6 engineers on the protection of metallic pipes against corrosion and on the protection of electrical devices against electromagnetic disturbance.

GUINEA - BISSAU

A series of five training courses was organized in 1997, at the request of the Guinean ELECTRICIDADE E AGUAS DA GUINEA-BISSAU company, and addressed to various categories of its staff. It concerned the training of:

- 10 plumbers on the technology related to leak detection and stoppage,
- 10 operators on the operation and maintenance of bore holes,
- 4 technicians on the operation of electrical equipment of pumping stations,
- 5 draftsmen and plumbers on the management of water systems' cartography.

MAURITIUS

CREATION OF A NATIONAL WASTE WATER AUTHORITY

The quick growth of activities and population has caused the deterioration of coral ecosystems in the lagoons that surround the island and constitute a tourist attraction and an ecological heritage of prime importance.

A major pollution control programme, using waste water collection and treatment, has been formulated with the support of the World Bank, the European Commission, the French Development Agency, etc. It requires, among other things, a reform of the institutional organization:

- change of the national sanitation utility into a national body corporate,
- definition of responsibilities,
- guarantee of its sustainable funding.

IOW is assisting the Government of Mauritius in the drawing up of a draft law and of the regulations required by this reform.

The master plan foresees 44 M US\$ for priority works (1996-98), 141 M\$ (1998-2000) and 100 M\$ (2002-2007).



LATIN AMERICA

VENEZUELA

HIDROVEN

Three experts from HIDROVEN undertook a one-week visit to France at the end of October 1997. Mrs. Magda Josefina MONTILLA LOPEZ and Messrs. José Gregorio SOTTOLANO GONZALES and Pascuale G. MOLINARO FAZIO visited IOW's installations at La Souterraine as well as the drinking water production and waste water treatment plants of Limoges city.

Then they met the executives of the Marseilles' Water Company (SEM).

Following this visit, a close cooperation programme has started in 1998 between HIDROVEN, IOW and SEM, with the support of the French Embassy in Venezuela. It deals with three topics:

- the strengthening of training capacities in Venezuela,
- assistance in the decentralization process and in starting the private sector's participation,
- specialized technical assistance to drinking water supply and sanitation utilities.

FROM ONE CONTINENT TO ANOTHER



THE MEDITERRANEAN MIDDLE EAST MOROCCO

EVALUATION: THE NATIONAL LIQUID SEWAGE MASTER PLAN

In 1994, with United Nations' funding, the Moroccan Ministry of the Interior started a wide-ranging national study to organize waste water treatment in Morocco.

All aspects were dealt with (legal and legislative, technical, institutional, etc.) and Morocco requested French technical assistance for the follow-up of this study and the evaluation of the work already completed by various consulting firms.

This task was entrusted to IOW by the French Development Agency.

IOW's specialists thus dealt with the following topics:

- **analysis of Moroccan legislation, basis for the new Moroccan Water Code,**
- **waste water treatment technology that can be used in Morocco, in waste water reuse in particular,**
- **problems encountered in storm water disposal and in the sizing of installations.**

UNITED ARAB EMIRATES DESALINATION OF SEA WATER

In this region of the world which is richly endowed with energy resources (oil, gas), the almost entire lack of freshwater led Local Authorities to develop sea water desalination as a by-product of electricity production.

Distillation and reverse osmosis are well-known techniques. Both techniques have high production cost, from 10 to 15 FF/m³ before tax. Yet, improvements in processes and economies of scale can reduce this cost to the level of sophisticated production and treatment used in industrialized countries, as some examples in the Emirates have already proved it.

At the request of the Emirates' authorities, the French Ministries for Foreign Affairs and Industry entrusted IOW with initiating a reflection for the development of economic desalination technologies in the Emirates that could be exported to new markets.

An informal brainstorming group gathered several of our partners in the Emirates: TOTAL, Lyonnaise des Eaux, DEGREMONT, SIDEM, Electricity of France, CEGELEC, as well as ADEME and NanCIE.

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TURKEY

DIYARBAKIR AND SHANLIURFA: EUROPEAN COMMISSION PROJECT EVALUATION

At the request of the European Commission (DG1), IOW carried out an evaluation of the investment needs expressed by the towns of DIYARBAKIR (1 million inhabitants) and SHANLIURFA (400,000 inhabitants) in the field of drinking water supply and sanitation.

A mission identified the effective roles of the various national and local authorities.

All projects were estimated by Turkish experts to a total amount of some ECU 100 million. They include 1,000 km of sewers, 580 km of water supply networks, 100,000 m³ of storage and all necessary pumping equipment.

These needs in infrastructure are obvious but the mission emphasized some difficulties for the funding, especially related to the perennality of the new equipment that will not be efficiently ensured without changes in the organization of municipal services. Some of them have already started.

Since then, the project presented by the town of SHANLIURFA has received an aid of ECU 31,3 million from the European Union.



EUROPE

ROMANIA

TECHNICAL SEMINAR FOR THE ROMANIAN TRAINING AND INFORMATION CENTRE

The National Committee of Romanian Water Producers and Suppliers (CNP DAR) regroups more than sixty major water companies of the country and is the main driving force in the modernization of the water sector.

A close partnership was established in 1995 between CNPDAR and the International Office for Water.

In order to prepare, in the best way possible, the restructuring and modernization of the Romanian water companies, the CNPDAR has always strongly supported the creation of a Professional Training Centre for the Water Sector in Romania, taking IOW's centre of Limoges and La Souterraine as a model.

This is the reason why the CNPDAR requested IOW's expertise to carry out a feasibility study for the creation of such a training centre in Romania.

This initiative has been strongly

supported and financially backed by the French Limousin Region and Ministry for Foreign Affairs.

In addition, still in keeping with the decentralized cooperation with the Limousin region, and with the financial support of the European Union (Leonardo da Vinci Programme), training seminars were organized in France and Romania, in June and July 1998 in close collaboration with the CNPDAR:

- **Management of a training centre: methods and means,**
- **Human resources management in water companies,**
- **Technical management of drinking water supply systems.**

MUNICIPAL WATER SUPPLY AND SEWERAGE UTILITIES



EUROPE

SWITZERLAND

TRAINING FOR OPERATORS OF WASTE WATER TREATMENT PLANTS

In 1997, IOW organized a training programme of 6 five-day seminars in partnership with FES (French Speaking Group for the training of Swiss operators of waste water treatment plants). They gathered about forty participants each.

The recipients of these training seminars were mainly operators of treatment plants but there were also engineers from consulting firms or from enterprises that build equipment or supply treatment plants in Switzerland.

IOW's expertise was used in the various stages of this training programme for operators, from basic training to specialized

courses on the operation of waste water treatment plants and sludge treatment.

These new activities are in keeping with the partnership established in 1990 with FES.

The Swiss ALPHA Environment company organized visits of CNFME's educational units (French National Training Centre for Water Professions) of Limoges and La Souterraine in September 1997.

ITALY

DRINKING WATER PRODUCERS VISITED PARIS

Twenty Italian managers of drinking water treatment plants came to Paris from 25 to 27 September to broaden their knowledge of the methods used for removing planktonic algae.

To illustrate this training programme, undertaken by specialists of the International Office for Water, visits of plants dealing with the treatment of surface water that is affected by algae

growth were organized in the Paris region. During these meetings, the Italian operators greatly benefited from their French counterparts' know-how (DEGREMONT, SAGEP, SAFEGE, TRAILIGAZ) and exchanged their experiences.

This training course was implemented in collaboration with the Italian Research and Training Centre HYDROCONTROL.

GEORGIA - TBILISI

MODERNIZATION OF WATER SUPPLY UTILITIES

Within the reorganization of Tbilisi's water utilities, the capital, with 1,400,000 inhabitants, ICEA was entrusted by the World Bank to propose, in collaboration with IOW, a project for institutional capacity building.

An identification mission was carried out in February 1998 by Mr. VERGES in collaboration with Mr. ROBAUX.

It confirmed that the water utility had to become more independent and improve its management: on one hand, tariffs have to be determined, and on the other, the tasks have to be distributed between suitable operators. The "user-pays", subsidiarity and decentralization principles should be the key issues.

The project is awaiting the World Bank's decision.

POLAND

"FRENCH-POLISH SEMINAR"

Five training courses were organized in France, in close partnership with **Gdansk Water Foundation**, and intended for Polish engineers of the water sector to facilitate contacts with French industrialists.

Three seminars were organized in November 1997:

- "Drinking water treatment and supply in order to reach European standards",
- "Nitrogen and phosphorus removal in urban waste water treatment plants and the corresponding European directive",
- "Water management in Europe: impact of the European directives" and "the French Water Model".

Two seminars in June 1998:

- "Waste water treatment";
- "Sludge treatment and disposal".

Each seminar was attended by 40 Polish managers of the water sector.

This project is in keeping with the international decentralized cooperation and was implemented by IOW, thanks to the financial support of the French Limousin Region and Ministry for Foreign Affairs.



Polish engineers in seminar in Limoges

Information

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DID YOU KNOW IT?

The International Office for Water, which is operator of the National Water Data Base in France, partner in the "Inland Water" Topic Centre of the European Environment Agency, and in the project for a Euro-Mediterranean System on Know-How in the Water Sector (EM-WIS), has a wide experience and

know-how to offer useful assistance, either organizational or technical, to institutions that are concerned with water data management throughout the world, in particular as regards the setting-up of new integrated information systems as recommended during the Paris Conference of last March.

"SIREME": WATER INFORMATION SYSTEMS AND MONITORING NETWORKS

On the initiative of the French Ministry of the Environment, the scientific and technical committee of the International Office for Water developed on Internet an application to promote French expertise in "Information Systems and Monitoring Networks used in water resources management": in French "SIREME".

This application is now operational in its provisional version. It can be consulted on "<http://www.oieau.fr>" and will be improved in the coming months.

It already enables the retrieval of information in French and English on more than 500 companies and 100 products (monitoring equipment and software).

AFRICA "OMVS"

AN ENVIRONMENTAL OBSERVATION SYSTEM IN THE SENEGAL RIVER BASIN

The entire Senegal River basin has been suffering for years from an accelerated deterioration of its environment.

As OMVS Council of Ministers had envisaged the setting-up of an environmental observation system in the basin, the French Ministry of Cooperation entrusted the International Office for Water with its feasibility study.

This study was carried out by Messrs. Haener (IOW) and Crouzet (IFEN) who went to Dakar, Saint Louis, Nouakchott and Bamako.

The report, handed over at the end of the study, presented:

- an assessment of the main environmental problems encountered in the basin;
- the possible objectives for the observation system;
- an inventory of the present situation as regards the monitoring of the environment;

- proposals for the setting-up of the observation system, with task definition:

- indicators, collection network, publications ...
- identification of the conditions for its installation;
- cost estimate for a 3-year development programme that would result in an environmental inventory of the whole basin.

Information

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THE MEDITERRANEAN ALGERIA

RE-ORGANIZATION: THE INFORMATION AND DOCUMENTATION CENTRE OF THE MINISTRY OF PUBLIC WORKS



The Ministry of Public Works launched in 1997 and 1998 an ambitious programme for the technological updating of its documentary tools (mainly software) and for the training of its executives.

IOW is assisting this information service in this task by:

- choosing the necessary hardware and software,
- organizing training programmes,
- helping to install the equipment and getting the service under way.

In 1997, the main actions carried out were the following:

- Setting-up an Algerian water data base to identify important hydraulic infrastructures, water supply and sanitation systems. Three hydraulics engineers from the information service were trained for three weeks in November, in order for them to operate and supply daily this GIS system, which is a real assistance tool for decision making.

- Equipping the documentary service with software which allows for more dynamic management of documentation which comprises thousands of documents, including all the Algerian hydraulic studies.

Electronic management of the documents (EMD) accompanies the project.

Two documentation specialists were also trained to master these new techniques, as well as hydraulics engineers, with regard to electronic management of documents.

Finally, some general training on Internet was conducted, in order to familiarize the service with this new technological support in view of exporting Algerian references and be connected with international networks disseminating information.

In 1998, the training will focus more particularly on the dissemination of data on Internet (maps, bibliographic references, statistics, ...).

TURKEY

AN INTEGRATED OBSERVATION SYSTEM FOR AEGEAN RIVERS

One of the three components of the project funded by the French Ministry of Economy and Finance for the "Integrated management and pollution control of the Gediz - Kuzey Ege - Menderes rivers" in Turkey, includes a feasibility study for the setting-up of necessary monitoring networks and integrated information systems (basin observatory).

A preliminary mission was carried out in Ankara and Izmir from November 17 to 29, 1997 by the

International Office for Water. It aimed at:

- assessing the current situation as regards data management in Turkey;
- informing the Turkish partners of French expertise in water data management;
- defining the objectives of information systems;
- studying the organization of the partners' network to be developed.

TRAINING AND DOCUMENTATION CENTRES

Did you know it?

The International Office for Water, whose priority is professional training, receives about 4,000 trainees a year in its **Training Centre for Water Professions**.

It develops "tailored" international courses that can be implemented either in French, English or Spanish.

It offers to assist countries interested in developing their own professional training capacities:

- by training national trainers,
- through the technical design and equipment of training centres,
- by supplying modern educational tools in the language used and in organizing effective documentation centres.



AFRICA

BOTSWANA

A THREE YEAR TRAINING PROGRAMME FOR WATER UTILITIES

Within the financial agreement signed by the French and Botswanese Governments, the **"Water Utilities Corporation" (WUC) of BOTSWANA signed a three-year (1996-1998) contract, amounting to 5.500 million French francs, with the International Office for Water (IOW) and LYSA (Lyonnaise des Eaux Services Associés)** for the implementation of a technical assistance and training capacity building programme for the departments of the Ministry of Mineral Resources and Water (MMRWA).

This programme especially deals with:

- ① **training of Botswanese trainers**, organized in BOTSWANA, to enable them to acquire the basic educational techniques necessary for them to train the different categories of water utilities personnel in their country.
- ② **specialized technical training programmes**, intended for improving the skills of the Botswanese technicians in network operation, in operating treatment plants, electro-mechanical technology and remote management, in managing water utilities.

It includes, on one hand, practical training in France for Botswanese managers who will perform in real-time under working conditions in re-

gional departments of the Lyonnaise des Eaux and in the National Training Centre for Water Professions (CNFME) of Limoges-La Souterraine, and, on the other, practical training in the South African Republic in a Branch of the Lyonnaise des Eaux in South Africa, to familiarize themselves with water treatment and distribution technology, in JOHANNESBURG, KWA-ZULU (Natal) and QUEENSTOWN (Eastern Cape) respectively.

- ③ **establishment of documentation and computerized centres**, equipped with modern documentary materials and software adapted to the needs.
- ④ **a feasibility study for the setting-up of a regional water training system intended for all countries, members of SADC** (Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South African Republic, Swaziland, Zimbabwe) in order to develop long-term vocational training capacities for water professions in Botswana to meet the very important requirements in this sector.

NIGERIA - KADUNA

EDUCATIONAL PILOT UNITS FOR NWRI

HANDOVER OF A PILOT WASTE WATER TREATMENT UNIT

Within the cooperation agreement signed by the French Ministry for Foreign Affairs and the **National Water Resources Institute (NWRI)**, the International Office for Water supervised the delivery and installation by the SOAF company of an educational unit for waste water treatment with activated sludge.

This unit, designed by IOW with a treatment capacity of 200 pop.eq. will treat NWRI's waste water and will be used for applied research and training purposes (practical work). It is also a demonstration model of the French technology to be presented in a highly industrialized and densely populated country where environmental constraints will require the building of waste water treatment plants in the short term.

The Minister of Water Resources and Rural Development, Mr. ALHAJI ALIYU J. YELWA SARDAUNAN YAURI and the Cultural Attaché of the French Embassy in Lagos Mr. AUMIS inaugurated the installations with Dr. ABDULMUMIN, NWRI's

Director and Dr. BAMGBOYE, Deputy Director. These people were able to appreciate the concrete results of the French-Nigerian cooperation by visiting the documentation centre and the other technical installations, also designed by IOW: the pilot water potabilization unit (OTV), equipment for water intake, flow meters and water analyzers, that were offered to create a technical assistance service for waste water treatment.

AUDIT OF THE LABORATORY

Within the same cooperation agreement, Anne LE PEN carried out an audit of NWRI laboratory to check existing equipment and methods and assess the means needed to implement pollution assessment campaigns.

NWRI's aim is to have its laboratory become the reference to be used in terms of analyses in the whole northern country. It now benefits from gifts of equipment within the French-Nigerian cooperation and, in the future, the resources generated by these pollution assessment campaigns should enable NWRI to become self-sufficient to finance other equipment.

KENYA

HUMAN RESOURCES DEVELOPMENT

After assessing training needs and defining job descriptions for the Kenyan Ministry of Water in 1996, thanks to a specialist of the International Office for Water on secondment for 2 years, **an experimental training programme involving executives and staff (staff interviews, formulation of objectives, discussion on training plans, adequacy of training results, ...)** was implemented in 1997 on the **Machakos district, situated 70 km from Nairobi.**

The long-term objective is that all departments of the Ministry of Water use the same method and that local training of short duration be more systematically resorted to than long training courses abroad (Europe, United States, ...) that cause the paralysis of departments by depriving them of their executives.

This requires the up-grading of available training programmes in Kenya, another objective that will be achieved thanks to the strengthening of the **Kenyan Water Institute (KEWI)** that will organize, with the assistance of IOW's specialists, the main training courses planned in 1998, with the support of the French Ministry for Foreign Affairs.

A seminar on the participation of the private sector in the management of water supply utilities will be organized in September 1998. It will be addressing the high-level officials concerned (local authorities, water resources, finance...) in the three countries of the East African Community (Kenya, Uganda, Tanzania) and will try to share the French experience in this field.

FROM ONE CONTINENT TO ANOTHER



THE MEDITERRANEAN MOROCCO

“ONEP”: INFORMATION AND DOCUMENTATION CENTRE

The National Office for Potable Water (ONEP) is planning to set up, in a first phase, an Information and Documentation Centre on Water for its personnel to be opened to all users later on.

This centre would be set up in the Bou Regreg plant in order, among other things, to:

- **constitute a complete documentation on the drinking and waste water sectors**, in a first phase, and in some other fields such as wastes, agriculture and environment in a second phase. It should become a real reference centre on water and the environment in the long term,
- **store ONEP's reports and make them accessible to users** of the Central and Regional Directorates,

- **consult international data bases**,
- **disseminate ONEP's documentation** by producing bibliographical bulletins or other information products,
- **establish close relationships with foreign water documentation centres** (accessible repositories, data bases...).

ONEP requested technical assistance from the International Office for Water for the purchase of equipment and the organization of the centre, the training of documentation specialists and of a multimedia technician in 1997 and 1998.

“SIDEM”: AUDIT FOR THE MINISTRY OF ENVIRONMENT

The Directorate for Observation, Studies and Coordination, managed by Mrs. Bani LAYACHI, requested IOW to carry out an audit of the Information System for Environmental Data in Morocco (SIDEM).

Jean Antoine FABY, in charge of SNIDE (National Documentation and Information Centre on Water) and Pierre POQUET, in charge of BNDE (National Water Data Base) undertook a mission that concluded by the need to:

- **modernize the computerized means of the documentation centre for it to become the reference information centre in Morocco**,
- **set up a national network of documentation specialists**,
- **use Internet daily**,
- **establish a standardization system for inter-regional exchange of information to foster SIDEM and its supply by data producers from all Moroccan regions**.

ALGERIA

NATIONAL INSTITUTE FOR THE IMPROVEMENT OF PUBLIC WORKS

“INPE”

In 1997, the executives of INPE chose to focus their co-operation actions with IOW on the improvement of the techniques and methods for the educational management of a training centre.

Three 15-day courses have been implemented:

- **successful management of a training centre: methods and means**,
- **training on legislation regarding human resources**,
- **training techniques**.

The 1998 programme continues to meet the “INPE's” needs with two new 15-day seminars which will be organized in August and September:

- **training of trainers: for an in-depth training intended for “INPE's” external lecturers**,
- **quality in professional training with the practical application of ISO 9001 standard**.

A 15-day course on environmental impact assessment will be organized in October 1998.

The support of the French Embassy in Algeria led to the training of about 400 days/trainees in 1997 and approx. 300 in 1998, not to mention the provision to “INPE” of diverse educational materials, educational software and self-training videos.



CENTRAL AND EASTERN EUROPE

AQUADOC-INTER IN HUNGARY

VITUKI

“EAUDOC”, IOW's documentation bank, was installed at VITUKI under CDS-ISIS. The on-line access to banks via Internet was successfully tested and will be used by VITUKI's engineers to search for scientific and technical information.

IOW has opened a credit for the order of primary documents selected by VITUKI staff and given specific access codes to consult “EAUDOC-plus” on Internet <http://www.oieau.fr>, without any time limit.

In addition, it has been thought that the Hungarian “AQUADOC-INTER” focal point could be established at VITUKI. This would enable, on the one hand, to make available on the Web, in Hungarian and English, about a hundred studies carried out by VITUKI in 1993-1994, and, on the other, the integration of the bibliographical bulletin of the Hungarian Ministry of Environment (KGI) which is making an inventory of all studies undertaken by this Ministry over the last years.

ROMANIA

THE NATIONAL TRAINING CENTRE FOR WATER PROFESSIONS

The National Committee of Romanian Water Producers and Suppliers (CNP DAR) entrusted IOW with the undertaking of a feasibility study for the setting-up of a Training Centre for Water Professions in Romania, with the support of the French Limousin Region and decentralized cooperation.

The International Office for Water jointly undertook the following activities with Alpha and Omega consulting firm and CNP DAR in 1996/97:

- An in-depth "quality approach" type audit of the 3 companies, taken as "models", CONSTANZA, SATU-MARE and BAILE HERCULANE with respective staffs of 2,044, 780 and 50.
- A national survey using questionnaires sent to other companies regarding their training needs. It enabled their identification on a sample of 18,500 agents.
- A study of the technical, operational, administrative and economic parameters to constitute a data base for a national observatory of Companies.

The objectives of this study covered four aspects:

- Identification of the operational difficulties encountered by the 41 member companies of CNP DAR regarding either work organization or the professional skills of their staff.
- Analysis of former training practices used in the companies and the identification of priority needs regarding qualitative and quantitative aspects.
- Formulation of a national strategy dealing with continuing training of the staff concerned, including for example a budget line reserved for this activity as well as its amount relative to the payroll of the companies.
- Definition of equipment specifications and operational procedures for the future National Training Centre in Romania.

TOWARDS A REFORM OF WATER MANAGEMENT

By request of the Harvard Institute for International Development and on USAID funding, IOW participated, with all the executives of the State Corporation APELE ROMANE, in a working group on reforms to be undertaken in the Romanian water sector. It was presided over by the Secretary of State in charge of water.

In addition to the French experience, that of USA (Delaware River Basin Committee), UK (NRA and OFWAT) and Denmark have been thoroughly studied by the Romanian officials.

The working group emphasized the positive aspects of the present situation in Romania:

- the regrouping of all measurements regarding water, hydrology and meteorology in one institute,
- the existence of a structured administration for water supply and an organization according to the river basin system.

It recommended the following:

- the separation of data collection and management from water law enforcement and from the technical management of installations,
- an in-depth decentralization and the establishment of basin committees planned in the new water law.

The specialists underlined that important training needs were appearing as regards technical aspects but also administrative and managerial ones: water law enforcement, water pricing, funding of investments.

The setting-up of Basin Committees will also require the training of their future members for them to work together and use participative methods.

CZECH REPUBLIC



T.G. MASARYK INSTITUTE: A TRAINING AND INFORMATION CENTRE FOR DECISION-MAKERS

Within the "PHARE-Partnership" Programme between the French Ministry for Foreign Affairs and the European Commission, a joint project of the T.G. Masaryk Institute in Prague and IOW started in 1997 with:

- a training programme on the organization and operation of a training centre was held in France for Mrs. NESVADVOVA, Responsible for the new structure in the Masaryk institute,
- Mr. DVORAK, Deputy Director of the Masaryk Institute, visited IOW's National Training Centre for Water Professions in order to change the structure of the centre under creation towards technical training,
- a training programme was held in October in France for seven Czech trainers on the legal, economic and technical aspects that derive from the application of the European directives,

- a training course particularly focusing on the trainer's educational technique was held in Prague with J.L. LERMITERIE from IOW.

The International Office for Water furthered its cooperation with the MASARYK Institute for developing a water and environment-related data base at national and river basin levels and for setting up a documentation centre.

4 training seminars were organized in March and June 1998 for local elected officials and staff from administrations, two being carried out in Bohemia and two in Moravia. They mobilized the 7 Czech trainers who came to France.

WAWAMAN: REMOTE TRAINING IN CENTRAL EUROPE

The WAWAMAN project is directed by Gdansk Water Foundation (GFW) and is aimed at developing remote training in the water sector, intended for countries of Central Europe.

IOW is associated in this initiative, as is the CNED (French Centre for Remote Education), the CNP DAR (Romanian Committee of Water Suppliers), the Masaryk Institute in the Czech Republic, and the Ecological Engineering Institute of Lithuania.

This project is financially supported by the European Foundation for Training, within the framework of the PHARE programme.

The concept is to organize remote refresher training courses on water management and on the changes required by European integration, first by relying on

Internet and on the network of Centres for Remote Studies and Education created by PHARE in the countries concerned.

IOW offers its expertise in training for water professions and assessment of requirements, as well as in design of remote training.

The project, which started at the beginning of 1998, is due to last 18 months.

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FROM ONE CONTINENT TO ANOTHER



POLAND

THE POLISH NATIONAL TRAINING CENTRE

“GFW” • GDANSKA FUNDACJA WODY

The Polish National Training Centre for Water Professions was inaugurated on 5th December 1997.

Its setting-up required an amount of 11.400 million French francs that was co-financed by the French (national and decentralized) and Danish co-operation, the Polish Authorities and by the European Community's "LIFE programme for the Baltic".

The Gdanska Fundacja Wody (GFW) is a foundation under Polish law, whose founder members are the Polish Ministry of Environment, Gdansk Voivodship, City Hall and Regional Environment Fund, as well as the Freshwater Centre (Denmark), the Limousin Region and the International Office for Water (IOW) that represents all the other French partners.

Officially registered in May 1995, the Foundation has been managed since July 1995 by Mr. Zbigniew SOBOCINSKI who is seconded by a permanent representative of IOW. GFW has at present a full-time staff of seven.

Located ul. Rycerska 9, right in the centre of Gdansk city, **the administrative centre** is comprised of the necessary offices and conference rooms, computerized and audio-visual equipment and a documentation service that has access to the "EAUDOC" database and that can be consulted locally or on-line via Internet.

The building of **the technical unit**, situated on the premises of the Wschód waste water treatment plant (Gdansk city), is now

completed. It consists of various educational equipment, in particular a pilot waste water treatment plant provided by STEREAU company, a laboratory for water analysis equipped with Polish material and an educational drinking water supply system for the training on leak detection, using materials provided by Pont-à-Mousson company.

This unit, designed in conformity with the practical training principles that have been applied by the French National Training Centre for Water Professions (CNFME) for years in the town of La Souterraine, enables employees and technicians of water utilities to attend on-the-job vocational training under real working conditions.

The first training programmes have been organized since the second quarter of 1995. An increase has been noted in the participation of municipal water utilities and regional, departmental and municipal administrations in the training programmes proposed on catalogues (20 to 30 training courses per year):

146 participants in 1995, 506 in 1996 and 715 in 1997.

The technical unit will enable a wider offer of training courses. G.F.W. will thus propose a complete range of training courses for staff at all hierarchical levels of Poland and riparian countries of the Baltic Sea (Baltic countries...).

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1998 GFW's Training Programme - 1st Semester -

February:

- Microbiological analyses of drinking water
- Sanitary recommendations for the use of swimming pools

March:

- Microbiological analyses of drinking water
- Water protection: legal principles governing the building of small waste water treatment plants

April:

- The new legal aspects governing the work of a specialist in environmental protection
- Leaks in water supply systems: detection, methods for cleaning and rehabilitating networks

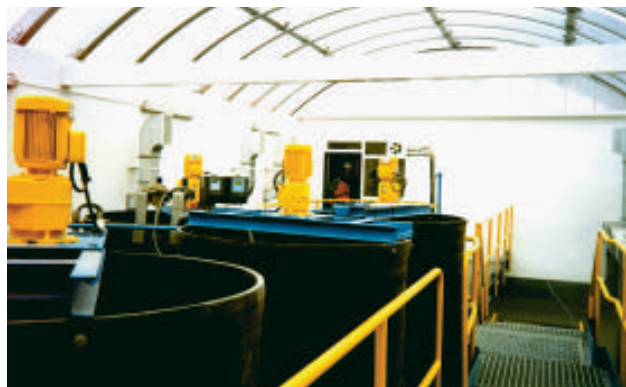
May:

- Technical and economic aspects of the management of sludge to be used for agricultural land spreading
- Microbiological analyses of drinking water
- The use of water in the manufacture of alcoholic and non-alcoholic beverages (production and heating)
- Analyses of the items composing the construction and operation costs of waste water treatment plants
- Legal issues related to the adaptation of the European Union's regulations on environmental protection - amendments, law of 1997
- The latest generation of swimming pools: sanitary recommendations, planning and project regulations

June:

- Changes in regulations pertaining to the law on environmental protection
- Leaks in water supply systems: detection, methods for cleaning and rehabilitating networks

and
Training courses in France and Germany



The Polish Training Centre for Water Professions

PARTICIPATION OF FRENCH COMPANIES

Provision of pilot units and equipment, participation in training courses, technological information and supervision of trainees during study tours in France

BAYARD - BSDV - BUREAU VERITAS - GENERALE DES EAUX - COMEF - DEGREMONT - E.M.O.
FRANCE ASSAINISSEMENT - GENERIK - GUINARD CENTRIFUGATION - HYTEC - LEGRAND - LYONNAISE DES EAUX
MECAMIDI - METRAVIB FLUIDE - O.T.V. - PERAX - PONT A MOUSSON - QUERV INFORMATIQUE - SAFEGE - SAUR
SADE - SCHLUMBERGER - SITE - SOCLA - SOFRESID - STEREAU - SYBRON - TROUVAY & CAUVIN

TRAINING AND DOCUMENTATION CENTRES

LATIN AMERICA

MEXICO



A MEXICAN TRAINING CENTRE FOR WATER PROFESSIONS



On 6th October 1997, during the visit to France of the President of the United States of Mexico, Mr. Ernesto Zedillo, the Mexican Minister of Finance, Mr. Ortiz, signed with his French counterpart, Mr. Dominique Strauss-Kahn, an agreement, amounting to 5.500 million French francs, for funding the technical engineering and educational services provided by the International Office for Water (IOW) for the setting-up of a training centre that the National Water Commission (CNA) of Mexico is going to build in Texcoco (Federal District of Mexico).

The project of setting up a Mexican Training Centre for Water Professions will last three years (1998-2000). It will provide all professional categories of the water sector, of Mexico and neighbouring countries of Central America, with a range of on-the-job vocational training programmes dealing with all the technical issues related to drinking water supply and sanitation, from the design of infrastructures to the operation, maintenance and management of utilities.

The trainees will come from the National Water Commission (CNA), water utilities of the Federal District of Mexico and large Mexican cities, from Mexican, French or other companies working in this sector in Mexico (engineering, equipment, public works, distribution, treatment)...

The project originality lies with the implementation of a technical unit, regrouping all equipment and materials that are used in the municipal water utilities of Mexico, to develop an effective vocational training in which the trainees are performing under real working conditions.



The centre will be built on the shore of the Texcoco Lake, on the outskirts of Mexico city, near the site of the future waste water treatment plant that is planned for the Federal District.

It will be managed by a non-profit foundation under Mexican law. The chairmanship of its Board of Directors will be assumed by CNA and the vice-chairmanship by IOW. The large Mexican organizations in the water sector will be their partners and the financial resources of the centre, when full completion is achieved, will come from the sale of its training programmes.

The project cost is estimated at about 35,000 million French francs, shared between the National Water Commission (CNA), on the Mexican side, and the French partners, regrouped under the aegis of the French Embassy in Mexico (PEE) for an amount of 18,500 million French francs.

This French funding is distributed as follows:

- 5,500 million French francs as a grant from the Ministry of Economy and Finance,
- 2,000 million French francs for technical know-how, and
- 6,000 million French francs for the payment of training required by the two French groups of the Compagnie Générale des Eaux and Lyonnaise des Eaux, in particular for the training of their Mexican staff working in the Federal

District of Mexico and in Mexican towns such as Aguascalientes...

- **5,000 million French francs for materials and equipment provided by more than twenty French specialized companies** (appended list).

In a first phase, the training centre will be provided with a drinking water clarification plant, a workstation with disinfection process by ozonisation, a laboratory, pumping units, a pilot unit for leak detection in drinking water distribution systems, a unit for the training on the laying of mains and, of course, all devices necessary for automation and remote control...

In a second phase, it will be equipped with a pilot waste water treatment plant and sanitation-related units.

LIST OF FRENCH COMPANIES PROVIDING EDUCATIONAL EQUIPMENT

A.K.A
AERAL
CHARLATTE
DEGREMONT
ENDRESS & HAUSER
FRIATEC
HUOT
METRABIB FLUIDE
OLDHAM FRANCE
OTV
PCM POMPES
PERAX
PRONAL
R & O DE POLLUTION
SALMSON
SAPPEL
SEPEREF
SERES
SOFREL
TRAILGAZ
TROUVAY & CAUVIN
ULTRAFLUX
YSM

This list may evolve according to the interest of other industrialists in the project

EMWIS: EURO-MEDITERRANEAN INFORMATION SYSTEM ON KNOW-HOW IN THE WATER SECTOR

The Marseilles Euro-Mediterranean Conference on Local Water Management (November 1996) emphasized the need of all partner countries for acquiring wide-ranging and in-depth information on the parties involved, available tools and documentation, technology and methods used, programmes and research results, training opportunities, etc.

The conditions for the implementation of the Euro-Mediterranean Information System on Know-how in the Water Sector (EMWIS), using modern communication technology and providing for the networking of existing sources, were studied and approved in Naples (Italy) on the 9th and 10th December 1997 during a conference that gathered the Water Directors and the main operators involved in this project in the 27 countries concerned by Euro-Mediterranean agreements.

EMWIS is a co-operation instrument that aims at facilitating access to available information on know-how in the water sector, at sharing other useful information, elaborating joint products and at fostering co-operation programmes in four fields:

- 1 INSTITUTIONS,
- 2 DOCUMENTATION,
- 3 TRAINING AND RESEARCH,
- 4 DATA MANAGEMENT

From a technical viewpoint, EMWIS will become effective with the setting-up of a system of shared and approved information and will use the Internet that is already accessed in the 27 countries.



Approval of the conditions for EMWIS's implementation during Naples Conference (9 and 10 December 1997)

Information will be made available by a "national focal point" in each country and by a central "Technical Unit". Access to information using this system will be limited to the sources that have received a "quality label" from EMWIS managers.

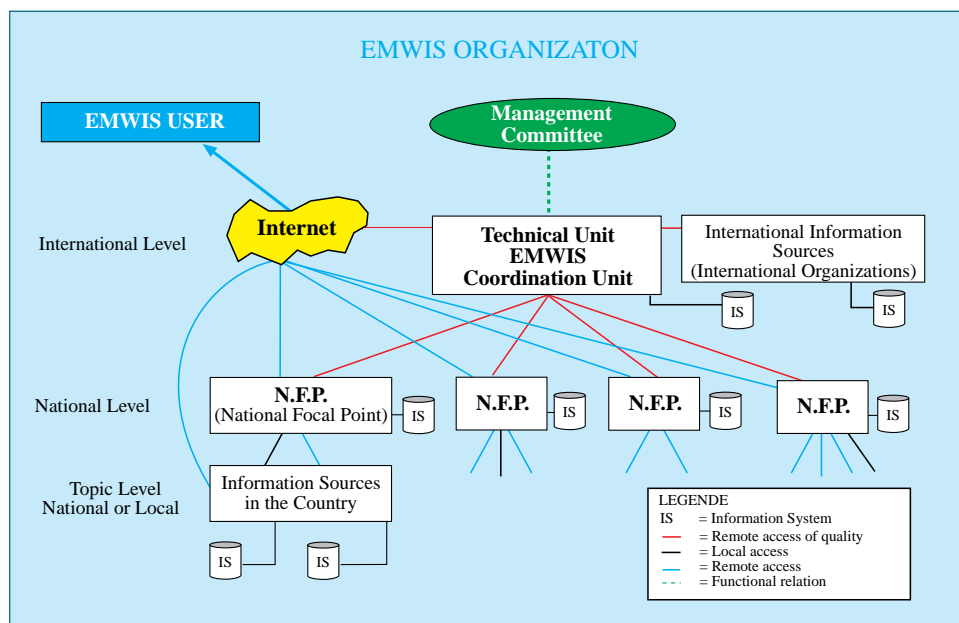
The National Focal Points will gather in a "Co-ordination Committee" under the chairmanship of Algeria and vice-chairmanship of France.

A "Management Committee" composed of 10 countries, designated for a three-year term, will formulate the main strategic guidelines and approve the budgets and yearly progress reports, under the chairmanship of Italy and vice-chairmanship of Jordan.

The "Technical Unit" will be led by a European consortium composed of French (IOW), Spanish (CEDEX) and Italian (SOGESID) operators that have created a special European Economic Interest Group whose headquarters are located at Sophia-Antipolis (France).

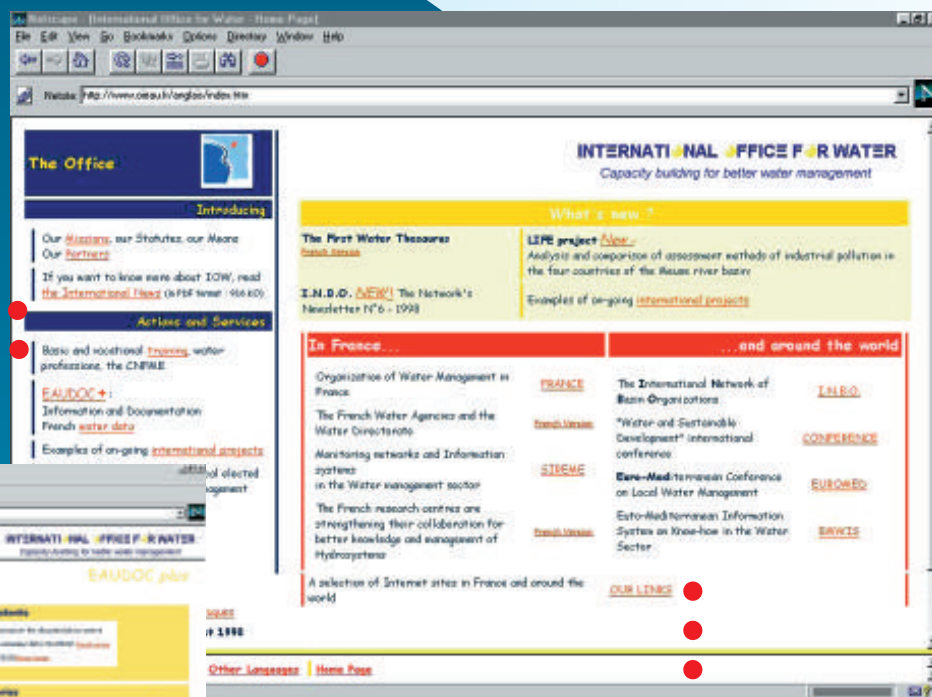
The total budget of this project for a three-year period (1998-2000) has been estimated at 25.000 million French francs and will be co-funded by the countries of the European Union that participate in the "Technical Unit", the European Commission and all other countries as far as their "National Focal Points" are concerned.

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All training courses of the Training Centre for Water Professions

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Information on
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Management in
France and abroad**