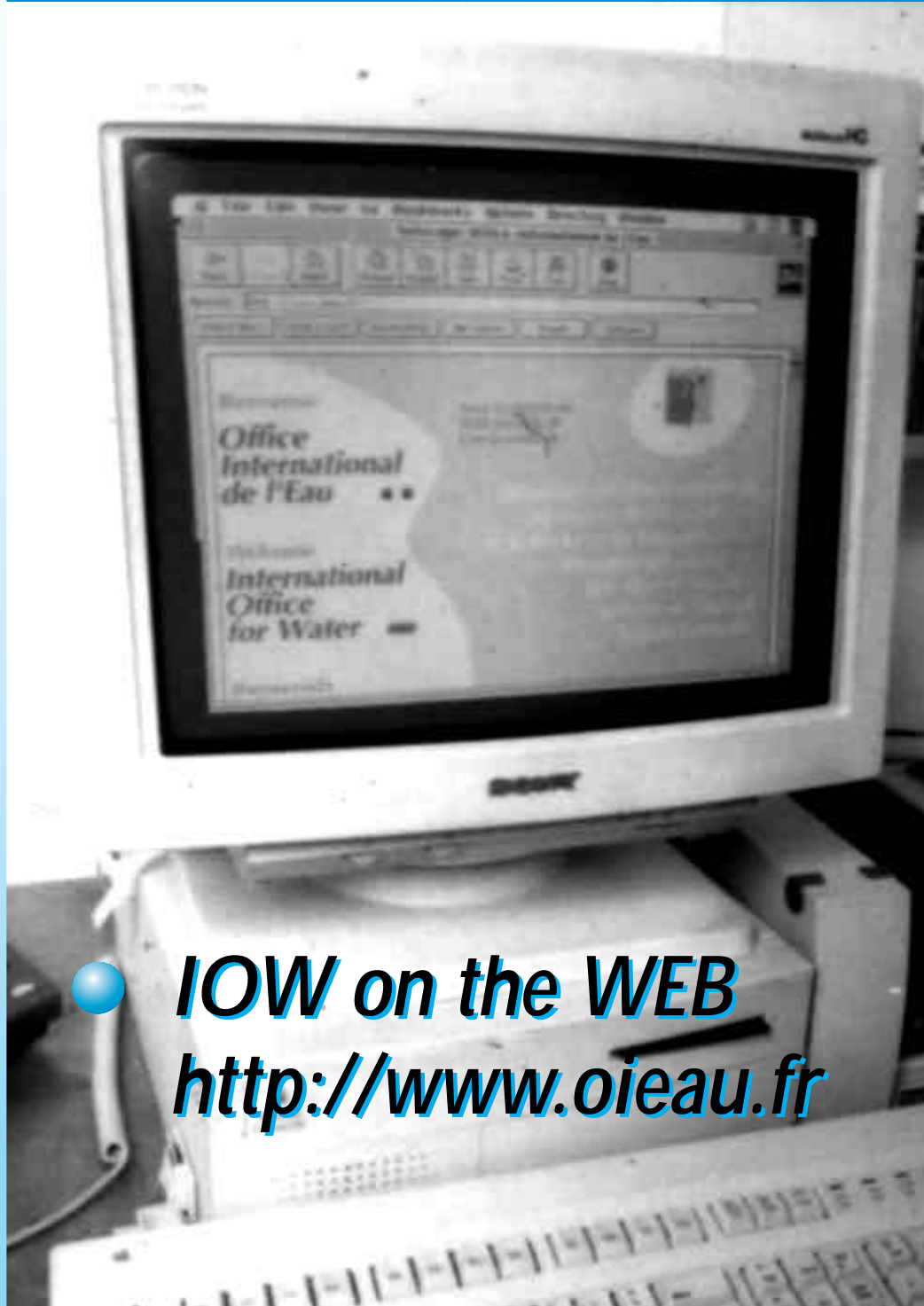




INTERNATIONAL NEWS

International Office for Water

- *Basin Organizations: INBO's next General Assembly will take place in Valencia (Spain) - October 2-4*
- *Euro-Mediterranean Conference on Water Management (Marseilles)*
- *Euro Mediterranean Water Information System (E.M.W.I.S.)*
- *Training Centre for Water Professions: opening to the world*
- *Towards a Mexican Water Foundation*
- *Gdanska Fundacja Wody*
- *European Inland Water Topic Center*
- *French Water Data Base*
- *AQUADOC-Inter*



- ***IOW on the WEB***
<http://www.oieau.fr>

N°5

**A 1996
RETROSPECTIVE
REVIEW**

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THE FRENCH NATIONAL WATER DATA NETWORK

The authorities in charge of water in France decided in 1992 to set up a consistent information system on water, the National Water Data Network (RNDE).

The French Water Law is based on integrated river basin management and aims at meeting water demands and preserving aquatic media. RNDE is the information system that accompanies this policy and it allows for the preparation of decisions and the measurement of their impact.

RNDE is also the tool that ensures the storage and the availability of a rich heritage of data coming from many water monitoring networks: rainfall gauging, hydrometry, water quality, piezometry, etc.

Finally, RNDE must meet an increasing information demand from the water users.

The high number of operators in the water field led to the design of this information system as a network which federates data producers and users.

Initiated and funded by the Ministry for the Environment, the Water Agencies, the French Institute for Environment and Higher Council for Fisheries, RNDE now also regroupes the Ministry of Health, Meteo-France, IFREMER and EDF; the International Office for Water (IOW) is in charge of the project implementation.

A NETWORK OF DATA BASES

The data bases carry out the tasks, or parts of them, of collecting, storing and disseminating water data.

- the river basin bases collect data from the producers with whom they have agreements, store and distribute them at river basin level.

- the specialized bases deal with rainfall gauging, hydrometry, coastal water quality...
- the National base prepares aggregated information with the data of other bases and meets the demand of European or French users.

The Observatories of the environment are set up by local communities to provide decision-makers and the public with information on water.

The RNDE data bases are progressively modernized and networked to be adapted to the Web and Internet technology.

THE NATIONAL BASE

Equipped with modern computerized systems and with a powerful data base system, it widely uses geographic information systems (GIS) to produce maps of all kinds.

As it will soon be equipped with an Internet server, it will also have a pivotal role for the users to have access to data whatever the place of storage.

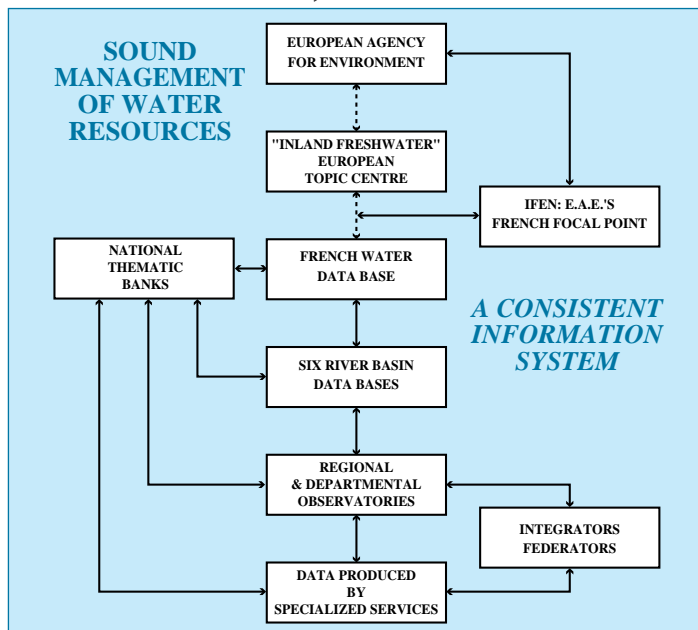
A COMMON LANGUAGE FOR DATA

In order to have comparable data and facilitate their exchange, RNDE has established a common language: "SANDRE".

"SANDRE" precisely defines how producers must describe their data for them to be used by others without any risk of error.

It manages the common references at national level in the form of lists of codes: physico-chemical parameters, taxons, analytical methods, aquifers and watercourses...

Finally, it defines electronic exchange formats. "SANDRE's" work is now used for exchanges (EDI) between the Ministry of Health



and water suppliers, or between Water Agencies and operators of wastewater treatment plants.

AVAILABLE PRODUCTS

In 1996, RNDE widely disseminated several of its publications:

- a map of the main polluting discharges of industries,
- 1996 assessment of sewerage in towns,
- 4 quality maps of watercourses,
- the state of fish population in rivers.

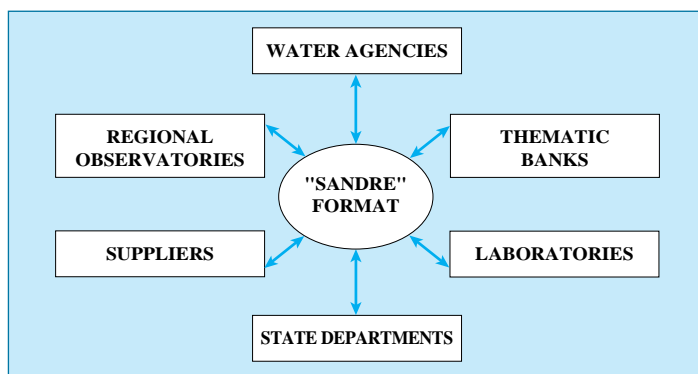
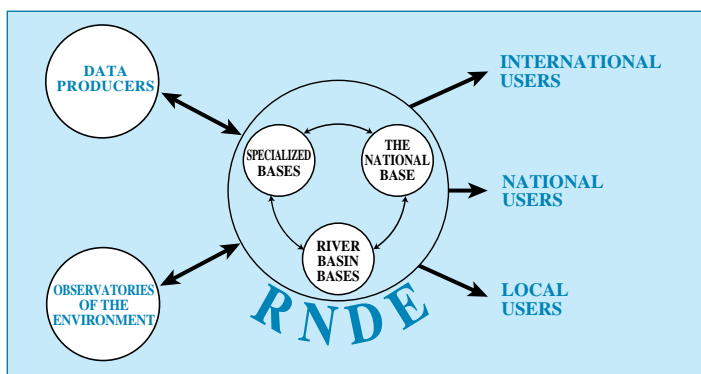
THE NEW TOPICS FOR 1997

After completing its work on surface water, then on discharges, RNDE

is now dealing with new topics:

- Potable water:** with the cooperation of the services of the Ministry of Health. RNDE aims at providing information on the quality of the supplied water and also on the safety of water supply in towns.
- Coastal water:** on-going studies associate IFREMER and the Department of Fisheries with the departments of the Ministry for the Environment and the Water Agencies.
- Groundwater:** RNDE is going to assist in the setting up of networks for the patrimonial knowledge of aquifers.

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THE NATIONAL TRAINING CENTRE FOR WATER PROFESSIONS: NEW DEVELOPMENTS IN LIMOUSIN REGION ALLOW FOR A WORLD-WIDE OPENING

The development of continuous professional training is the priority of the International Office for Water.

Owing to the 4-year programme (1995-1998) for the modernization of its **French National Training Centre for Water Professions** at Limoges-La Souterraine, implemented with the support of the Limousin Region Council and in cooperation with the University and the new National School of Engineers of Limoges, **IOW can now propose a new series of specific training on its installations that are being renovated and 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.
- covers all specializations and positions: design, implementation, operation, maintenance, management...
- is based on the "on-the-job training" principle, using real-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.
- is offered in the French, English and Spanish languages upon 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 1997, the International Office for Water proposes **three specialized catalogues:**

WATER AND SEWERAGE IN MUNICIPALITIES

It comprises 101 training courses covering all large specialized fields, such as water analyses, potable water production and supply, quality of potable water supply services, the control, design and operation of sewerage networks, urban wastewater treatment, pumping and electrotechnology, rehabilitation and laying of mains, remote control and automation, technical, administrative and financial management of water services, relations with the users and management of consumers.

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

This year, it will open a **workshop specialized on sensors.**

Finally, before summer 1998, a **future training unit on sludge treatment**, connected with the new wastewater treatment plant that is being built for La Souterraine town and located next to the training centre, will complete the pilot units already offered in this field.

WATER IN INDUSTRY

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

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 decontamination plant** equipped with representative industrial

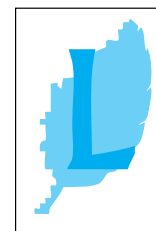
machinery and to a **laboratory for analyses and treatment control.**

All trainees can also consult the **EAUDOC server** that is one of the most important specialized libraries throughout the world with more than 175,000 references.

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

"Tailored" training courses are also organized upon the particular 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").

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LIMOUSIN



The National Training Centre at La Souterraine

JURIEAUDOC

FRENCH WATER LAW ON INTERNET: <http://www.oieau.fr>

IOW has created "JURIEAUDOC" which allows access to:

- legal texts, relative to French and Community legislation.

The search can be made by text type (Community directives or regulations, laws, decrees, orders, circulars, etc.) by reference to their signature or publication date in Official Bulletins or by key-words.

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

Thanks to a "linkage" system, used as an experiment, legal texts

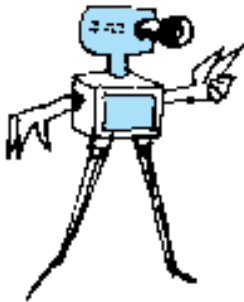
that derive from one another can be found automatically (texts for the application of a law for instance, etc.) as well as the comments or jurisprudence that are associated, and, of course, the successive changes in the same text when they exist.

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

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

The chosen documents can be ordered from IOW and be sent by mail or fax, depending on the request and urgency.

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EDUCATIONAL ENGINEERING AND MULTIMEDIA

IOW participates in several projects that can test in real size the new educational methods, using CD-ROM, CDI and Internet technologies.

“ECO-MANAGEMENT”

Directed by the CESI Group - Educational Technology, within the framework of a European Programme TELEMATICS, this project will test remote training and remote advice for small enterprises and industries regarding environment (ISO STANDARDS 14000, EMAS regulation, ...) by relying on videotex net-

works, INTERNET in particular, and videoconferencing.

This 3-year project will shortly enter a demonstration phase and pilot sites have already been identified.

“SIMSTEP”

This project which is managed by IOW with European funding (LEONARDO DA VINCI programme) consists in developing an interactive simulator for the operation of treatment plants using activated sludge. The software will be used on a micro-computer and will have a conventional interface for the operation of a treatment plant.

The operators will be able to be trained for regulating treatment without any danger for the natural medium, with reasonable response times.

The multilingual product (French, English, Spanish, German, Danish) is planned for September 1997.

“PREVENTION OF TORRENTIAL FLOODS”

The French Ministry for the Environment, the Regional Council of Alps-Riviera and the Rhone-Mediterranean-Corsica Water Agency entrusted IOW with the preparation of this awareness raising tool addressed to the local elected officials of the Mediterranean region.

Using real cases, this tool will enable:

- the recording of exceptional events and the explanation of phenomena,
- the promotion of a more flexible approach to develop-

ment, based on a solidarity between the upstream and downstream parts of the river and the presentation of new approaches to better understand and control these hazards,

- a better understanding of the importance of prevention strategy and effective crisis management.

“SELF-MONITORING OF TREATMENT PLANTS”

This first issue of the series “IOW’s CD-Techniques” is now commercialized by EDI (Eau & Developpement International - Water and International Development).

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IOW ON THE WEB

THE INTERNATIONAL OFFICE FOR WATER HAS JUST OPENED AN INFORMATION “SITE” ON “INTERNET” NETWORK

<http://www.oieau.fr>

In a first experimental phase, the server presents:

INTERNATIONAL INFORMATION

In French and English languages and in Spanish in some cases. It concerns:

- 1 The electronic issue of two IOW publications: “Les Nouvelles” (French) and the “International News” (English) which present IOW’s cooperation activities in foreign countries.
- 2 The International Network of Basin Organizations (INBO) whose Permanent Technical Secretariat is managed by IOW:
 - “Declaration of membership” and “Charter of Organization and Operation” of the network,
 - Proceedings of international technical seminars and workshops organized by INBO,
 - Retrospective electronic issue in French, English and Spanish of the last issues of the “Network Newsletter” which, twice a year, publishes information on the activities and projects of the 68 member organizations of the network on the five continents.
- 3 The proceedings of the Euro-Mediterranean Conference on Water Management - EUROMED - (in French and English) which was held in Marseilles on November 25 and 26, 1996.

DOCUMENTATION

4 This is the “EAUDOC Plus” service that provides a direct or assisted-mode access to:

- the 30 most recent references, for each keyword, of books, articles and publications that are available in “IOW Library” (175,000 references),
- the legal water base “JURIEAUDOC” (French and European texts, comments and jurisprudence),
- the new Permanent Inventory of Water Studies and Research (IPERE) - 1,240 references,
- the file on hydrobiological products used in France (OMHS),
- an agenda of events,
- collections of technical documents (National Fund for Rural Water Supply - Inter-agency studies, etc...).

Thanks to the “EAUDOC Plus” service, “short summaries” (less than 10 pages) can be obtained on several important and present-day topics and the new “GRISELI” programme of the French Ministry in charge of Research can be initialized regarding the water sector. This programme aims at making in France an inventory of study and research reports, unpublished by the operator organizations (“corporate literature”).

USEFUL INFORMATION ON THE ORGANIZATION OF THE WATER SECTOR IN FRANCE

5 Professions, basic training centres and diplomas at all levels in the water and environment sector.

6 Continuous professional training: the “1997 National Catalogue of continuing training for water engineers and technicians” in particular.

7 The National Water Data Network (RNDE)

• With an experimental presentation of the “products” that are available in the “National Water Data Base (BNDE)” regarding hydrology, surface water quality, discharges of large towns and industries.

A “RNDE-window” is being studied. In 1997, it should provide users with a direct access to all data, maps, catalogues and coding of BNDE.

• The server also presents useful information on the services of the Ministry for the Environment and Water Agencies - and as an experiment - the “FONTAINE” network which regroups the studies and publications on each basin.

8 Support to the environmental approach for industrial managers: catalogues of training on industrial processes and environmental procedures and files of examples of “clean technologies”.

An item entitled “ECO MANAGEMENT” will be opened in 1997. It will be a real tool for assisting managers of small industrial enterprises to make decisions regarding the environment.

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The International Office for Water has been entrusted by the French Authorities with general missions of strategic assistance to public study and research programmes on water.

In this respect, it manages a permanent inventory of all on-going activities (IPERE) and disseminates results, either published (EAUDOC) or unpublished (corporate literature-GRISELI).

IOW is a founder member of the "HYDROSYSTEMES" Group of Public Interest and participates in various "WATER - TASK FORCES" organized by the European Commission within the readjustment of its community research programmes.

Finally, IOW has opened its outstanding technical installations of Limoges-La Souterraine to public or private research teams who wish to develop projects while using its pilot units.

NATIONAL "ENVIRONMENT -DETERGENTS" PROGRAMME

The first phase of this 3-year programme of which IOW is the Delegated Contracting Authority could be completed thanks to the mobilization of 6 million francs by the Ministries for the Environment and Research, and by the private sector (Soap and Detergent Manufacturers, Union of Chemical Industries, water treatment industries). Thanks to the work carried out in 1995-96 by various laboratories, either public (Limoges University, NANCIE, CEMAGREF) or private (BETURE, CIRCEE, Anjou Research), a first definition of the contents, that can be accepted in the environment, could be made regarding the substances that compose washing products as well as the preparation of a method for analyzing some of these substances.

Financial partners decided to launch in 1997 a second phase of this programme to evaluate the distribution of the detergent components in running surface water.

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"HYDROSYSTEMES GPI"

COORDINATION OF FRENCH PUBLIC RESEARCH IN THE WATER SECTOR

IOW is a founder member of the "Hydrosystemes" Group of Public Interest (GPI) that brings together the French public establishments carrying out research in the water field: BRGM (Research Centre for Geology and Mines), CEMAGREF (National Centre for Agricultural and Rural Engineering, Water and Forestry), CNRS (National Centre of Scientific Research), IFREMER (French Research Institute for the Exploitation of the Sea), INRA

(National Research Institute on Agronomy), ORSTOM (Overseas Scientific and Technical Research Centre), in order to pool their research capacities.

During its meeting of December 9, 1996, the GPI's Board of Directors chose nine topics of basic research in the water field to be jointly dealt with by the member organizations in the coming years:

- **Topic 1:** Study on rainfall distribution, relative to runoff and to rain hazards
- **Topic 2:** Hydrological, social and economic impacts of climatic variability
- **Topic 3:** Transfer and transformation of polluting substances in

urban and peri-urban water systems

- **Topic 4:** Operational aspects of biodiversity in inland water systems
- **Topic 5:** Estuaries and developments
- **Topic 6:** Aquifer management
- **Topic 7:** Water multi-use management
- **Topic 8:** Impact of phytosanitary substances
- **Topic 9:** Erosion, sediment transport and contaminant life.

"www.oieau.fr/Hydrosystemes", the Internet site will publish all useful information on the implementation of this multiannual programme.

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"GRISELI"

A SYSTEM FOR RECORDING AND DISSEMINATING FRENCH CORPORATE LITERATURE

It has been noted that access to the information kept by research organizations, public institutions, university laboratories was still difficult.

Aware of this problem, the Ministry of National Education and Research has undertaken, through the "GRISELI" programme, an action to improve access to "corporate literature" that is outside any commercial channel of publication.

The International Office for Water was thus chosen as "GRISELI's water centre".

The National Institute for Scientific and Technical Information (INIST)

is the national centre that centralizes the programme and is the interface with the European base SIGLE.

IOW is planning to experiment two new processes to complete the collection of the corporate documentation and the dissemination of the recorded one on information superhighways (RENATER, INTERNET, ...):

- **the automatic recognition of characters** in tables of contents, summaries and conclusions of documents,
- **the transfer of whole texts.**

"IPERE"

THE PERMANENT INVENTORY OF WATER STUDIES AND RESEARCH

Up to now, due to the great number of decision-makers and service providers, it has been difficult to get a synthetic view of public and private efforts made in France regarding studies and research on water.

IOW, after making an enquiry directed to all French organizations concerned and to the European Commission (DGXI and XII), recorded, in 1996, 1,650 studies or titles of research, of which 1,134 are described in a detailed information sheet.

In this respect, IOW can make a search upon request either per topic or per programme.

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WATER 2001 THE VTH INTER-AGENCY STUDY PROGRAMME HAS JUST BEEN LAUNCHED

The six Water Agencies have been jointly undertaking inter-agency studies and research for more than twenty years on topics of common interest.

The Vth of these inter-agency programmes, "Water 2001", which will cover the 1997-2001 period, was officially launched on January 1st, 1997. It will be allocated 105 million francs for seven priority lines of study:

- **Line 1:** Socio-economy, planning, evaluation of policies
- **Line 2:** Knowledge and assessment of aquatic media
- **Line 3:** Urban areas
- **Line 4:** Rural areas
- **Line 5:** Water and health
- **Line 6:** The management of aquatic media
- **Line 7:** Industry, energy, transports

It innovates with the importance given to the topic: "water socio-economy"; but most of all with the will to better organize all studies dealing with the management of aquatic media.

This new priority expresses the will of the Agencies to undertake new responsibilities and will lead to a more effective protection and sound management.

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CLEAN TECHNOLOGIES

IOW has just completed a file that regroups **60 examples of the industrial application of "clean technologies"**. Each information sheet describes a recent industrial activity that has led to a significant reduction in the pollution created, even to the point of being a "nil discharge".

The summary technological description is associated with an environmental, economic and financial assessment of the project and with the particulars of the concerned company... in order that these original and effective experiments be reproduced by others...

This information is available on IOW's Web server on the line "Industry": <http://www.oieau.fr> and is also the topic of specific training.

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IOW'S TEST UNITS

DEWATERING OF SLUDGE FROM WASTEWATER TREATMENT PLANTS

IOW was entrusted by EDF (Electricity of France) research centre and ELMETHERM Company with the study of a new process for sludge dewatering based on the electro-osmosis phenomenon.

Premises have been especially arranged, at IOW's National Centre for Water Professions, to set up a semi-industrial pilot unit. Tests carried out during a whole year have enabled to assess the efficiency of the equipment and orientate the development and adjustments of the industrial equipment.

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DEVELOPMENT OF ASHES FROM ELECTRO-THERMAL POWER STATIONS

The International Office for Water is carrying out a study on the development of ashes from fluidized bed reactors in partnership with the EDF research centre and the steam power plant of Gardanne (Bouches du Rhône).

Taking the large lime content of these ashes into account, EDF wants to evaluate the possibilities of ashes to be substituted for lime when conditioning and stabilizing urban sludge from wastewater treatment plants. A comparative study is on-going at the IOW centre of La Souterraine.

VEGETATION COVER AND LOW WATER FLOW

The Commission for the Economic Development of Massif Central, in agreement with the two Water Agencies concerned, Loire-Brittany and Adour-Garonne, has nominated the International Office for Water as the delegated Contracting Authority to study to what extent a change in practices used in agriculture and forestry could have an impact on the low water flow of water courses in six watersheds of the Massif Central.

IOW will be associated with the National Inventory on Forestry, Electricity of France and Jean Le Bloas consulting firm.

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INTERNATIONAL EVENTS

EURO-MEDITERRANEAN CONFERENCE ON WATER MANAGEMENT

MARSEILLES - NOVEMBER 25-26, 1996

A Euro-Mediterranean Conference on local water management was held in Marseilles (France) on November 26. It gathered the Ministers in charge of water from the 15 member countries of the European Union and their 12 counterparts from countries bordering the Mediterranean that had signed the Barcelona Declaration.

The debates were chaired by Mrs. Corinne Lepage and Mr. Bernard Allen, French Minister for the Environment and Irish Secretary of State for the Environment respectively, and in the presence of Mrs. Emma Bonino, European Commissioner.

The conference was preceded on the day before by a meeting of international experts which had been opened by Mr. Jean-Claude Gaudin, Mayor of Marseilles and French Minister of Land Use Planning.

A first preparatory meeting of the experts had been held in Cairo (Egypt) on October 21 and 22, 1996. The International Office for

Water had been entrusted with the preparation and organization of the Marseilles conference and Cairo preparatory meeting by the European Commission and the French Government.

Water is a fragile resource and the basis of a Mediterranean sustainable development. Water is a social, economic and environmental concern in all countries and the Ministers pleaded for the implementa-

tion of a global water management that would associate the various users as well as for the acknowledgement of the socio-economic value of water.

The Ministerial Conference adopted a Euro-Mediterranean declaration on local water management which stressed common principles and objectives for water policies and broadened the arrangements of the Rome Charter (1992)



The Euro-Mediterranean Ministers' Conference



to a Euro-Mediterranean context.

The Ministers also decided to set up a Euro-Mediterranean Water Information System (EMWIS) that will be organized into a network of competences.

In his closing speech, Mr. Hervé De Charette, French Minister for Foreign Affairs, recalled the interest of France for a Euro-Mediterranean cooperation and wished that this partnership contribute to the setting up of a solidarity in the Mediterranean.

All official documents and reports of the Conference are available on Internet:

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

The Conference Secretariat
International Office for Water
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UNESCO

THE INTERNATIONAL HYDROLOGICAL PROGRAMME

The 12th session of the **Inter-Governmental Council of the Hydrological Programme** was held at UNESCO Headquarters in Paris from 23 to 28 September 1996.

France, after a long absence, reintegrated the Council and was represented by an important delegation of national specialized research organizations (CEMAGREF, ORSTOM), as well as those likely to federate actions in the field of hydrology (Hydrosystemes GPI, IOW, etc).

The **FRIEND** (Flow Regimes from International and Experimental Network Data) **projects**, form the core of the new phase that started on January 1, 1996. It entails, thanks to the circulation of hydrological data and to the assessment of treatment processes, **the elaboration of regional syntheses** (cartographic in particular) on specific problems such as floods, low water levels, solids transportation or flow regimes.

The question of the free circulation of water-related data was also raised and a joint UNESCO / World Meteorological Organization task force was created.

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STRASBOURG

INTERNATIONAL SEMINAR ON THE TRAINING OF ENVIRONMENTAL ENGINEERS

The European Company for the Training of Engineers and ENGEEES jointly organized this event, on April 17 and 18, 1996, which gathered more than a hundred international experts under the chairmanship of Mr. D. Loudière, the School's Director.

Mr. Donzier, IOW's General Manager, had been invited to present the introductory report on the adequacy between training and new jobs in the environmental sector.

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EMWIS:

A EURO-MEDITERRANEAN WATER INFORMATION SYSTEM

The Marseilles Conference emphasized the need to **acquire the best possible knowledge of water management tools, actors and methods**. The available information on these items only exists in a fragmented, dispersed and heterogeneous way.

Therefore it is necessary to make an effort to rationalize and make this information readable, easily accessible and usable.

The purpose of EMWIS is to gather the existing information systems into a network and define common rules for their data processing and exchange.

It was agreed that this structure should rely on existing organizations and data and would not require the creation of a new one. EMWIS is designed to be open to all users in the associated countries, signatories of Barcelona Convention.

An action plan must be prepared in 1997 and its preparation has been entrusted to the International Office for Water by the European Commission and the French Government.

A working group composed of the European Commission and the following countries: Algeria, Cyprus, France, Italy, Jordan, Malta, Morocco, Spain, the United Kingdom and the



Working group meeting Amman - 8-9 April 1997

Palestinian Authority, met on April 8 and 9, 1997 in Amman at the initiative of Jordan.

This group must prepare this action plan that will be submitted to all the parties concerned during a seminar in Autumn 1997.

France was mandated to prepare these works. Therefore, the Water Directorate of the French Ministry for the Environment has launched an inquiry to define the priority expectations regarding EMWIS. They concern:

- **the definition of the information contents** for each topic of action,
- **the identification of the operators** who can be rapidly mobilized,

- **the examination and evaluation of information transfer systems** that are already organized within existing networks in order to broaden them,

- **the examination of the possibilities for widening and gathering these networks** to open them to all interested Euro-Mediterranean partners.

The action framework and the means necessary for an effective creation of EMWIS will be defined by the Water Directors of the associated countries, using that action plan and the conclusions of the seminar.

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THE EUROPEAN "INLAND WATER" TOPIC CENTER

The European Environmental Agency was created in 1994 to produce reliable and comparable information on the environment. It contributes to the future regulations of the European Union, from a technical point of view. The Agency relies on focal points which collect data in each State.

It entrusts expertise to topic centres. IOW participates in the Inland Water Topic Centre with 6 other organizations: AWW (Austria), CEDEX (Spain), INAG (Portugal), NERI (Denmark), NIVA (Norway), VMM (Belgium) to form a consortium under the leadership of WRc (Great Britain).

A EUROPEAN WATER MONITORING NETWORK

The Agency requested the "Inland Water Topic Centre" to assist in the

setting up of a water monitoring network needed to obtain reliable environmental data.

The specifications of this monitoring network were defined in 1995 and presented to the Member-States during a seminar held in Madrid in June 1996. IOW, in cooperation with the Water Agencies and IFEN (French Institute for Environment), will test these specifications in 1997 on the existing French networks.

A DATA BASE ON LAKES AND RESERVOIRS

The Topic Centre started a data base on European lakes and reservoirs in 1995. IOW plays a leading role in this task, in cooperation with IFEN. This base is supplied to the European Agency on a computerized support. To-date, it comprises about 3,000 references: physical charac-

teristics of water bodies and dam-reservoirs, water use, water quality.

DOBRIS REPORT:

The Topic Centre contributes to the up-dating of DOBRIS report on the state of the environment in Europe to be finalized in 1998, by drawing up several chapters on water, groundwater in particular, and on nitrogen and phosphorus in watercourses.

The 1997 programme of the Topic Centre also comprises a technical support for the preparation of annexes to the future European Directive on water resources and for the harmonization of forms used for the reports of Member-States on the application of water-related Directives.

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INBO:

THE SECOND GENERAL ASSEMBLY WILL BE HELD IN VALENCIA (SPAIN) FROM 2 TO 4 OCTOBER 1997



The International Network of Basin Organizations (INBO) Liaison Bureau which was held last 27 and 28 January, at the Headquarters of Rhone-Mediterranean-Corsica Water Agency in Lyons (France), accepted that the next General Assembly would take place in Valencia next October, at the invitation of the Spanish Authorities.

An international seminar on the topic "financing of basin organizations" will be organized on that occasion. Bi and multilateral cooperation agencies and INBO member-organizations have been requested to contribute papers.



Mr. ZEDILLO, President of the United States of Mexico opens INBO's General Assembly

THE LIAISON BUREAU

Since the network's constitutive meeting that took place in Aix-les-Bains (France) in May 1994 at the invitation of the French river basin organizations, INBO's Liaison Bureau has already held five meetings in Romania (October 1994), Poland (March 1995), Mexico (September 1995), Romania (July 1996) and Ivory Coast (November 1996) respectively.

This Bureau has been composed of Messrs. Benevides and Garrido (Brazil), Chirouze (France), Lascu and Predescu (Romania), Kouadio (Ivory Coast), Noain and Santafe Martinez (Spain), Mestre-Rodriguez (Mexico), Ostojsky and Badowski (Poland), Roedjito and Rusfandi-Usman (Indonesia) and Mrs Serbu (Romania).

Mr. Donzier (IOW) participates as Permanent Technical Secretary.

The Bureau administers the Network between meetings of the General Assembly. Assisted by the Permanent Technical Secretariat, it prepares the Agendas and ensures the implementation of resolutions.

THE GENERAL ASSEMBLY

It was held in Morelia (Mexico) from 27 to 29 March 1996.

The works of this Assembly were opened by Mr. Ernesto Zedillo, President of the United States of Mexico, himself. The texts of the "Declaration of Membership" and the "Charter for

Organization and Operation" of the Network, prepared by the Bureau, were adopted by the Assembly. It gathered the representatives of 45 countries, interested in the approach of an integrated management of their water resources on the scale of large river basins.

During the closing ceremony, 68 organizations from 32 countries officially signed INBO's "Declaration of Membership".

An international technical seminar on "information necessary for decision-making" was held on March 28, 1996, during the General Assembly of Morelia.

This seminar enabled the finding of solutions to be used for developing monitoring and analyses networks, optimizing the collection of necessary data, setting up real "basin observatories" to summarize the information useful for planning, determining water charges and following up priority action plans.

Retrieval of data in a form easily understood by and accessible to Authorities and to members of River Basin Committees, is also an issue of great interest.

The Network members adopted recommendations so as to help new basin organizations to approach this important issue. The reference file, summarizing all the papers of this conference, will be particularly useful to develop new "basin observatories".

In addition, the General Assembly

confirmed the mandate given to the International Office for Water to carry out, under the authority of the Network President, Mr. Eduardo Mestre-Rodriguez (Mexico), the Permanent Technical Secretariat of INBO, with the support of the six French Water Agencies and the French Authorities.

THE NETWORK JOINT ACTIVITIES

These are progressively being implemented:

- "INBO'S NEWSLETTER", written by the Network members themselves, is a link and means for exchanging information on their experiences.

Four issues have already been published in the three official languages of INBO (French, English, Spanish); more than 7,500 copies of the last issue were disseminated all over the world.

- THE "ACQUADOC-INTER" SYSTEM will enable, as from 1997, the exchange of institutional documentation based on references harmonized between basin organizations.

"AQUADOC-INTER" will be operational on INTERNET next Summer. It will be a "virtual library" gathering all legal, administrative and economic documentation on the organization of river basin management in INBO member countries.

The first step of this project, which relies on professionals of documentary data processing, was

to nominate -on an experimental basis- 12 "National Relay Documentation Centres" (NRDC), which will indeed be the "windows" used as relays between national users, national specialized bases and the system.

This entails creating the ideal conditions for exchange, within a network, by standardizing reference systems and access procedures. It thus aims at having a users' friendly access to the needed information, whatever its source.

● INTERNATIONAL WORKSHOP ON BASIN MASTER PLANS

It was held in CONSTANZA (Romania) from 31 August to 4 September 1996, on the initiative of the Romanian Authorities. It enabled 31 participants from 11 countries to examine in detail the organization of water institutions in the various countries interested in INBO: it turned into a real comparative administration course, very useful for developing principles for a better resources management, adapted to each local situation.

- A 2-WEEK, INTERNATIONAL, TRILINGUAL COURSE on the "creation of basin organizations" will also be jointly organized by France and Spain at the beginning of 1998.

- THE INTERNET SERVER "<http://www.oieau.fr/riob/>" has been broadcasting since November 1996 all documentation published within INBO, in 3 languages (French, English, Spanish), including the entire recommendations of the March 1996 technical seminar on "information necessary for decision-making" and of the September 1996 workshop on "basin master plans".

*Permanent Technical Secretariat
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INBO on the WEB
www.oieau.fr/riob/

DID YOU KNOW IT?

The setting up of modern observation systems is an essential condition for a global and integrated water resources management.

INBO's General Assembly, held in Morelia in 1996, emphasized the importance of having at its disposal at all levels, either national, river basins, or "international" (transboundary rivers in particular), a continuous, reliable, complete and representative information on the state of resources and uses.

To be efficient, this information must deal with:

- all surface and ground resources, either in quantity (meteorology - hydrology) or in quality (pollution);
- withdrawals of all kinds and polluting discharges from various categories of users.

It must enable to:

- determine "black spots" and therefore action priorities;
- follow up the efficacy of policies on the medium and long term;

- react in front of crisis situations (torrential waterflows, floods, accidental pollution, drought forecasting ...).

It is obvious that in many situations, it is first of all necessary to federate a heterogeneous information that is often spread among various organizations with specific needs and management procedures.

The experiment of creating in France a National Water Data Network relying on a National Base and six basin observatories, as well as cooperations that are set up within the "Inland Water" Topic Centre of the European Environmental Agency or within the project for setting up a Euro-Mediterranean Water Information System (EMWIS), are very interesting.

The International Office for Water, which is either operator or partner in these projects, has a wide experience and a know how to offer useful assistance either organizational or technical to public bodies that are concerned with water data management throughout the world.



MONITORING NETWORKS AND DATA BANKS

AFRICA AND THE MEDITERRANEAN

SENEGAL RIVER BASIN FEASIBILITY STUDY FOR AN ENVIRONMENTAL OBSERVATORY

For several years, there has been an accelerated environmental deterioration in the entire Senegal river basin: vegetation and ecosystems are declining, desertification is increasing, agricultural lands are becoming saline and the fauna's habitats fragile.

Upon the request of the OMVS Council of Ministers, the French Ministry of Cooperation entrusted the International Office for Water with a feasibility study on the possibility of setting up an environmental observatory in the basin.

Its purposes were to:

- examine the conditions for setting up this observatory at OMVS, with a priority on problems related to water management (quality, in particular),
- define a work programme,

separating the activities which are directly conducted by OMVS from the activities entrusted to national or foreign specialized partners;

- determine the institutional and operational relations between the OMVS unit to be created and the various private or public administrative structures of the Member-States;
- assess, depending on availability, the kind of funding necessary and the requirements of the observatory and determine the conditions for capacity building.

The study comprised two missions from July to November 1996 carried out in Dakar-Nouakchott and Saint Louis by Messrs. Haener (IOW) and Cruzet (IFEN).

MIDDLE EAST PEACE PROCESS MIDDLE EAST WATER DATA BANK IMPLEMENTATION PLAN

A new meeting of EXACT (EXecutive ACTion Team) responsible for coordinating the "Middle East Water Data Bank Implementation Plan" (MEWD-BIP) took place in Tunis from 11 to 13 May 1996.

Representatives of Israël, Jordan, the Palestinian Territories, together with the main funding agencies, participated in this meeting.

The French Ministry for Foreign Affairs was represented by Messrs P. Ospital, Expert of the French Embassy in Jordan, P. Haener, Project Manager at

IOW, J.L. Oliver, Ministry of Public Works and Mrs. Barbut, in charge of the French Environmental Fund.

This meeting was the occasion of discussing the work progress on 14 out of the 41 recommendations of "MEWDBIP" for a total amount of 1.8 Million ECU.

France expressed its willingness to contribute to the activities of the EXACT group with a project for setting up a "Regional warning system on water resources".

ALGERIA

A WATER DATA BASE IN ONIDE

The National Office for Information and Documentation on Public Works (ONIDE) requested the technical assistance of the International Office for Water to develop water data bases. It would consist of a methodological support in organization and technical means, and a logistical support in publication and documentation supply.

Since 1990, ONIDE has taken over the tasks and activities of the National Documentation Centre on Hydraulics (CNDH) of the Algerian Ministry of Public Works and Land Use Planning.

In the water sector, the main objectives of ONIDE are:

- the design, publication and dissemination of periodicals, information bulletins, description sheets or bibliographies, catalogues,

- the setting up of a national information network on water,
- "copyrights" for information and documentation on the water sector in Algeria.

The purchase by ONIDE of the necessary computer equipment will enable the management of its documentation bank.

A data base relative to hydraulic infrastructures (dams, earth dams, irrigated schemes, potable water supply...) will be developed at the same time to quickly identify these infrastructures in files, to geographically reference the sites on digital maps, to establish statistics, balance sheets and summary reports.

This 2-year project is supported by the French Ministry for Foreign Affairs.



EUROPE

POLAND

LOWER VISTULA: CREATION OF A PILOT BASIN OBSERVATORY WITH GDANSK RZGW

The PHARE project "Creation of a basin observatory in Poland", co-financed by the European Union, the French Ministry for Foreign Affairs and the Polish Government, is co-piloted by the International Office for Water and the RZGW of Gdansk.

The main expected results on surface water quality are:

- ◆ the elaboration of a data dictionary, to be used by all organizations that collect and process data in Poland;
- ◆ the structuring of a data base in Gdansk RZGW.
- ① The following was undertaken in a first phase "Study of existing structures":

A first mission led by Mr. Haener (IOW) in Gdansk and Warsaw made an inventory of:

- the Polish institutions involved in data management on surface water quality;
- the computerized organization of Gdansk RZGW and the integrated "Srodowisko system" of the Ministry for Environment;
- the organization of national monitoring networks on surface water quality;
- the current capacities regarding data management and processing.

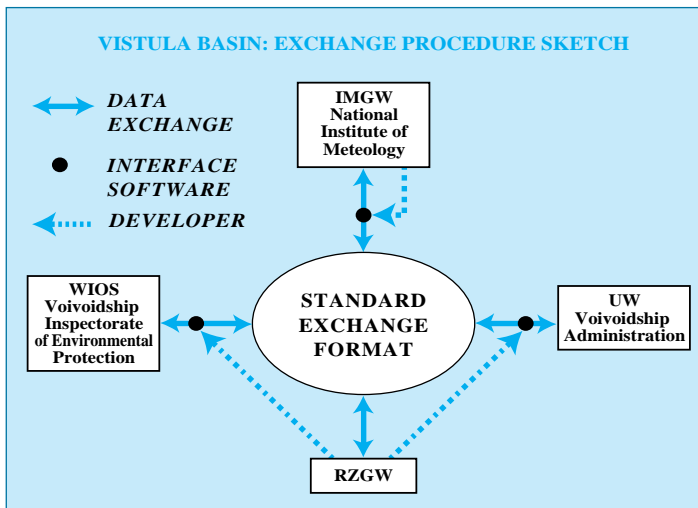
A training course was organized in France, with the presentation of the National Water Data Network (RNDE) and the National Data and Reference Centre for Water (SANDRE).

This course was attended by representatives of the "Polish network": Gdansk RZGW, the "Ministry of Environmental Protection, Natural Resources and Forests", IMGW (National Institute of Meteorology), WIOS (Departmental Service for the Environment) of the Lower Vistula.

- ② The second phase called "harmonizing and standardizing definitions, codification and data exchange procedures" started with two collaborative meetings between network partners, which were held at Gdansk RZGW in April and September 1996, with Messrs. Blanc and Haener of IOW, who also carried out a remote-follow up in December 1996.

The actions undertaken led to the:

- validation of the topics to be dealt with by the task force;
- preparation of a provisional version of a conceptual data model of "surface water quality" for Poland;
- preparation of a first version of the data dictionary;
- definition of a structure for the exchange formats to be developed.
- ③ The third phase "Applying standards to a specific topic" was defined as follows:
 - the structuring of a surface water quality data base in Gdansk RZGW
 - the development and utilization of interface software for the exchange of data between RZGW, WIOS and the Voivodships involved in the Pasleka river basin.



THE FRENCH KNOW-HOW

At the initiative of the French Ministry for the Environment, the Commission on "Water data management" of IOW's Scientific and Technical Committee has intended **presenting on Internet the French know-how on "Monitoring networks and data banks for water resources management"**.

This presentation is now being developed. It will be accessible by the end of June 1997 on IOW's Web site:

<http://www.oieau.fr>

Then, information presented in this application will be regularly updated.

OMHS

Thanks to the assistance of the French Ministry for the Environment and the Seine-Normandie Water Agency, **IOW has been able to contact 240 French correspondents who are either users or suppliers of hardware, software or hydrological models.**

As a result of this, 136 information sheets have been collected in "OMHS" (Operational Multi-purpose Hydrological System) format.

"OMHS" is coordinated on an international scale by WMO (World Meteorological Organization) in Geneva then relayed by a national reference centre in 121 countries, members of the system.

These references, translated into English and Spanish, will be circulated on diskettes, to all the other national reference centres over the world.

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THE DANUBE TRAINING PROGRAMME

IOW, acting as a consultant of ICWS (NL), was mandated with the preparation and the implementation of programme n°8 "institutional development training" of the PHARE project "Training for a monitoring strategy - the Danube".

This mission was entrusted by IOW to Mr. Ph. Crouzet of IFEN (French Institute for the Environment) who, in cooperation with Mr. H. Mansfeld (IMPLECO) managed a seminar, held in Salzburg (Austria) from 22 to 26 July 1996, in which participated senior water resources management experts from: Bulgaria, Czech Republic, Hungary, Romania, Slovak Republic, Slovenia, Moldavia, Ukraine, Austria and Germany.

TOWARDS A HUNGARIAN WATER DATA BASE

During his visit to IOW in November 1996, Mr. Szabo, manager of VITUKI's data department, was able to study the new French Water Data Base (BNDE).

The idea of creating a similar "national base" in Hungary seemed attractive.

The excellent relations between the Hungarian and French "water schools", led to the creation of a water glossary in five languages, including French and Hungarian, which could be more widely used and electronically developed on Internet.

DID YOU KNOW IT?

Water services employ, on average, 750 agents per 1,000,000 supplied inhabitants in potable water and as many in sewerage and treatment services. It concerns operators, workers or employees (80 %), supervisors and technicians (15 %) and only 5 % of executives and engineers.

Services quality mainly depends on staff's know-how, especially in the management, operation and maintenance of installations, rehabilitation of facilities and old networks, relations with the users. Therefore, basic training is important but continuous training as well.

The last Euro-Mediterranean Conference on Water Management insisted on the need to strengthen continuous professional training and recommended that funds allocated to

this training represent at least 1 % of the wage bill of the services. It should be noted that the funds used by the most effective suppliers are already exceeding 5 % of the wage bill.

The International Office for Water, whose priority is professional training and which receives about 4,000 trainees a year, develops "tailored" international courses that can be implemented in French, English and Spanish languages.

It particularly offers to assist the interested countries in developing their own professional training capacities by training national trainers, by the technical design and equipment of training centres, by supplying educational modern materials in the language used and in organizing effective documentation centres.



AFRICA

KENYA

HUMAN RESOURCES DEVELOPMENT

A Task Force made up of Kenyan executives, representing the main actors in the water field, has assessed, with the help of an IOW expert on secondment for six months in 1996, the training resources (institutions and programmes) and the needs (staff) in order to elaborate an Action Plan.

This plan has three components:

- 1 assistance in creating or developing "Human Resources" units within organizations of the sector,
- 2 a priority training programme,
- 3 support to training centres likely to develop continuous training courses.

The first component is very important. It consists in improving the capacity of Kenyan organizations to manage their human resources and to plan continuous training for their staff.

That, of course, involves a considerable effort in defining missions, activities and capabilities of the various categories of staff, as well as assessing their performances, developing training programmes and setting up a "Human Resources" information system.

NIGERIA

DELIVERY OF A PILOT WASTEWATER TREATMENT UNIT

Within the cooperation agreement signed by the French Ministry for Foreign Affairs and the National Water Resources Institute (NWRI), a mission was carried out by J. Pronost (IOW), in December 1996 for the delivery of the educational pilot unit for wastewater treatment by activated sludge.

The purpose of this mission was to check the conformity of the installation with the specifications given by IOW. This unit, of a 200 pop-eq treatment capacity, will be used for applied research and training purposes (practical work).

On December 11, 1996, the Minister of Water Resources and Rural Development and the Cultural Attaché of the French Embassy in Lagos inaugurated the installations.

They were able to appreciate the concrete results of the French-Nigerian cooperation by visiting the documentation centre and technical installations, designed by IOW: the pilot water potabilization unit (OTV), the pilot wastewater treatment unit (SOAF), equipment for withdrawals, flowmeters and water analyzers, that were offered to create a technical assistance service.

TRAINING AND DOCUMENTATION CENTRES



LATIN AMERICA

MEXICO

PROJECT OF A MEXICAN NATIONAL TRAINING CENTRE FOR WATER PROFESSIONS

Further to a feasibility study which was carried out by IOW in 1996, in cooperation with the National Water Commission, the project of a Mexican Training Centre for Water Professions is now ready to start its operational phase.

The creation of the centre and its effective operation are planned over a 4-year period (1997-2001) at the end of which financial balance should be reached.

Priority will be first given to the management and operation of municipal potable water supply services, then sewerage in a second phase.

A foundation will be created, under Mexican law, to be the

contracting authority of the project and will gather, under the aegis of the National Water Commission, the interested Mexican partners and, on the French side, the Groups of the General Water Company and Lyonnaise Water Company and IOW.

The total investment amounts to MFF 27, MFF 5.5 of which will be borne by the French Ministry of Economy and Finance, thanks to the assistance of the Economic Expansion Mission at the French Embassy in Mexico, MFF 8.5 by French industries and MFF 13 by the Mexican partners for the building of infrastructures and personnel cost.

BOTSWANA

SIGNING OF A 3-YEAR CONTRACT RELATING TO TECHNICAL ASSISTANCE AND TRAINING FOR WATER SERVICES

IOW, in association with LYSA (Lyonnaise Water Company Associated Services), signed, on June 10, 1996 in Gaborone, a 3-year (1996-1998) contract with the "Water Utilities Corporation" (WUC), for a technical assistance and the development of training capacities.

This contract amounts to 5,500 million French francs and falls within the framework of the financial protocol signed by French and Botswana Governments on 25 January 1996.

The programme has four components:

- 1 Human resources development (Training of Botswana trainers, specialized technical training for Botswana executives who will face real working conditions, in

France in the Lyonnaise Water Company and IOW national training centre, and at a branch of the Lyonnaise Water Company in South Africa, in Johannesburg, Kwazulu and Queenstown,

- 2 The development of training tools (documentation and computer centres),
- 3 A technical assistance for defining a national continuous training policy,
- 4 A feasibility study for the setting up of a Regional Water Training Institute intended for all countries, members of SADC (Southern Africa Development Community).



EUROPE

POLAND

GDANSKA FUNDACJA WODY - GFW

Created under the aegis of the Polish Authorities, Ministry for Environment, with the support of French and Danish cooperations and of the European Commission's Life Programme, **the Water Foundation of Gdansk (GFW) aims at becoming the Polish National Training and Documentation Centre for Water.**

The Voidvoidship and municipality of Gdansk, the International Office for Water and the Limousin region, the Freshwater Centre of Copenhagen are founder members of GFW.

Officially registered in May 1995, the Foundation has, at present, a **permanent full-time staff of seven.**

A permanent representative of IOW seconds the Director in Gdansk.

Mr. H. Wojciechowski, Voivoidship of Gdansk, has been the President of the Foundation since September 1996.

In 1996, 16 catalogue-courses and 5 conferences and seminars were attended by 568 executives of water services of Polish municipalities and more than 400 local elected officials took part in information days that were coorganized with the Water Agencies (RZGW). Trainers from IOW regularly intervene in these courses.

Thanks to new equipments, the Foundation will reach, in the second quarter of 1997, its full commitment and will propose a complete range of training courses for agents at all hierarchical levels in the water services of Poland and of the neighbouring riparian countries of the Baltic Sea.

FGW: Fax (48-58) 35 54 30



Gdanska Fundacja Wody

ROMANIA

A FEASIBILITY STUDY FOR THE CREATION OF A ROMANIAN TRAINING CENTRE

The Romanian National Committee of Water Producers and Suppliers (CNDPAR) and the regional council of Limousin have entrusted IOW with a feasibility study regarding the creation of a Training Centre for Water Professions in Romania.

The study has three main objectives to:

- identify the operational difficulties encountered by the 41 State-owned companies - members of CNDPAR,
- examine previous training methods and to identify the priority training needs,
- elaborate a national continuous training strategy.

IOW and CNDPAR made a joint analysis of the situation during the last quarter of 1996:

- A complete "quality" type audit was carried out in 3 State companies acting as "samples",
- A national inquiry questionnaire was circulated among a representative sample of the other companies,
- A study of a National Observatory of the State companies.

In 1997, the results thus obtained will be used to establish the characteristics of equipment and the operating conditions of a future Training Centre.

CZECH REPUBLIC

THE T.G. MAZARYK INSTITUTE

The project "Creation of a training and information centre for decision-makers, on water management in the Czech Republic" jointly submitted by IOW and the T.G. Masaryk Institute, received a favourable response from the French Ministry for Foreign Affairs and the European Commission, within the 1995 Phare Partnership Programme.

The project will comprise the training of trainers, the development of specific training modules on management methods for potable water supply and sanitation services and on economic and legal aspects as regards the control of polluting discharges, the joint management of pilot training courses and the installation of IOW's documentation base at TGMI.

"AQUADOC-INTER"

The "AQUADOC-INTER" concept aims at setting up a world network of National Relay Documentation Centres (NRDC) on water, that can exchange relevant information within the framework of INBO (International Network of Basin Organizations).

The first AQUADOC-INTER model will be implemented by IOW to give, in 1997, a simultaneous access to harmonized information on water relative to Romanian, Hungarian, Mexican, Moroccan, Brazilian and French... river basins, on Internet of course.

APELE ROMANE might create in Romania, one of the first "AQUADOC-INTER" centres.

APELE ROMANE is charged with the collection of information on the large Romanian river basins.

HUNGARY: VITUKY DOCUMENTATION CENTER

In November 1996, the International Office for Water, on the request of the French Ministry for Foreign Affairs, welcomed Mr. Szabo, in charge of VITUKI's data department, to show him the operation and organization of its information and documentation department.

Following this mission, IOW's documentation bank was installed at VITUKI under CDS-ISIS. The on-line access to banks via Internet "<http://www.oieau.fr>" was successfully tested and will be used by VITUKI's engineers to look for scientific and technical information.

In 1997, IOW will open a credit for the order of primary documents selected by VITUKI staff.



THE MEDITERRANEAN

MOROCCO

CREATION OF AN INFORMATION AND DOCUMENTATION CENTRE ON WATER IN ONEP

The National Office for Potable Water (ONEP) has planned the creation of an information and documentation centre on water that would be set up in the Bou Regreg unit (Rabat) in order, among other things, to:

- constitute a complete documentation in the water sector,
- manage the reports of ONEP and make them accessible to users,
- consult external, especially international, data bases,
- disseminate ONEP's works by producing bibliographical bulletins or other information products,
- establish close relationships with foreign documentation centres.

To start the centre, ONEP requested technical assistance from IOW for the installation, the purchase of equipment and the organization of the centre, for the training of documentalists and of a multimedia technician.

This mission will continue until 1998.

ALGERIA

NATIONAL INSTITUTE FOR THE IMPROVEMENT OF PUBLIC WORKS - INPE

In 1995, a multiannual partnership contract was signed by IOW and INPE, the aim of which is a transfer of know-how between training centres on water and sanitation.

In 1996, IOW in Limoges received two groups of engineers-trainers from INPE. Educational kits were provided to the Algerian trainers to enable a rapid transfer of this knowledge to technicians in their country.

The programme will continue in 1997 and 1998.

National Training Centre for Water Professions

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DID YOU KNOW IT?

Affermage (leasing) is the main method used for delegated management of municipal water services in France.

◆ In France, there are 15.244 potable water supply services, and 11.922 municipal sewerage services.

◆ Municipalities, individually or regrouped in intercommunity syndicates, are responsible for organizing public water services.

◆ The municipality is always the owner of installations. The Municipal Council freely chooses the method for services management, either directly in public corporation, or by subcontracting to specialized private enterprises: this is the delegated management.

◆ In the case of "affermage", the municipality:

- undertakes all necessary investments for which it finds funding.
- signs a contract for the operation and maintenance of installations and relations with the users with a specialized private enterprise, for about a 12-15-year period, after sending invitations to bid.

The contract sets the water price and its evolution in time.

◆ The enterprise assumes cost billing and recovery from the consumers to cover its services. It reimburses the municipality the part which corresponds to technical depreciation and financial amortization of investments and pays the taxes and charges that are owed to the State and Water Agencies (see figure below).

The International Office for Water offers governmental authorities or municipalities which would be interested, an expertise on:

- the deconcentrated and decentralized organization of water services,
- the industrial and commercial management of these services, and the tariffing of water prices,
- the preparation of priority investment programmes and on project evaluation,
- a "privatization" strategy for choosing the management method, the most appropriate contracts to sign, and the follow-up of their execution.

Of course, IOW can also organize training courses in France or in each country concerned.



AFRICA

UNION OF AFRICAN WATER SUPPLIERS

THE 1996 CONGRESS

The 8th Congress of the Union of African Water Suppliers (UAWS) took place in Yaounde (Cameroon) from 15 to 23 February 1996 and was very successful in gathering more than 400 participants.

IOW presented a paper on "Financial Resources and Cost Recovery" based on the examples of Fez (Morocco) and Ouagadougou (Burkina Faso).

WATER UTILITIES PROGRAMME - WUP

A meeting between IOW, NANCIE and the French Ministries of Cooperation and Public Works and Mr. Jerrari, Director of the Water Utilities Programme (**strengthening of UAWS capabilities**) took place in Paris on 11 February 1997. It examined the support that could be jointly provided with training on institutional reform of water companies, improvement of their management, efficiency indicators or creation of a Web site.

NIGER

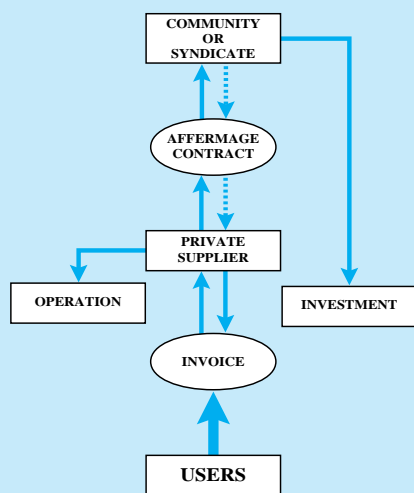
Within a project implemented for strengthening the "Training" Unit of the National Water Company of Niger, led by GTZ and partly funded by the French Development Fund, IOW organized a **training course addressing operators of the Goudel and Yantala water plants** that supply water to the Nigerian capital.

This seminar, which took place from November 11 to 30, 1996,

aimed at providing the operators with basics of chemistry, water treatment and the advantage of bacteriological control.

Shortly before the end of the course, a visit to the potable water production unit of Tillaberi 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.**

"AFFERMAGE" IN FRANCE



ASIA CHINA

ADEME - IOW, NEW PARTNERSHIP

ADEME's International Steering Committee has adopted the principle of a **joint action with IOW to promote abroad our know-how on the organization of municipal services for the urban**

environment (water and wastes).

The first real action should be the joint publication of a CD-ROM on urban ecology proposed within the framework of a Chinese-French cooperation.

LATIN AMERICA

MEXICO

REMOTE CONTROL OF MEXICO'S SEWERAGE NETWORK

Further to an experts' mission which took place in Mexico DF in October 1995, IOW received two executives from the **Dirección General de Construcción y Operación Hidráulica (DGCOH)** for a 3-week specialized training course to study the French offer and know-how on remote control.

During their stay in France, the Mexican engineers were able to meet French operators, industrialists and consultants.

They visited installations of the Urban Communities of Bordeaux, Seine Saint Denis and Nancy (within the framework of the NANCIE-IOW partnership).



EUROPE FRANCE

“THE GREATER LYONS URBAN COMMUNITY”

Within the reorganization of the Water Directorate of Greater Lyons Urban Community, Jean-Louis Lermite from IOW has prepared a project for strengthening the capabilities of the personnel concerned.

This 3-year project (1996-98) will use the wide range of IOW's capabilities on educational engineering, the study of training plans and the implementation of tailored training programmes addressed to large operating organizations.

A NEW “QUALITY” APPROACH

While taking into account the European Directive, services must envisage the design of sanitation systems that can faultlessly meet given requirements.

From problem formulation to project implementation, only a logical and controlled approach and a multi-criteria thinking can provide a thorough solution.

Aware of the advantage of this “quality” approach, the National Centre of Local Public Services (CNFPT) entrusted the International Office for Water with the design of a new course to train municipal executives on cost-benefit analysis in their sanitation projects.

LOCAL ELECTED OFFICIALS

From 1992 to 1996, 89 “Water days” gathered 6,735 elected officials, in 29 French departments.

Four years ago, the French authorities launched a multiannual programme of information and assistance to decision-making in municipalities, the implementation of which was entrusted to the International Office for Water.

It is especially addressed to mayors and presidents of water syndicates in rural areas and are decentralized in each department, where “water days” can be repeated as many times as necessary, especially in districts, in order that elected officials can participate more actively.

The topics of each session are locally chosen depending on specific concerns, but several topics are gaining force such as services management and operation...

It is also obvious that such topics, as water pricing and conditions for leasing and concession of public services to private enterprises, are at the top of the “hit parade”.



MARTINIQUE

Intervention in the Public Water and Sanitation Corporation of Fort-de-France (RAEA).

In January 1997, IOW organized in Fort de France a training course on the management of consumers and on meter reading by portable terminals.

This 2-week training course dealt with a comparative study of the existing tools for computerized management.

It was the opportunity to underline some of the processing difficulties encountered in the marketing process of the corporation.

Different solutions were presented that imply the redesigning of the computerization masterplan and the use of more complete and adapted management tools.

THE REUNION ISLAND

IOW organized a training course, with the General Council of the Reunion Island, from October 7 to 11, 1996, intended for the personnel of the Departmental Water Laboratory.

It dealt with wastewater analysis and followed the courses organized already on water chemistry and potable water analysis.

TRAINING FOR ELECTED OFFICIALS IN POLAND AND HUNGARY

IOW has been approached by the Polish and Hungarian Authorities to develop an awareness programme for their local elected officials entrusted with the management of water and sanitation services by the decentralization process.

In Hungary as in Poland, this programme was preceded by the training of the national agents in charge of organizing and implementing these courses, and by preparing educational supports with them, in their own language.

• In Poland, nine information sessions were jointly organized with the Basin Agencies (RZGW) of Krakow, Katowice, Gdansk, Szczecin, Wroclaw and Warsaw, and gathered about 400 elected officials and representatives of water and sanitation services.

The Water Foundation of Gdansk (GFW) has contacted the RZGWs to continue these training actions: a meeting was held in Olsztyn on 10 December 1996 with about fifty municipal managers.

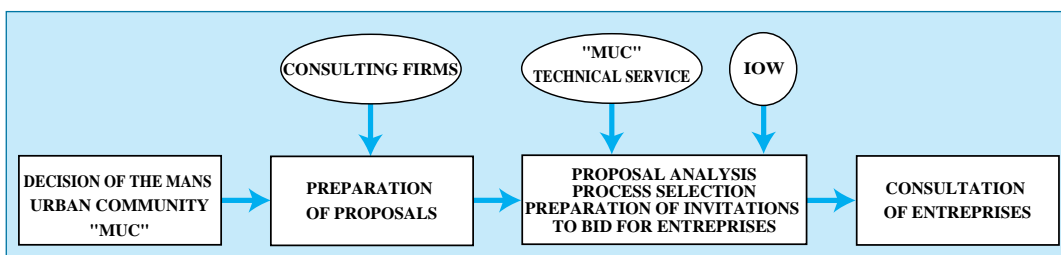
• In Hungary, the training courses for elected officials, that were implemented in 1995 with more than 150 participants, have been since taken over by the National Association of Water Suppliers.

“LE MANS” CITY

To meet European requirements regarding nitrogen and phosphorus, the Council of the Mans Urban Community (MUC) has decided to develop its treatment plant for 315,000 population-equivalents.

The Community has wanted all possible guarantees. Therefore, it is going to request 3 consulting firms to study each a different alternative for the best process to use. The assistance of an IOW

expert has been required to examine and analyse their proposals in order to select the optimum process.



LEONARDO DA VINCI

The “Form-aqua” project aims at promoting the efficiency and quality of vocational training in the water sector by identifying the training needs in five European countries (Belgium, France, Italy, Spain and the United Kingdom). This study will be carried out by means of questionnaires and interviews.

The results could be used as a first step for establishing guidelines in the water sector to help the European Union's programmes in designing medium and long-term training policies to be adapted to the national needs.

THE DANUBE PROGRAMME

TRAINING OF MUNICIPAL SERVICES' MANAGERIAL STAFF

IOW has been associated with UNECIA (Universities of England Consortium for International Activities), with WTI (Water Training International) and with the South Staffordshire Water PLC, in implementing a programme intended to reinforce the managerial capabilities of municipal personnel responsible for water in **Bulgaria, Croatia, Czech Republic, Hungary, Moldavia, Romania, Slovakia, Slovenia and Ukraine.**

This programme is managed by the Danube Programme Coordination Unit, based in Vienna.

IOW participated in a meeting organized by UNECIA, in Sheffield on March 20, in order to launch the project.

The international training courses for

trainers proceeded in two phases:

- a first 3-day component on financial management was organized in Budapest in June 1996 with the assistance of the Regional Centre for Environment,
- a second course in which Mr. CASIMIR (IOW) carried out a 2-day training on services organization and management, the role of the public sector, the participation of the private sector, was held from 8 to 19 July 1996 and was attended by 22 participants.

As a follow-up to these training courses, national courses were programmed in some countries: Bulgaria and Ukraine in December 1996, and the Czech Republic in January 1997.



THE MEDITERRANEAN

MOROCCO

THE NATIONAL MASTERPLAN ON SEWERAGE

In 1994, with United Nations funding, the Moroccan Ministry of the Interior started a large study for the preparation of the future treatment of wastewater in Morocco and requested a French technical assistance for the follow-up of this study.

This task was entrusted to IOW by the French Development Fund (CFD).

It aimed at providing a critical and constructive analysis of the work undertaken by consulting firms.

IOW experts were concerned with:

- **comparative legislation,**
- **wastewater treatments** that can be used in Morocco, **treated water** reuse in particular,
- problems encountered in **storm-water run-off.**

The conclusions of this audit have been recently presented and should enable the study to be completed next summer.

DISCHARGES FROM TANNERIES IN FEZ

Upon the request of the French Development Fund (CFD), IOW prepared, under the aegis of the Wilaya and assisted by the Fez Water Authority, a debate on pollution caused by chromium and heavy metals, as a preliminary to launching a **programme on pollution reduction in tanneries** which includes three phases:

- improving process and recycling,
- creating a specific decontamination system,
- setting-up an adapted institutional framework.

Two IOW experts, intervened on 5 June during the debate in Fez: Messrs. Pechdo, Mannexim Company, and Berthezene, Loire-Brittany Water Agency.

UNITED ARAB EMIRATES DESALINATION OF SEA WATER

In this region of the world which is richly endowed with energy resources, 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.

Upon 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 specialized partners to make a proposal.

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MIDDLE EAST PEACE PROCESS

"IOW" TRAINING IN AMMAN

A training course was organized by IOW on the topic **"Rehabilitating potable water supply systems"**, in Amman (Jordan) in January 1996.

It was attended by 19 participants from Egypt, Israël, Jordan and the Palestinian Authority, all of whom appreciated the possibility offered them of conversing with technicians of the region. They were very pleased to exchange their respective experiences and discuss their specific problems.

ADAPT

Within the up-dating of the European Directive on Potable Water Quality, IOW is preparing, in cooperation with the French Ministry of Health and the Confederation of Small Building Enterprises (CAPEB), a large-scale action addressed, on one hand, to building owners, and, on the other hand, to plumbers, to **raise awareness on the impact of lead**

pipes on the quality of supplied potable water.

This programme benefits from the support of the ADAPT programme of the European Union, and regroups, at European level, EETAA in Greece, Federgasagua and Hydrocontrol in Italy and the Polytechnics University of Valencia in Spain.

TURKEY

THE EUROPEAN COMMISSION: WATER PROJECTS EVALUATION

Upon the request of the European Commission (DG1), IOW carried out, in October and November 1996, **an evaluation of the investment needs expressed by the towns of DIYARBAKIR** (1 million inhabitants) **and SHANLIURFA** (400,000 inhabitants) **in the field of water.**

This mission identified the effective roles of the various national and local Turkish authorities involved.

All projects were estimated to a total amount of some 100 million ECU. These needs in infrastructure are obvious, but the mission

emphasized some difficulties, 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. IOW made concrete proposals for this purpose.

ACTIM SEMINAR

ACTIM organized a seminar on the topic of **"water: infrastructures and management of hazard-prone areas"** in Istanbul on May 28, 1996, within the framework of the FRANCIA 2000 exhibition.

Messrs. P. Fevrier, French Deputy Director for Water and J.F. Donzier, IOW's General Manager, presented papers on the French management of municipal water services.

DID YOU KNOW IT?

To implement an integrated water resources management, it is necessary to organize some basic functions, in a rational and coherent manner.

It is particularly on the scale of a river basin that an appropriate organization must be set up.

Supported by the expertise of the six French Water Agencies, and thanks to its experience acquired in many countries, the International Office for Water offers today a multiannual methodology to initiate advisable processes for administrative reforms at the level of each pilot river basin. It relies on:

- the setting up and directing of a river basin committee that facilitates inter-administrative coordination and initiates users' participation.
- the study of a "white book", that draws up an inventory of the present state and the pre-

paration of a masterplan for river basin development and water management on a medium-term basis,

- the definition of a 5-year Priority Investment Programme (PIP),
- the simulation of financial mechanisms necessary to implement the PIP and the administrative organization that follows,
- finally, the setting up of a "basin observatory", to acquire knowledge on surface and ground water resources, either in quantity or quality, on their uses and on polluting discharges. These "observatories" are necessary to assess the efficiency of the implemented programme, to check whether the objectives have been reached and to better identify the "black spots" on which to concentrate efforts.

"WATER"

A SOFTWARE FOR THE FINANCIAL SIMULATION OF A RIVER BASIN ORGANIZATION

Performing water resources management relies on a financial solidarity between the water users of each river basin, based on the "user-polluter-pays" principle.

IOW has developed, in relation with the French Institute for Environment (IFEN), a computerized tool to simulate various funding scenarios for the training of executives who are undertaking to reform their water institutions.

The "WATER" software (Watershed Agency Tabulation of Economic Resources) has a double objective: realism in simulation and educational clarity.

It consists in describing the river basin concerned (users, discharges, withdrawals) and defining Priority Investment Programmes (PIP) to be implemented (objectives, amount of the water charges, mode of financial assistance).

The user can observe, in real time, the impact of the decisions made by a fictitious River Basin Committee, from an environmental, economic and financial point of view, and this over a 15-year period.

Within the framework of a training course, the "WATER" software can be provided to local authorities in its French, English, and soon Spanish, version.

PREPARATION OF GUIDELINES IN THE WATER RESOURCES SECTOR

In October 1996, HR Wallingford Ltd. submitted a successful tender, in association with the International Office for Water, to the European Commission, Directorate General for Development (DGVIII), for the preparation of guidelines in the water resources sector.

This project forms part of the EC programme on Environment in Developing Countries.

The work will include:

- Development policies, lending portfolio and the application of project cycle procedures by DGVIII and DG1-B,
- A review of the existing policies and strategies in all EU members and other donors,
- The preparation of guidelines for the application of a sectoral approach by EC operational staff and recipient countries.



ASIA

INDIA

THE WATER CLUB

IOW has become a member of the "Water Club" for India which regroups the French companies and organizations that intervene in the Indian sub-continent.

INTEGRATED MANAGEMENT AND POLLUTION CONTROL OF THE "SABARMATI RIVER" IN GUJARAT

In 1996, three missions were carried out by J. Mancel, IOW's Director of International Cooperation, in March, June and December, to define, with the Indian Authorities, the World Bank, UNDP and the French Embassy, the technical and financial terms of a pilot project, which aims at defining the most appropriate methods to be used for an integrated development, pollution control and a sound water management of the Sabarmati River Basin.

In a first phase, it should define the terms of reference for the study of a masterplan for water development and management and a Priority Investment Plan (PIP) by simulating the financial mechanisms necessary for its implementation and for the creation of a basin observatory.

Mr. Parmar, Secretary of the Narmada and Water Resources Dept. (Gujarat), came to France from 20 to 24 May 1996 to familiarize himself with the French water policy.

THE WORLD BANK: WATER FOR RURAL AREAS OF PUNJAB

Within the framework of the project "Water Resources Management in Punjab", which deals with potable water supply in rural areas, the World Bank has requested that French experts intervene. Therefore, several joint identification missions have been carried out by Mr. W. Bouffard, expert at the Rhone-Mediterranean-Corsica Water Agency.

A delegation of 16 Officials of Punjab Government (water resources, pollution control, public health) were in France for a study tour from 4 to 10 August 1996.

After a general introduction to French water policy, this delegation was divided into two groups according to their fields of interest:

- The first group, interested in river basin management, visited the Rhone-Mediterranean-Corsica Water Agency, the CGE (General Water Company) installations in Lyons and the BAYARD Company.
- The second group, more interested in potable water supply and sanitation aspects, visited several treatment plants in the Provence-Alps-Riviera region.

A synthesis of the tour was made with the French Ministry for the Environment and was followed by a visit of the SAGEP's plant in Evry for the treatment of potable water.

INTEGRATED WATER MANAGEMENT MAIN BASIC FUNCTIONS

- LEGISLATION - REGULATION
- STANDARDIZATION
- AUTHORIZATIONS FOR WITHDRAWALS OR DISCHARGES
- WATER LAW ENFORCEMENT
- MONITORING OF THE MEDIUM AND USES
- PLANNING
- FUNDING - PROGRAMMING
- INVESTMENTS
- OPERATION - MAINTENANCE
- RESEARCH
- TRAINING
- INFORMATION



ASIA KAZAKHSTAN

THE IRTYSCH PILOT BASIN PROJECT

Within the context of a visit to France, organized by ACTIM and the Company HORIZONS, Messrs. Baïchev, First Vice-Minister of the Ministry of Ecology and Biological Resources and Chamenov, Director of Kazguidromet, an institution in charge of hydro-meteorology and pollution monitoring, were received at IOW in order to discuss a cooperation project concerning **the development and integrated management of the Irtysch River basin.**

This project really started with a first interministerial working seminar, which was held in Almaty from 15 to

17 January 1997. This seminar associated the users and the authorities of the Irtysch Basin and was directed by Mr. Bernard (IOW) in collaboration with Mr. Murat, French Ministry for the Environment, and Mr. Martinez, Adour-Garonne Water Agency. It examined the institutional and legal contents required for preparing a priority action plan to improve potable water supply and sanitation in the main cities of the basin (Pavlodar, Semipalatinsk and Oust-Kamenogorsk).



AFRICA

MAURITIUS

TOWARDS AN INTEGRATED MANAGEMENT OF THE ISLAND WATER RESOURCES

A high-level seminar on "integrated water resources management" was held in Grand Baie from May 29 to 31, 1996. It gathered about sixty participants representing the different Ministries concerned and the categories of water users (farmers, consumers, industrialists, NGOs ...).

It was jointly organized by the Ministry of Energy and Water Resources of Mauritius and the Mission for Cooperation of the French Embassy.

This was the opportunity for a delegation from IOW to present the French example of river basin management, with the testimonies of two members of French River Basin Committees: Mr Landais, industrialist (Seine-Normandy) and

Mr Glasel, farmer (Rhone-Mediterranean-Corsica).

In addition, the current experience carried out in the French neighbouring Reunion island for setting up a River Basin Committee and a SDAGE (Masterplan for Water Development and Management) was also widely discussed.

The participants of the seminar all insisted upon **the creation of a "National Water Committee", composed of local elected officials, users and members of the Administration.**

The adopted recommendations will constitute the action plan for water resources management in Mauritius. They should soon be submitted to the Council of Ministers of Mauritius.

IVORY COAST

FOR AN AMBITIOUS REFORM

Following a first identification mission of J.F. Talec (IOW), and Lionel Renaud, Deputy Director of the Rhine-Meuse Water Agency, carried out in Abidjan in March 1996, Mr. Sekou Toure, High Commissioner for Water, accompanied by Messrs. Anzeni Djouka, Director for Water, and Mamadou Sakho, visited in August 1996 the International Office for Water, the French Ministries of Cooperation and Environment, the Provence Canal Development Company and the Rhone-Mediterranean-Corsica Water Agency.

An interministerial seminar, based on IOW's report, took place in Ivory Coast in September 1996. The new policy of integrated water resources management was defined. Three scenarios were presented: management by national state structures, river basin management

and a mixed solution which was adopted.

It consists in setting up a Water Authority at national level with the double function of Water Agency and Developer. A River Basin Authority would also be created in each of the three main river basins of the country. It would be composed of elected officials, users and representatives from the administration.

The Council of Ministers adopted this project in December 1996.

Ivory Coast organized, from 7 to 10 November 1996, **the fifth meeting of the Liaison Bureau of the International Network of Basin Organizations (INBO)**, that was the occasion of presenting the envisaged reform and the method used to define its conditions of application.

BURKINA FASO

NAKANBE RIVER (WHITE VOLTA), A DELICATE CONTEXT

It has to meet the water needs of Ouagadougou (almost 1 million inhabitants), it is equipped with more than 450 installations and reservoirs, and a large dam (200 Mm³) is under study... all this on a non perennial river which only flows from June to October!!!

The Burkinabe Ministry of Water and Environment therefore requested the International Office for Water, with the support of the French

Ministry of Cooperation, to design a new institutional organization.

The missions, carried out in 1996 by Messrs. Alain Bernard, IOW, and Ernest Giorgiutti, Adour Garonne Water Agency, dealt with the elaboration of a proposal for the setting up of a Basin Committee on the Nakanbe and of a self-supporting body, managing the resource at basin level.



Seminar in Grand Baie

OMVS ORGANIZATION FOR THE DEVELOPMENT OF THE SENEGAL RIVER

What kind of management for common infrastructures?

In 1995, IOW was requested by the French Ministry of Cooperation, in agreement with OMVS, to reflect on the management of common infrastructures built on the Senegal river. It would involve **the creation of two companies: Management of Manantali Energy (SOGEM) and Diama Management and Operation (SOGED).**

On the request of Sir A. Gibb, British Consulting Firm, Messrs Arcangeli and Delay (IOW) examined the types of delegation (State corporation or "affermage" -leasing-) of the "Energy" component of the project.

As a result of the donors' meeting which took place in Paris, a seminar was held in Dakar, from 17 to 26 June 1996, to approach institutional aspects. Mr. Krotoff, IOW consultant, offered his advice on the statutes of the various companies and organizations to be set up.

As a follow-up, Mr. Gaissa carried out an audit on Diama Dam and made an estimate of the rehabilitation and maintenance costs required. Finally, Messrs. Arcangeli and Mancel intervened late November early December to prepare the donors' assessment of the "Energy" project. It entailed drawing up the statutes of SOGED Company, estimating its budget and operational costs and examining the conditions for the sale of water.



LATIN AMERICA MEXICO

BASIN ORGANIZATIONS ARE BEING SET UP

As a result of its continuing experience on 3 pilot basins, the National Water Commission (CNA) is going through a phase of reorganization within the framework of the federal law of December 1992. It consists in dividing the Mexican territory into 13 regions which in fact, correspond to the country's main hydrographical units. In each one, a Regional Directorate will be responsible, with the support of a Basin Committee, for locally developing integrated water resources management in compliance with the guidelines defined at national level.

Thanks to the experience he acquired, as Regional Director of the Lerma-Balsas Basin and Technical

Director of the Lerma River - Chapala Lake Committee, **Mr. Eduardo Mestre-Rodriguez, currently President of INBO, was given the assignment of coordinating this very important reform.**

The World Bank has just agreed to a loan of 186 M US dollars in support of this large-scale administrative reform.

Thirteen Mexican executives of these new Regional Directorates attended (with the cooperation of IOW and the Water Agencies) a 1-year training course at ENTPE (National School for Public Works), France.

ALL UNITED FOR A BETTER WATER MANAGEMENT

Nineteen Latin American countries were represented in the General Assembly of the **International Network of Basin Organizations (INBO)** in Morelia, Mexico (March 1996). **They decided to set up a regional sub-network for Latin America.**

It will enable them to develop and increase exchanges of information and experiences

which should lead to the reinforcement of basin structures in countries of the region.

The first meeting of the regional network will be held in Brasilia, on 9-10 July 1997, at the invitation of the Brazilian Authorities.

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PERU

ANALYSIS OF THE WATER LAW

Upon the request of INRENA (National Institute for Natural Resources of the Ministry of Agriculture), the Peruvian Ministry of Public Works and of the French Embassy, Mr. Sironneau, legal adviser at the

French Ministry for the Environment, has made an analysis of the draft Law on water resources management and has drawn up proposals which are being studied by local authorities.



THE MEDITERRANEAN

TURKEY TOWARDS A PILOT-EXPERIENCE IN THE IZMIR REGION

Following the Ankara seminar in September 1995 and identification missions carried out by IOW in 1996, the Turkish and French Ministers for the Environment, when meeting on March 5, 1997 in Paris, agreed to support **the pilot project dealing with the integrated management of water resources and pollution control of GEDIZ, KUZEY EGE and MENDERIZ rivers in Izmir region.**

This project will be supervised by a **joint steering committee** composed of the Ministry for the Environment, DSI, Iller Bankasi and SPO, on the Turkish side, and by the Ministry for the Environment, the French Embassy in Turkey, the Rhone-Mediterranean-Corsica Water Agency and IOW, on the French side.

The project will comprise a feasibility study for a master plan, dealing with the following:

- a **Priority Investment Programme**,
- the **contribution possibilities of the water users** and the simulation of a financial system,

- the **best adapted structures** for dialogue and management,
- the setting up of a **basin observatory**.

Depending on the conclusions of this study, the Steering Committee will endeavour to mobilize the means necessary for implementing the Priority Investment Programme, especially by appealing to Euro-Mediterranean credits or to multilateral agencies.

ALGERIA SETTING-UP OF A NEW ORGANIZATION

Messrs. Donzier and Talec of IOW, participated in the first course in France intended for executives of the Algerian Ministry of Public Works, responsible for setting up a new organization for river basin management in their country.

MOROCCO

SIGNING OF AN AGREEMENT ON WATER

On the occasion of the visit of Mrs C. Lepage, French Minister for the Environment, in April 1996 to her Moroccan counterparts, Messrs Benomar, Minister for the Environment, and Meziane, Minister of Public Works, a cooperation agreement on Global Water Management was signed by Messrs Jellali, Director General of Hydraulics, and P. Roussel, Director for Water.

The main projects that were retained are the setting up of a **pilot programme for the integrated management of OUM ER R'BIA basin**, of which IOW will be coordinator on the French side, and flood prevention.

Within the framework of this agreement and of the new Moroccan law, several on-site missions were carried

out in 1996 by Messrs Mancel (IOW), Odier (Water Directorate), Basseras and Martinez (Adour-Garonne Water Agency). The aim is to prepare a 2-year programme of priority actions in the Oum Er R'Bia basin.

This programme comprises 2 components:

- **Technical assistance** for the preparation of a masterplan and a Multiannual Priority Action Plan and for the simulation of financial and administrative measures to be taken for its implementation.

- **Training on water management**
Last December, two Moroccan executives, one being the future Director of Oum R'Bia Agency, went to the Adour-Garonne Water Agency for a legal and administrative support.

This course, organized by the National School of Civil Engineering (ENPC) also included a sojourn in French Water Agencies.

PROTECTION OF THE MITIDJA

This 4-year project, which is financed by the French Ministry for Foreign Affairs, concerns the implementation of a programme for monitoring and protecting the waters of the Mitidja Valley which supply Algiers. Since

1994, IOW has already organized various training and research missions for Algerian participants of ANRH, in partnership with SAGEP, Limoges and Toulouse Universities, GEOLAB, Rhone-Mediterranean-Corsica Water Agency.

A meeting was organized on January 10, 1997 at IOW's headquarters in Paris to make the synthesis of the activities which are already completed and plan the priority programme for 1997.



EUROPE

FRANCE: ACTIONS WITH THE WATER AGENCIES

ADOUR-GARONNE AND LOIRE-BRITTANY BASINS

THE "RIVER - WATER SHARING" PROGRAMME

The "RIVER - Water Sharing" programme, organized with the European Centre for Developing Innovation in rural areas (CEDEPI), consists of 3-day training courses that gather all the actors of a river basin concerned with a particular problem of water management, for raising their awareness and for starting a free dialogue among them.

The project, which was launched in 1991, was immediately supported

by agricultural professional organizations and the Ministries of Agriculture and Environment, and the Adour-Garonne and Loire-Brittany Water Agencies in particular. In the light of the first experiments, CEDEPI obtained, in 1994, a co-funding from the Commission of the European Union on LIFE credits.

Today, 30 operations are completed and about sixty are planned up to June 1998.



RHINE-MEUSE BASIN

The Rhine-Meuse Water Agency entrusted IOW with the in-service training of their technicians and engineers in charge of project follow-up. Three training courses were organized in Metz in 1996:

- Two on **urban water systems** revised the bases for dimensioning, design and work in the potable water supply systems and in the sewerage and storm-water networks as well.
- One on **Civil Engineering** enabled the participants to acquire the bases for a preliminary diagnostics of existing installations, and knowledge on detection and rehabilitation techniques in civil engineering.

Technicians involved in **metering** also benefited from an initiation day on measurement.



SEINE-NORMANDY BASIN

EDUCATIONAL KIT

IOW, upon the request of the Seine-Normandy Water Agency, provided an educational kit for the training of operators of treatment plants in small communities.

It is composed of twenty chapters that deal with all sanitation aspects and more than 500 coloured transparencies and educational sheets are at the trainers disposal.



ARTOIS-PICARDY BASIN

TRAINING

A training course on **self-monitoring of treatment plants** was organized in October 1996, for the SATESE (Technical Assistance Service for the operation of treatment plants) of Artois-Picardy Water Agency on the installations of IOW's National Training Centre.

THE WATER DEVELOPMENT AND MANAGEMENT SCHEME (SAGE) OF AUDOMAROIS

The French water law of January 3, 1992 defined a sound water resources management on the scale of river basins and created the necessary regulatory and planning tools: Masterplans for Water Development and Management (SDAGE) and Water Development and Management Schemes (SAGE).

Prepared by River Basin Committees, **the SDAGEs define the fundamental orientations for the six French large river basins**. They were adopted at the end of 1996 and are nowadays reference documents.

The SAGEs are tools for a local dialogue. They are prepared at sub-basin level by **local water commissions (LWC)**. To the contrary of SDAGEs, these procedures are

not compulsory. They are decided upon at local level (local communities, associations, groups of users), and must, further to the SDAGE, face a particular situation.

The SAGE of Audomarois: partnership with IOW

In 1995, the Local Water Commission (LWC) was set up for the SAGE of Audomarois and defined the working methods to prepare a diagnostics.

More than 90 LWC members (elected officials, users, representatives from administrations) and technicians from local structures participated in workshops.

IOW firstly worked with LWC in 1996 to analyse and present the main arrangements of the "Artois-Picardy" SDAGE and its consequences for Audomarois.

Then the work developed, using a methodology proposed by IOW, in relation with the Regional Natural Park, and a document drawn up by IOW enabled to select priorities and conform them with all other planning documents that exist in the region.

The work synthesis was presented to the LWC members on February 24, 1997.



SDAGE GLOSSARY

A national common glossary became necessary to interpret, in the same manner, the terms used in documents presenting the SDAGEs (**Masterplans for Water Management and Development**) of each basin. A group of experts from the Water Agencies, the Water Directorate and the International Office for Water formulated a **precise definition of more than 200 words** that could be currently used, either technical or legal ones. This glossary formatted by IOW is now appended to all SDAGE documents.

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Agences de l'Eau



EUROPE

ROMANIA

A BASIN COMMITTEE FOR THE TROTUS RIVER

The main trends of a multiannual programme were determined with Mr. Florin Stadiu, Romanian State Secretary for Water, in August 1995 during the mission in Romania of the French Director for Water and IOW's General Manager.

Since, the new Romanian Water Law was promulgated in November 1996 and will give stimulus to the cooperation programme.

In 1996, the different components of the programme were defined by Mrs. J. Mongellaz (IOW) with Apele Romane, the Phare unit and the French Embassy.

Within this framework, a co-funding request has been submitted to the "PHARE - Partnership" Programme to **establish a Basin Committee and an operational Secretariat for the Trotus River Basin in Bacau**, branch office of Apele Romane.

A FLOOD FORECASTING AND WARNING PLAN

The project started in 1996 with the participation of French experts from the Departmental Directorate for Environment (DIREN) of South-Pyrenees and in close liaison with the Directorate for Water.

In Romania, the project is led by Apele Romane with the participation of experts from its Bacau Branch.

The main concern is **the forecast of sudden floods in mountainous regions of the Trotus River** (Basin of 4,500 km²) which comprises:

- a critical examination of existing hydrological stations,
- a project for a network with automatic transmission to a central processing terminal allowing for a real-time visual display of hydrological and meteorological phenomena,
- an analysis of the advantage of using radar for an upstream forecast, based on rainfall gauging in real time.

A study tour was organized in France from 20 to 24 May 1996 for a delegation from Apele Romane, composed of Mrs. G. Serbu, Coordinator of international projects, Messrs. Popovici, Director of the

Bacau Branch and Bogdan, responsible for developing equipment.

They met with the operational departments in charge of flood forecasting and warning in France:

- the Departmental Directorate of Public Works (DDE) of Ardeche, with the "NOÉ" System developed by Centralp Automatisme,
- DDE of the Gard: utilization of the "CALAMAR" software which was developed by Rhéa for calculating flood waves, using radar images provided by France Meteo,
- DIREN of South-Pyrenees, responsible for the Upper-Garonne flood warning system,
- the Water Resources Dept. of EDF (Electricity of France) in Toulouse.

The result was a technical proposal suggesting that a French group (Alcatel, Dassault Data Service, IOW ...) provide equipment for the collection and automatic transmission of data, computerized data processing software, adapting the existing radar, technical assistance for installing monitoring stations, and training of the Romanian project team.

UKRAINE

AN AMBITIOUS TRAINING AND EXPERTISE PROGRAMME

Under the impulse of the Ministry of Environmental Protection and Nuclear Safety, Ukraine is now launching **an important reform process for water resources management**.

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

Therefore, the International Office for Water is developing a 18-month programme, including training courses, missions for legal and institutional assistance and study tours in France for Ukrainian executives, with the support of the TACIS-Partnership Programme and the French Ministry for Foreign Affairs.

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International Office for Water

Capacity building for better water management

The International Institute for Water Administration (IIWA-IOW) intervenes, as a priority, on:

- Large river basins management,
- Potable water supply and sewerage in municipalities,
- Industrial pollution control,
- Irrigation and rural water supply,

It offers the interested countries its capabilities in:

- **Institutional expertise and advice** (legal, regulatory, institutional, financial or social aspects) **necessary for preparing and applying advisable reforms,**
- **Creation of Training Centres or Documentation Units** for water professions,
- **Organization of observatories,** monitoring and warning systems, data bases.

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