

INTERNATIONAL NEWS

N° 7 - 2nd Semester 1999 - English Version

IOWater on the WEB
<http://www.iowater.org>



INBO - 3rd General Assembly
International Network of Basin Organisations

BOLIVIA - NICARAGUA
Authorities for regulating public water utilities



MEXICO
In front of Mount Popocatepetl
The training Centre
is being built at Texcoco



*International
Office
for Water*

Special 2000

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TRAINING

AN OUTSTANDING TOOL, QUALITY ASSURANCE

On its two sites of Limoges and La Souterraine, **THE CNFME** (The National Training Centre for Water Professions) uses outstanding human and technical means:

- **A full-time team of 25 trainers, specialists** in the different areas of expertise involved in the water professions; manage the training programmes.

This training is reinforced with **professional** resource persons in the water sector who intervene in the courses whenever necessary. IOWater thus relies on a "reserve" of about **350 specialists and lecturers** whose know-how and educational abilities have been validated.

- **Training under real working conditions**

Pilot units -treatment plants, trial benches, laboratories, drinking water supply and wastewater collection systems, specialised workshops-enable the testing of solutions, the simulation of dysfunction, the acquisition of the necessary skills and professional reflexes, **with the possibility of making mistakes as these units are solely devoted to training.**

- **The catalogue for year 2000 includes 150 training courses** which can be implemented in english.

ISO 9001 QUALITY

THE CNFME, which started a process for "quality" assurance two years ago, was awarded an ISO 9001 certification by AFAQ on 31st March 1999 for the design and implementation of its professional training courses proposed in a catalogue.

It is therefore an official acknowledgement of the CNFME's ability and know-how. It is an international reference as the AFAQ's certificate (French Association for Quality Assurance) is only awarded after the company's quality system has been thoroughly examined and considered to comply with the standard.

THE CNFME now belongs to the very restricted club of European training centres acknowledged as being the most performing in their various specialities. **IOWater is the only certified French autonomous organisation as regards continuing professional training in the water sector.**

With high quality certified training programmes,

THE CNFME thus contributes to the improvement in the know-how of municipal and private companies in the water sector in France and over the world.



" E A U D O C "

THE NATIONAL DOCUMENTATION SERVICE AT THE FOREFRONT OF NEW TECHNOLOGIES

IOWater is entirely renewing the management system of the National Water-related Information and Documentation Service (SNIDE) with the technical assistance of CS-SI, an integrator specialised in information processing.

The new system will be operating in December 1999.

It will offer:

- **access to documentary reference bases and to entire texts**, using a very comprehensive search engine,
- **the downloading of documents** thanks to the electronic management of copyrights and electronic payment,
- **wider services**: current news, selective dissemination of information, documentary summaries on advanced subjects,
- world-wide **detailed information**,
- **a geodocumentation system** whose objective is to find documents with GIS by selecting a territory, a river basin, a river,...

The new system is based on ORACLE (data management) and VERITY (search engine).

The production of references and their analysis will be carried out through teleworking thanks to the networking of the SNIDE's scientific correspondents on the Internet.

EUROPEAN PROJECTS

"VILIB" (Virtual Library):

The objective of this project, financed by the European Union, is to **query distant Z39.50-formatted bibliographical databases, using a common protocol.** Queries are automatically translated into English, German, Spanish and French.

The project also includes a template for accessing full-text bases. It uses the SYSTAL company's "gmios" engine which processes information using concepts, analyses, all types of electronic formats and very quickly indexes several gigabytes of information.

"EWRB" (European Water Regulation Bank):

IOWater leads this project, financed by the European Union, which regroups German (Textec), Italian (Proacqua), Spanish (Cedex) and French (Systal) partners. **EWRB consists in collecting all water-related legal and regulatory texts from five countries of the European Union** (Italy, Spain, France, Germany and the United Kingdom) and in providing the user with unique and multilingual access to information.

THE FOREMOST CENTRE WORLDWIDE

" E A U D O C "

180,000 bibliographical references on the technical and institutional literature available in all water sectors in France and abroad.

" J U R I E A U D O C "

2,000 references on French and European regulations.

" I P E R E "

1,500 references on studies and research underway in France and Europe.



THE “RNDE” : A PORTAL FOR ACCESSING DATA

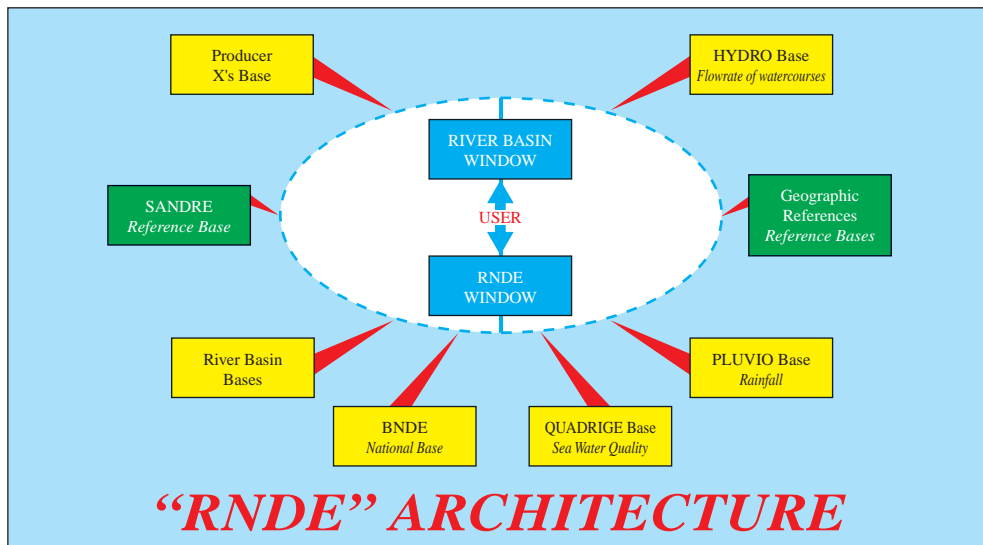
The French Water Data Network - RNDE - groups together the main French organisations in charge of water issues (Ministries of Regional Planning and the Environment, of Health, the Water Agencies, the Higher Council for Fisheries, the French Institute for Environment, the IFREMER, METEO-FRANCE, Electricity of France (EDF), the BRGM).

IOWater manages the project and the “SANDRE” and also operates the national base and the “RNDE” server.

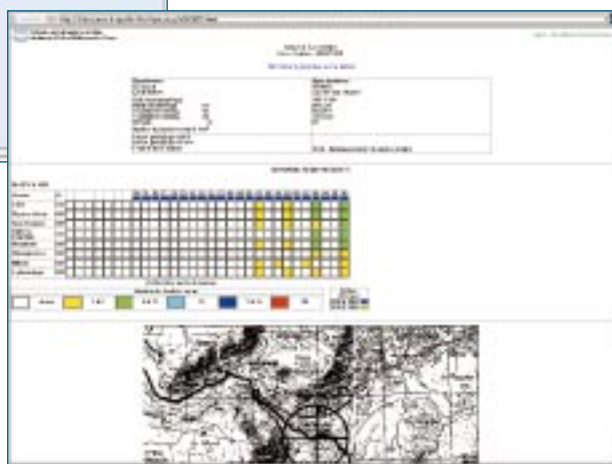
One of its objectives is to offer users easy access to data. This objective is being progressively achieved by the setting-up of databases and access portals on the Internet.

The architecture which has been retained is federating many existing or under-construction databases on the Internet: producers’ bases, specialised bases and river basin bases.

The users are directed towards these bases through windows or “electronic portals” which enable them to easily find, through a sole access, all information issued from data processing: sanitation indicators, water quality maps, bulletin of hydrological conditions, etc.



Examples of information available on the “RNDE” server



For instance, the “RNDE” window enables the user to:

- find all the monitoring stations,
 - consult the descriptive sheets of these stations,
 - access the measured data,
- whichever the base where this information is stored.

THE “SANDRE”

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

“SANDRE” elaborates:

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

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“INTERNATIONAL AQUADOC” 1ST INFORMATION NETWORK WORLD-WIDE

AQUADOC was born because the International Network of Basin Organisations needed to set up a system for exchanging information on the management of large river basins.

It consists in proposing the users unique access, via the Internet, to selected information made available by focal points in the partner countries.

Eleven focal points have already been identified on three continents:

- Brazil, Colombia, Mexico, Peru,
- the Czech Republic, France, Hungary, Romania, Poland,
- Morocco, Senegal.

EMWIS (Euro-Mediterranean Water Information System) has the same objective of enabling the Mediterranean countries to have access to information.

IOWater is AQUADOC French focal point.

Therefore, it selects the national information which is related to river basin management, regulations and institutions, research activities, training and data management.

It also offers methodological assistance and required tools, especially the ARISEM Company's multilingual search engine and is developing, with the support of the French Ministry for Foreign Affairs, a comprehensive computerised system for the focal points which wish to rapidly and economically enter the network.

INTERNATIONAL DOCUMENTARY ENGINEERING

MOROCCO

ONEP (the National Office for Drinking Water Supply) in Rabat, is setting up, with financing from the World Bank, a documentation centre for processing information. Since 1998, IOWater has carried out the following activities:

- audit of the operation of ONEP's documentation centres,
- selection of documentary technologies suited to ONEP and to its ambition of sharing information and widely disseminating its knowledge and know-how,
- the training of documentation teams,
- technical support with the database creation and management,
- assistance with the design of dissemination tools (periodicals, web site, ...).

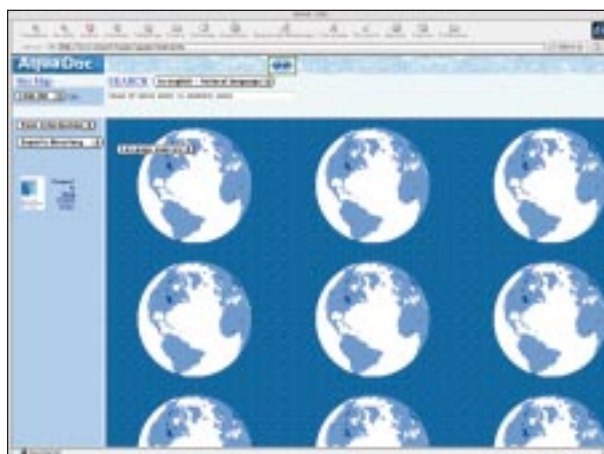


SENEGAL

The French Co-operation Mission supports the Ministry of Water of the Senegal Republic in order that the Secretariat for Water Resources Management and Protection (SGPRE) becomes the national documentary focal point. SNIDE has thus assisted in:

- ➔ equipping SGPRE with TEXTO systems for documentation management,
- ➔ providing a system for exchanging information with the Prime Minister's departments,
- ➔ disseminating the SGPRE documentation base onto its web site.

A specialised training of the personnel of the Ministry of Water and Prime Minister's departments was completed in December 1998.



INBO

The 1998 General Assembly of the International Network of Basin Organisations took place in Salvador de Bahia (Brazil) from 1st to 4th December at the invitation of the Brazilian Authorities.

The works were honoured by the presence of Dr. Cesar Borges, Governor of Bahia State, and Dr. Fernando Antonio Rodriguez, Secretary for Federal Water Resources, who officially opened the debates, as well as Dr. Roberto Moussalem and Mrs. Stela Goldenstein, Secretaries for Water Resources in the Bahia and Sao Paulo States respectively, Mr. Jacek Kurnatowski, Director for Water in Poland and Mr. Sekou Toure, High Commissioner for Water in Ivory Coast who chaired the technical workshops.

The Assembly gathered 351 delegates who represented 158 Organisations from 27 countries.

To date, 125 Organisations from 49 countries have already expressed an interest in becoming either full "Members" or "Observers" to the Permanent Technical Secretariat. Several other organisations, that meet the criteria, have also shown an interest.

The delegates reaffirmed their support for INBO's Charter principles and reasserted that the members of INBO must comply with the four following principles:

- an overall, integrated and consistent management of water resources on the relevant scale of large river basins and aquifers,
- the participation of the local Authorities concerned, the different categories of users and associations for environmental protection in decision-making within basin committees, besides the appropriate Governmental Administrations,
- the definition of medium and long-term objectives to be achieved through masterplans and priority action plans,
- the mobilisation of appropriate financial resources, based on the "user-polluter-pays" principle.

3RD GENERAL ASSEMBLY SALVADOR DE BAHIA - BRAZIL

Upon the proposal of the Brazilian Member-Organisations and in accordance with the Charter, the General Assembly unanimously nominated **Mr. Raymundo GARRIDO**, since nominated Secretary of State for Federal Water Resources, as the new INBO Chairman until the next General Assembly in the Spring of 2000.

It also confirmed the following members of the Liaison Bureau:

Africa: A. Mekki (Algeria), A. Kouadio (Ivory Coast),

America: M. Ballesterro (Costa Rica), E. Reyna Chacon (Guatemala), C. Abihaggle (Argentina), C. Aguilar (Ecuador), D. Bravo (Colombia), R. Chongo (Cuba), D. Favero Brochi (Brazil), R. Garcia Mayen (Mexico), J.M. Latulippe (Quebec),

Asia: R. Usman (Indonesia),

Western Europe: J.M. Santafé and J.A. Llanos Blasco (Spain), J.P. Chirouze and A. Duchain (France)

Central and Eastern Europe: A.M. Pelin (Romania), T. Walczykiewicz and A. Badowski (Poland), Mr. Punchocar (Czech Republic).

In addition: Messrs J.M. Aragonés Beltran (Spain), G. Chavez Zarate and E. Mestre (Mexico) are ex-officio members of the Bureau as former Chairmen, as well as Mr. J.F. Donzier (IOWater) who represents the **Permanent Technical Secretariat** in the Liaison Bureau and whose mandate was renewed for a new statutory period.

The Assembly was pleased with the unquestionable success of the **"Network Newsletter"** publication and of the Internet site:

<http://www.iowater.org/inbo> which currently provides information on the Member-Organisations:

- information sheet concerning the "Member-Organisations",
- agenda of events and seminars,
- identification of educational materials and available information,
- inventory of competent consulting firms and service providers,

- inventory of new Member-Organisations capable of mobilising experts at international level for missions of general interest to INBO as well as a list of these experts.

The newsletter n° 8 will be published in October 1999.

From now on, **"discussion forums"** will take place on the WEB, especially on the topics already dealt with by INBO during the Salvador meeting:

- **"financing of Basin Organisations"**,
- **"masterplans for water development and management"**,
- **"participation of users in the sustainable management of water resources"**, by developing, in particular, an appropriate "social engineering" approach,
- as well as on other important topics such as **"the information necessary for decision making"**

In particular, the General Assembly wished that a **Working Group on the management of shared waters** be created within INBO, which would, in liaison with the existing International Commissions or Authorities, propose draft recommendations to be presented during the Ministerial Conference in The Hague in 2000.

Following the Management Committee which took place in Salvador on 1st December 1998, the delegates reviewed the progress of the **"AQUADOC-INTER"** project, for the dissemination of institutional documentation between the Member Organisations and attended a demonstration of the model of this service. **"AQUADOC-INTER"** operation on the Internet could start in December 1999.



Mr. Ambroise GUELLEC, President of Loire-Brittany Basin Committee, chaired the round table on "user's participation"

Mrs. Christiane RUNEL, from IOWater, presented a paper on the strategy for informing water users

They were, however, very pleased with the organisation, in Brazil by the MMA/DGRH, with the support of IOWater, the French Water Agencies and Co-operation, of **four seminars on basin management** which gathered more than 180 participants from Brazil and other Latin American countries, in Rio de Janeiro, Mato Grosso, Minas Gerais and Salvador.

The next INBO General Assemblies will take place in Kracow (Poland) during the Spring of 2000 and in Quebec and Colombia in 2001 and 2003.

INBO's active participation in the Ministerial Conference in The Hague (The Netherlands) planned for March 2000 is also considered.

Moreover, the General Assembly was pleased with the creation, within INBO, thanks to the support of the Basin Organisations and Governmental Authorities of Brazil and Colombia, of the first **Regional Network of Latin American Basin**

Organisations (LANBO), of which Mr. D. Bravo Borda was elected Chairman, following the Constitutive Assembly in Brasilia (Brazil), on 9th and 10th July 1997 and the first General Assembly in Bogota (Colombia) from 4th to 6th August 1998.

It was also pleased with the meeting of the Member Organisations from Central America and the Caribbean that was held in Guatemala from 29th to 31st July 1998 under the Chairmanship of Mrs. E. Reyna Chacon and with the support of the Authorities and Organisations of that country.

LANBO's General Assembly was held in Mendoza (Argentina) on 3 to 5 August 1999, under Mr. Carlos Abihaggle's Chairmanship. The next meeting for Central America will be held in Nicaragua at the beginning of year 2000.

INBO on the Internet:
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“WATER UTILITIES PARTNERSHIP”

THE AFRICAN WATER UTILITIES ARE POOLING THEIR EXPERIENCE

The Water Utilities Partnership (WUP) is a programme which was launched in 1996 by the African Union of Water Suppliers (AUWS), with the participation of the International Training Network (ITN) and above all the Regional Centre for low-cost Drinking Water Supply and Sanitation (CREPA) and the Training and Networking Development (TREND), with the aim of improving public water utilities in Africa.

Its objective is to raise awareness with a view to achieving the integrated management of water resources and to credit environmental issues with the importance they deserve.

The Programme is currently developing projects in four areas: institutional reform, performance indicators, leak control and the provision of utilities to low-income communities. The Programme budget totals 2 million US dollars per year.

The co-ordination of funding is regularly examined amongst the donors who support the WUP, particularly the World Bank, the European Commission (DGVIII) and the English, French and Swedish co-operations.

An institutional monograph

An institutional monograph of the companies which supply water in 48 African countries has just been carried out within the WUP (20 English speaking, 23 French speaking and 5 Portuguese speaking countries).

In 34 of them, (notably 21 of the 23 French speaking countries), water utilities are organised at national level with a single utility in charge.

An official sanitation utility exists in only 20 countries.

Water utilities are linked to those of sanitation and, if need be, to electricity or gas in 28 of the 48 countries involved in the survey.

In all cases the facilities are owned publicly. Delegation of these utilities to private companies occurs to various degrees in 26 African countries, 11 of which for less than 4 years.

The follow-up of institutional reforms

To take things further, WUP is aiming to create tools for exchanging experiences and building institutional capacities among public and private, local or national water and sanitation operators in Africa.

In consultation with the African Union of Water Suppliers (AUWS), the World Bank and its new World Bank Institute (ex EDI), IOWater has proposed a project based on the creation of:

- a documentation centre on the institutional development of water and sanitation utilities in Africa,
- ways of exchanging experiences in order to promote specifically African know-how in this sector,
- an identification and development system for research on institutional reforms in Africa in this sector.
- the necessary training means for utilities' managers.

SOUTHERN AFRICA



Construction of the new documentary centre has just begun

DEVELOPING TRAINING IN BOTSWANES WATER UTILITIES

It was within the framework of a financial Agreement between the French and Botswanese Governments that the Water Utilities Corporation (WUC) of BOTSWANA signed a contract with the International Office for Water (IOWater) and LYSA (Lyonnaise-des-Eaux' Associated Services) to the amount of 5.500 MFF for the implementation of a programme for technical assistance and for developing the training capacities of the Ministry of Water and Mineral Resources' (MMRWA).

This programme, completed in 1999, included:

- ➔ the training of 18 Botswanese trainers, organised in Botswana by IOWater and LYSA, to enable them to acquire basic educational techniques so that they are then capable of teaching them to the different categories of personnel in the water utilities of their country.
 - ➔ specialised technical training courses, aimed at improving the Botswanese technicians' skills in the following areas: operation of systems (drinking water supply, sanitation), operation of treatment plants, electromechanics and telemanagement, water utilities management (quality approach, safety, analyses...).
- These training courses were carried out both in France, in the regional offices of the Lyonnaise-des-Eaux and in the National Training Centre for Water Professions (CNFME) in Limoges-La Souterraine and in South Africa

through a subsidiary company of the Lyonnaise-des-Eaux, in JOHANNESBURG, KWA-ZULU (Natal) and QUEENSTOWN (Easter Cape).

In total, 30 Botswanese managers attended these training courses.

- ➔ the creation of a documentation centre and computing centre, with modern documentary material, software which is adapted to requirements and on-line access to the EAUDOC+ system.

This network could, in the longer term, be part of the global information exchange system: "Aquadoc-Inter".

- ➔ a feasibility study for a water-related regional training system in all the SADC countries (Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zimbabwe) in order to develop permanent and sustainable capacities for training in the water professions, making it possible to meet, on site, very important needs in this sector.

IOWater has just submitted the final report of this study which recommends the networking of the training centres already existing in each of the SADC countries, making it possible to develop a complementary range of the necessary training courses and to promote co-operation and exchanges between them

Type of contract for the delegation of utilities	Countries concerned
BOT: Build, Operate, Transfer	South Africa, Tunisia, Senegal
Leasing	Central African Republic, Ivory Coast, Gambia, Guinea, Senegal
Concession	The Comoro Islands, Gabon, Morocco
Service contracts	Mali, Sao Tome & Principe, Tunisia, South Africa

LOW-COST TECHNOLOGIES

CREATION OF A FRANCOPHONE TELEMATICS CENTRE

The International Office for Water is going to set up a **Francophone Telematics Centre regarding resources, information, discussions and references on low-cost water and sanitation technologies**, in partnership with the Regional Centre for low-cost Drinking Water Supply and Sanitation (CREPA) of Ouagadougou, Canada Environment and the Water Solidarity Programme (pS-Eau).

This project is financed by the Francophone Information Highways Fund, by the Limousin Regional Council, the French Ministry for Foreign Affairs, within the framework of decentralised co-operation and by the participating organisations themselves.

The Centre will have many purposes: a site which enables discussion and consultation and is accessible via the Internet, it will be devoted to the implementation of low-cost water management tools; it will integrate databases related to the topic, offer assistance and advice to small and medium size companies and industries of the sector and to both humanitarian organisations and those helping development, whether they be from the North or the South; it will be a useful educational tool for training purposes.

This Centre, a place where the water environment and new information and communication technologies meet, will favour the contribution and know-how of French-speaking experts in this field, as to date, the only access of this type is in the English language.

We would welcome any organisation wishing to co-operate in one way or another with a view to reinforcing the Centre. Please get in touch with us.

CHAD

A WATER LAW EAST OF THE CHARI?

In Chad, less than one thousandth of the exploitable surface water and less than half of exploitable groundwater are currently used.

In July 1998, Chad started a reform of the public utilities which are responsible for the production and supply of electricity and water.

UNDP, the European Union and the French Development Agency (AFD) have developed programmes for sharing out responsibilities between State institutions and private investors.

The administration of the new Chad Ministry for Water and the Environment is aware of the lack of a legislative text clarifying the role of each institution and taking into account the recommendations of the international community. It thus asked the French Ministry for Foreign Affairs to give financial assistance with the review of draft texts which have already been drawn up and to validate their proposals.

Regarding the water Code, those in charge in Chad have drawn up a text which makes it possible to reconcile the three types of rights resulting from the animist custom, from the Islamic traditions, and from the legacy of legislation issued before independence.

The action of the International Office for Water has made it possible to complete the Code draft, highlighting in particular:



The CEFOD Training and Documentation Centre of N'Djamena University

- the importance of supplying water, not only to villages but also to transhumant herds,
- the need to bring decision making centres and consumers together,
- the use of giving autonomy to the future public or private water supply operators,
- and the principles of overall, sustainable and balanced management, of preventing pollution at its source, caution when dealing with various hazards and the application of the "polluter-pays" or "user-pays" systems which are now commonly accepted.



A water reservoir in N'Djamena



Mr. SALAH, Deputy Director for Water, Mr. MOUSSA, Head of the Village and Rural Water Division, and Mr. OUMARA, Head of the Division for Equipment and Maintenance, with Messrs. ROBAUX (IOWater) and LE PRIOL, French advisor to the Water Directorate

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KENYA HRD with the District Water Offices

The French-Kenyan co-operation programme related to the development of human resources in the water sector started in July 1995 when an expatriate expert from the International Office for Water was seconded to the Kenyan Ministry of Water Resources.

His work was to assess the situation in the Kenyan water sector and supervise a Task Force to prepare an **Action Plan for Human Resources Development** with two objectives:

- **The creation and development of a Human Resources Development Unit (HRDU) within the Ministry,**
- **The organisation of training courses aiming to develop abilities in a pilot district.**

1996 was devoted to the preparation of job descriptions, the assessment of training needs in the water sector, the drafting of a training plan, then of the action plan which involved the District Water Offices, the Municipalities, the headquarters of the Ministry of Water, the National Water Conservation and Pipeline Corporation, and the Nairobi City Council and which was approved by the Task Force in May 1997.

This action plan is now a reference document, prepared by the Kenyan partners, which makes it possible to work within different organisations in the sector and to improve their Human Resources Development actions.

The cost of the reforms and actions (above all training)

recommended by this plan is shared between the Kenyan institutions and the different donors. For its part, French Co-operation (the French Embassy) is in charge of some training initiatives and has secured technical assistance from the International Office for Water.

The work completed in 1997 and 1998 with the support of a French national on Voluntary Service Overseas seconded to the Kenyan Ministry, was devoted to the setting-up of the HRD unit and the organisation of the first training courses, identified in the training plan, after **selecting Machakos as a pilot district, a town 70 kilometres south of Nairobi.**

The objective of these technical training courses is to prove that, thanks to a suited training policy, it is possible to noticeably improve the efficiency of a service, not only through the acquisition of technical abilities, but also through staff motivation.

It should be emphasized that the project furthered **the development of capabilities of the Kenyan Water Institute (KEWI)**, as far as short and tailor-made training courses are concerned, since it had been directly involved in the preparation and implementation of training courses.

Lastly, the project also made it possible, with the support of French companies from the water sector, to hold a seminar, in September 1998, **on the participation of the private sector in the management of water sup-**



Seminar for District Water Engineers, 23rd and 24th February 1999

ply and sanitation utilities forming part of the new policy approved by the Kenyan parliament. Representatives from Uganda and Tanzania participated in this seminar, thus ensuring regional representation and fruitful discussions.

After a "take over" in February 1999, with a **seminar gathering all the top-level engineers from the District Water Offices**, the next stage of the co-operation programme will also allow the sharing of Machakos' experience with other districts and the furthering of the planned reforms, above all the transfer of responsibilities as far as water management and supply are concerned, from districts to local authorities and communities. In this context, training is of utmost importance as regards the following topics:

- **the management and development of human resources**
- **community mobilisation and services management**
- **the training of trainers**

The HRDU is now going to develop its advisory role towards the District Water Offices, to favour the implementation of short training courses and the co-ordination of the donors' actions in terms of training.

This entire approach could then be extended to other organisations involved in the sector: the Ministry of Local Governments, the Nairobi City Council, NWPC.



Seminar for District Water Engineers, 23rd and 24th February 1999

Information

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NIGERIA

NWRI - National Water Resources Institute

The National Water Resources Institute (NWRI) is the only institute in NIGERIA in charge of training and applied research in the water sector. This institute, located in Kaduna, was created in 1979 under the supervision of the Nigerian Ministry of Agriculture and Water Resources.

The NWRI's 4 main activities and missions are: basic and professional training, basic and applied research, documentation and database management.

The institute has trained 1,400 students since its creation.

NWRI has a staff of 200 people and an annual budget of about 1.000 MFF.

The actions of the International Office for Water with NWRI fall within the scope of the co-operation established between the French Ministry for Foreign Affairs (the French Embassy) and the Nigerian Authorities.

Since 1993, the total budget of our co-operation has amounted to 4.600 MFF.

The objective of this co-operation is to provide technical assistance to NWRI with the furthering of its development by adapting French know-how in the water sector.

Several types of mission have been carried out:

- **the training of trainers** and of NWRI's clients on major topics such as treatment of drinking water, wastewater treatment, maintenance, the reuse of treated water for irrigation,...
- **experts' evaluation linked to the development of the NWRI's new activities** (analysis laboratories, technical assistance with wastewater treatment, positioning regarding the water agencies, documentation, ...)
- **equipment supply: OTV pilot unit for drinking water production, SOAF pilot unit for wastewater treatment,**



OTV's pilot unit for drinking water production



Training of trainers in Kaduna



SOAF's wastewater treatment pilot unit

pollution monitoring and laboratory equipment, documentary collections, computer hardware,... These SOAF and OTV pilot units are demonstration models of the French technology in Nigeria.

Among other things, these actions have allowed NWRI, in 1996, to get a contract with the World Bank for the training of Nigerian operators of drinking water treatment plants within the framework of a rehabilitation programme for drinking water treatment plants in Nigeria. This contract was signed owing to a drinking water treatment pilot

unit supplied by OTV and the training of NWRI's trainers on its use.

In the next few years, the development of this co-operation will be concerned with:

- **the establishment of a teaching pilot unit for drinking water supply network** allowing training courses to be held on this topic,
- **the setting-up of a Nigerian Water Data Network** led by NWRI and inspired by the French experience of the French Water Data Base and Sandre (the National Data Reference Centre for Water).



VENEZUELA

HIDROVEN: A NATIONAL PROFESSIONAL TRAINING SYSTEM

Venezuela is currently having huge problems dealing with the need for personnel training. There is greater awareness of the need to improve personnel's abilities since more and more private operators are now working in the country.

1998 saw the launching of a co-operation programme, to a total cost of 1.000 MFF, between the International Office for Water and Hidroven, with the support of the French Embassy in Venezuela and the assistance of the Marseilles Water Supply Company.

This programme is continuing in 1999 with 3 components:

- ➔ **Training in the water professions with the definition of a National Professional Training System,**
 - ➔ **Decentralisation and participation of private companies,** specifying the conditions and the different forms of participation and the procedures for co-ordination between the different levels of government (federal, state, municipal),
 - ➔ **Technical assistance** to provide Venezuelan operators with the necessary bases for the development of patterns applicable in their country.
- Following the training carried out in 1998 (theory and case studies), this year will be devoted to the implementation of a pilot model in Hidrocaribe, a regional "Hidro":
- ➔ **evaluation of technical services,** organisation of operational and network management,
 - ➔ **formulation of an action programme** aiming to improve the operational control of the facilities,
 - ➔ **definition of the adapted technical information system.**

Moreover, after having carried out studies to identify the existing training opportunities and demands, in partnership with local consultants, IOWater has now been entrusted by Hidroven, within the framework of a contract with the Inter-American Development Bank, with proposing a **National Professional Training System in the Drinking Water Supply and Sanitation sector.**

CENTRAL AMERICA

INTEGRATED MANAGEMENT OF SHARED RIVER BASINS

The PACADIRH (Action Plan for the Integrated Management of Water Resources in the Central American Isthmus) is currently in its final stages within the framework of the CCAD (Central American Commission for Development and the Environment) and the SICA (Central American Integration System), in partnership with CAPRE and CRRH (Regional Committee for Water Resources).

Among the PACADIRH's priority projects, following the meeting of basin organisations from Central America and the Caribbean which took place in Guatemala in July 1998, under the chairmanship of Mrs. Reyna Chacon, co-ordinator of the Lake Amatitlan project, IOWater has worked out a **multiannual programme for the application of the principles of river basin management in the whole region** with its partners in the 7 countries concerned (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama).

Priority topics of the project:

- ① **Improvement in the knowledge** of water resources, various uses and withdrawals, discharges and pollution sources, water quality and associated aquatic ecosystems (Data standardisation - integrated geographic information systems, computerised exchange formats - establishment of national basin information systems).
- ② **Formulation of the appropriate institutional frameworks** (legislative reforms, definition of responsibilities, creation of basin organisations, participation of users in Basin Committees, training of executives from the Civil Service and representatives of users and Local Authorities...)

③ **Planning and Action Programmes,** integrating the concept of participatory management, the formulation of investment plans aiming to achieve sustainable development and therefore integrating environmental issues, establishment of instruments necessary for administrative and technical follow-up.

④ **Adaptation of financial systems** (application of the "user-polluter-pays" principle, feasibility studies and establishment of water charge systems to finance collective investments in the basin, ...).

These topics will be developed as part of a move towards regional integration.

Recommended action plan:

The French regional co-operation delegation supports the implementation of this ambitious project.

Complementary actions are needed:

- **specific training courses on administrative** know-how relative to the four priority topics;
- **specialised international expertise,** from INBO and IOWater experts in particular, as well as from the French Administration and the six Water Agencies, for in-depth missions requiring specialised assistance;
- **life-size field experiments in the hydrographic basins** of the two transboundary rivers (Rio San Juan and Rio Lempa). Therefore it will be possible to deal with the issue of transboundary rivers, a fundamental one in this region since 57% of water resources are shared.

NICARAGUA

LATEST NEWS

The International Office for Water together with BCEOM have just won a tender from the Inter-American Development Bank for the modernisation of drinking water supply and sanitation utilities in Nicaragua, in particular the creation of a regulation Authority for the sector.

MARTINIQUE

The Basin Committee and the Intercommunity Syndicate of the Centre and South of the Martinique (SICSM), in liaison with the Regional Directory for the Environment (DIREN) and the Loire-Brittany Water Agency, requested the assistance of the International Office for Water (IOWater) with the launching of a reflection on the SDAGE formulation phases.

The approach was the following:

- **Preparation of a diagnostic document:**

This document includes a set of sheets summarising the general situation of Martinique.

It is an attractive and educational summarised document featuring 12 topical sheets:

- ➔ **Sheets 1 to 3:** water-related regulations / water stakeholders in Martinique / tools for water management and financial aid
- ➔ **Sheets 4 to 11:** Martinique's characteristics / natural hazards / management of the resource / uses / urban areas and sanitation / agricultural and industrial pollution / water quality / the protection of aquatic ecosystems
- ➔ **Sheet 12:** diagnostics

Five additional sets of sheets were drawn up to put forward the specific problems arising in the 5 hydrogeographical units identified by the SDAGE.

- **Organisation of a seminar addressing the members of the Basin Committee:**

The seminar proceeded as follows:

- plenary sessions (reminders of the regulatory principles and existing tools in the water sector, the state of water management in Martinique),
- workshops on the following topics: better sharing of responsibilities, contracts for better water management, environment and pollution, resources and uses, water price,
- an exhibition which illustrated the water uses in Martinique and the role of the different stakeholders.

- **Organisation of decentralised information sessions**

Five decentralised sessions, one for each hydrographic unit of the island, are planned in 1999 to associate all the local stakeholders in the SDAGE formulation.

Information

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BRAZIL

PARANA INSTITUTIONAL REFORM

The International Office for Water is participating in the Parana State's project aiming to modernise its institutional organisation regarding water resources management.

In association with SOGREAH and COBRAPE (the Brazilian partner), IOWater has been entrusted with the implementation of the training component as well as institutional assessment within the framework of this ambitious programme financed by the World Bank, to an amount of 1.8 million Reais (6.500 MFF). It consists of:

- **Technical assistance with the implementation of the State Law for Water Resources Management**, by seeking a consensus amongst the partners involved: elected officials, users... This work will include the definition of arrangements for representing the different interests at stake in the deliberative proceedings and a proposal for the establishment of suitable mechanisms, above all in financial terms (polluter-pays principle, user-pays systems);
- **Legal assistance with the drawing up of decrees for the application of the Law**, in accordance with the institutional context defined along the same lines;
- **The definition of operational procedures for the "Integrated System for the Protection and Management of Water sources in the Curitiba Metropolitan Area" and the "State System for Water Resources Management"**.

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IMPLEMENTATION OF THE FEDERAL WATER LAW

Upon the request of the MMA (Ministry for the Environment), several training courses were carried out in Brazil on the integrated management of water resources in river basins, with a view to swiftly implementing the new federal law n° 9433 of 8th January 1997.

IN MATO GROSSO

The "Fundação Estadual do Meio Ambiente" (FEMA) in Mato Grosso, led by Mr. Frederico Guilherme, jointly organised a training course from 14th to 18th September 1998, with the International Office for Water. This event, co-financed by FEMA and the French Ministry for Foreign Affairs, gathered more than 40 participants, among them several representatives from the neighbouring States of Mato Grosso do Sul and Santa Catarina, as well as from Mexico (Comisión Nacional del Agua and IMTA), from Chile (Distrito de Santiago) from Costa Rica (Comisión del Río Tempisque), and from Uruguay (Ministerio de Transporte y Obras Públicas) within INBO.

The presence, in the audience, of Messrs. A. Bernard (IOWater) and J.F. Talec (Loire-Brittany Water Agency), of specialists from the Ministries, FEMA and also from the civil society and Basin Committees, alongside Dr. E. Lanna and Dra. Dalvacir Evaristo (SRH), made it possible to hold a very lively session in which dialogue and exchange of experiences were varied and enriching.

Moreover, the training course was preceded by the inauguration ceremony of the "Conselho Estadual de Recursos Hídricos" by Mr. Dante Martins de Oliveira, Governor of the Mato Grosso State.

IN MINAS GERAIS

IOWater has been requested by the Minas Gerais Federation of State Industries to conduct a course addressed to company managers and others in charge in the civil society to prepare them for playing a role in the system of participatory water resources management, defined by the federal law 9433/97 and the corresponding State law.

This course, organised by FIEMG, IBRAM, SENAI, IGAM and

ADOCE, with the support of the World Bank, gathered 80 participants on 19th and 20th November 1998. Its objectives were:

- **to raise the participants' awareness about the new law and emphasize** its strategic significance for environmental management, replacing the traditional "order-control" system (legislation and policing power) with economic mechanisms and incentives for self-management.
- **to prepare company managers so that they may play, among other things, an active role in River Basin Committees** and participate in the technical debates which will take place within the Water Agencies being set up.

IN BAHIA

IOWater led another training course on integrated water resources management in Salvador de Bahia, the week prior to the General Assembly of the International Network of Basin Organisations (INBO) held in this same town. This course gathered 30 participants from the State of Bahia, but also from many other States such as Rio, São Paulo, Alagoas, Paraíba, Maranhão, Mato Grosso do Sul, Minas Gerais, Piauí.

On the initiative of the Water Resources Secretariat of the Brazilian Ministry for the Environment, 3 new courses, supported by the French Embassy, are planned in the second semester of 1999 in Vitória (Espírito Santo), Porto Alegre and Brasília.

Mining (gold) in Mato Grosso



TOWARDS A BRAZILIAN TRAINING CENTRE FOR WATER PROFESSIONS

Following the conclusions of the French-Brazilian Commission's meeting which took place in Brasília in November 1998, and on the request of the Water Resources Secretariat of the Brazilian Federal Ministry for the Environment, IOWater has started a feasibility study for the creation of a Brazilian Training Centre for Water Professions.

The objective is to study the viability of a structure under Brazilian law, whose task could be twofold:

- **Administrative:** the training of federal and Brazilian States' civil servants to promote the implementation of the Law of January 1997, which above all instituted the principle of integrated water resources management in river basins.
- **Technical:** to enable all categories of professionals from the Brazilian water sector to benefit from practical vocational training courses, in all the technical fields of drinking water supply and sanitation, in terms of both facility design and operation, maintenance, and management of utilities.

The seminar organised by ACTIM in São Paulo, at the end of April 1999, aiming to introduce the French know-how and technology related to the environment, made it possible to confirm the interest that such a project would generate among all the institutional, public or private partners, both on the Brazilian and French sides.



CENTRAL ASIA BETTER WATER QUALITY IN THE IRTYSH

Two projects are underway, one concerning the whole basin of this large river which is shared between China, Kazakhstan and Russia, the other dealing mainly with water quality and concerning only Kazakhstan.

International management of the Irtysh

The Irtysh basin stretches from the Altai Mountains in the People's Republic of China to Russia where the river flows into the Ob, after crossing eastern Kazakhstan. It covers a large part of Kazakhstan's industrial areas (mining and metallurgic complexes) and because of this the river is polluted, however it is still used for industrial fishing and for supplying drinking water to the towns in the Pavlodar region.

The objective of the study, which is financed by **The French Fund for Global Environment (FFEM)** and implemented by the French Ministry of Regional Planning and the Environment and its operator IOWater in association with SAFE-GE and ANTEA, is to allow the different administrations responsible in Kazakhstan and Russia and the International Commission for the management of the Irtysh, created in 1992, **to better plan their investments, in order to improve water quality and follow up progress which has already been made.**

To date, two missions have been carried out in these two countries in order to:

- **analyse the institutional situation,**
- **assess the existing water quality monitoring networks,** in relation to pollution

in the basin,

- **assess the existing systems for data management** (data quality, enhancement, exchange)
- **involve national and regional authorities** and determine the local counterparts' role.

In Kazakhstan: protecting the resource

The project, entrusted to the ANTEA/IOWater/SAFE-GE group and financed by FASEP (French Ministry of Economy) concerns the three towns of Oust-Kamenogorsk, Semipalatinsk and Pavlodar, located in the Kazakhstan part of the Irtysh basin.

It is integrated into the programme for the "Improvement of the environment for the sustainable development of the north-eastern region of Kazakhstan", formulated by the government of Kazakhstan with the assistance of the World Bank.

The French project is based on three actions:

- 1 **Protection of the resource quality,**
- 2 **Study of sanitation systems and their impact on the Irtysh,**
- 3 **Institutional organisation.**

These studies should make it possible to formulate a pollution control programme and to propose an economic framework enabling the mobilisation of local financial resources and the search for the necessary bi or multilateral financing so that priority investments can be made as soon as possible.

Ice melting in the Irtysh in Pavlodar



CHINA EUTROPHICATION CONTROL IN THE TAI-HU LAKE

The Tai-Hu lake basin, with an area of 36,500 km², is one of the most economically developed in China with 3% of the population (36 million), but 17% of the gross product. The lake itself covers an area of 2,400 km².

Environmental constraints are very significant since the lake is the main source for the supply of drinking water in the region, but is also very polluted with an eutrophication which is rapidly increasing.

Therefore, to meet the needs in the medium and long terms, the provincial authorities have decided,

FLOOD FORECASTING AND WARNING SYSTEM IN THE DONGTING LAKE BASIN

On the request of BISIE (the Beijing Institute of Satellite Information Engineering) and of the Planning Committee of HUNAN Province, the International Office for Water (IOWater) gathered a French team of high level experts, from the Montpellier Remote Sensing Company, BCEOM, the GEOIMAGE company, the Geography and Graphic Process Laboratories (MTG) from the University of Rouen, to provide technical assistance with the finding of solutions to be implemented to control recurrent flooding in the Hunan Province.

The aim of the project is to use a software package to calculate future variations in the water levels of the lake and its tributaries. The software will be installed in a pilot unit and will enable local decision makers to define suitable measures to be taken in times of flooding. The system will also serve as a testing ground for all equipment linked to flooding in the region.

A TRAINING COURSE ON DRINKING WATER MANAGEMENT IN THE CANTON PROVINCE

The French Embassy in Beijing has entrusted IOWater, assisted by the Lyonnaise-des-Eaux, with the preparation of a 15-day training course addressing Chinese executives from the Canton region on drinking water production and exploitation.

after several years of investigation, to formulate a real water policy, and as such, to create a consistent data network similar to the one implemented by the French Water Data Network (RNDE).

Several French and European organisations will be involved in the implementation of this project which is currently dependent on the funding requested from the European Commission.

The cost of the project is 21.000 MFF of which 8.500 MFF will cover the purchase of this software and the training of Chinese personnel.

The Chinese Authorities have sought French financial participation to an amount of 6,000 MFF, justified by the will to build an effective warning system on this sensitive site, benefiting from French know-how.

The Chinese part has agreed to involve the French companies in future invitations to tender in the area of flood warning in China over the next few years.



VIETNAM Training Centre for Professions in the Water and Environment Sectors

Upon the request of the Department for Co-operation and Cultural Action and the Trade Commission of the French Embassy in Vietnam, a mission involving Messrs. François Ozanne from the Water Management Company of Paris (SAGEP), and Jean-François Donzier from IOWater, was organised with the assistance of ACTIM, in Ho Chi Minh City, Hue and Hanoi from 14th to 22nd March 1999.

The project is entering its 2nd phase

Several working meetings with the Ministry of Construction, the School of Construction and Urban Development, representatives from the French Embassy and French companies in Vietnam, made it possible to formulate a development plan for the second phase of the Training Centre for Professions in the Water and Environment Sectors, in existence since 1997 in Gia Lam-Hanoi, with financial and technical assistance from the French bilateral co-operation and the Lyonnaises-des-eaux-Suez (SAFEGE).

The needs to be met are huge

They concern both:

- **The institutional training of executives from national and municipal administrations**, to fulfil two objectives: the implementation of reforms in the area of water management, and the modernisation of the management of municipal drinking water supply and sanitation utilities.



Meeting with the Vice-Minister for Construction

- **The operational training of personnel from municipal drinking water supply and sanitation utilities**

It involves providing the necessary practical knowledge in order to plan for essential new investments, above all for sanitation and wastewater treatment, to rehabilitate drinking water supply systems (leak detection,...) and water treatment plants, to ensure the effective operation and maintenance of facilities, to improve administrative and financial services, to develop relations with consumers, to introduce the principles of quality assurance.

It is estimated that the Vietnamese water utilities employ around 14,000 people for a population of 76 million inhabitants. Once the whole population is supplied with drinking water and all towns are equipped with a sanitation system, the number of

employees will be around 50,000. We can consider a ratio of 20% executives and 80% workers and employees.

It seems that compared to the normal average ratios, workers are over represented, but that there are not enough junior executives (foremen, technicians).

An ambitious project

In order to meet these important needs for improving the efficiency of Vietnamese water utilities, **it is necessary to move towards a system of professional training:**

- **organised by Vietnamese trainers in the local language,**
- **with reduced training costs compatible with the water utilities' revenues and paid for in local currency,**
- **offering modern training courses,**
- **based on the technological know-how of leading French industrial groups,**

- **using both equipment currently available in the country and facilities and material which will be developed in the coming years, for practical learning under working conditions.**

It is clear that it must result in a sustainable system, which, after its setting-up, can "exist by itself" without being dependent on permanent external financing.

Based on these principles, a **preliminary agreement was signed**, in the presence of Mr. Nguyen Van Lien, Vice-Minister for Construction, by Messrs. Donzier and Ozanne on the French side and Messrs. Nguyen Dang Can, Director of International Co-operation at the Ministry and Nguyen Van To, Director of the School of Construction.

This agreement plans, above all, a joint investment between France and Vietnam for carrying out the second phase of the project which will mostly associate French companies working or interested in this country.

A study tour from 18th to 28th May 1999, enabled a delegation from the Vietnamese Ministry of Construction, led by the Vice-Minister Nguyen Van Lien, and from the water utilities of Hanoi and Ho Chi Minh City, to meet French suppliers and companies interested in this project, to visit the **National Training Centre for Water Professions (CNFME)** in Limoges-La Souterraine as well as the University of Montpellier and our partners from VERSEAU.



Visit of the Training Centre for Professions in the Water and Environment Sectors

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INDIA - GUJARAT Integrated Management of the Sabarmati River Basin

Since the beginning of the 1990s, France and the Indian Union have been involved in a multiannual programme for institutional co-operation in the water sector, dealing with, in a first phase, the training of high level federal and state civil servants and which led to **the organisation in Delhi, in December 1994, of a French-Indian seminar on Integrated Water Resources Management**, which was hailed as a great success.

In fact, in many Indian regions, it is becoming more and more difficult to ensure that there are sufficient resources available to meet all needs and to efficiently control pollution and, therefore, there is a risk that in the near future, access to water will be a significant factor limiting economic and social development.

The main problems encountered are not technological but mainly institutional and financial.

From the beginning of 1995, the Indian partners, together with the French Embassy and experts from the International Office for Water and the Rhone-Mediterranean-Corsica Water Agency, have:

- **set up a French-Indian Steering Committee**, gathering all the Indian central ministries concerned by water management,
- **selected a "pilot basin"** to test a new process for integrated water resources management, aiming then to use the findings in other Indian basins:
- ➔ in a first phase, **the Indian partners chose six priority basins**. It involves the SABARMATI, TAPI, UPPER YAMUNA, GODAVARI, SONE, SUBARNAREKHA rivers,
- ➔ in a second phase, **the SABARMATI River basin was selected by the local and federal Indian Authorities in 1995, for a first pilot experiment in the GUJARAT State.**

In the SABARMATI River Basin, the shortage of water is critical and the problem of resource sharing is unavoidable.

The security of water supply to the Gujarat towns requires significant investments.

Ahmedabad, the main town in the State, and **four average sized towns, Kheda, Gandhinagar, (the capital of Gujarat State), Himatnagar and Mehsana** have the task of organising settlements for a section of the population who is going to leave rural areas over the next few years. They will fulfil this role provided that they can control the development of urban utilities and, above all, water supply for industry and the population.

The drinking water supply project which is starting in Ahmedabad amounts to 140 million US\$ alone (1996 price), of which 30 million \$ were mobilised by the issuing of municipal bonds in 1998.

The project for the building of **the Narmada diversion canal**, if it is carried out, will relieve the pressure on the resource. But the opportunity effect must be managed, particularly in the agricultural sector, so that the sharing out of this new resource does not result, in the short term, in an even greater imbalance.

The Gujarati Authorities have prepared the launching of the pilot project, with:

- **the appointment of a co-ordinator** within the GUJARAT water administration - Mr. PARMAR, Chief Engineer, who is also in charge of the World Bank's "Hydrology Project",
- **the setting-up of an inter-administrative co-ordination Committee**, gathering all the water-related sectoral utilities in GUJARAT and associating the town of AHMEDABAD,
- **the drafting of a "position paper"**, presenting an assessment of the situation in the basin and its prospects in the short and medium terms,
- **the drawing up of the "memorandum of understanding"** that the Government of GUJARAT signed on 9th February 1998 with the International Office for Water, to clarify the areas where they wish

for the co-operation of French experts, in particular to:

- ➔ **prepare a masterplan for river basin development**, based on the technical and economic pre-feasibility studies of the investments to be made,
- ➔ set up a basin information system, which will make it possible to know precisely the state of the available resource, as well as the main discharges, then to measure the progressive impact of decisions implemented in the basin,
- ➔ **formulate an action plan in the medium term (five years)**, the priorities of which will be, for the first time in India, validated using a cross-sectoral approach and corresponding to the real financial possibilities of the different groups of users.

The Indian Authorities also expect from this project, the testing in life-size units of an integrated management method, adapted to the Indian context, which will serve as a reference for other river basins, including those covering several States, based on sustainable systems for planning and financing, the current lack of such a system being the main factor preventing the adaptation of the water sector in India.

In fact, the Indian government and the World Bank have formulated an action plan which aims to reorganise the water sector in 24 river basins, covering 436 million hectares.

The experience acquired in the Sabarmati River pilot basin will make it possible to speed up the process elsewhere in India.

To meet this request of the Indian Authorities, with all the required competence, a project group has been set up gathering BCEOM, BRL Engineering, SEURECA and IOWater.

The French Ministry of Economy (FASEP) is supporting this project with a grant of 4.000 MFF for the carrying out of preliminary studies amounting to 5.000 MFF.



The Sabarmati River bed in Ahmedabad during the dry season



“ESC’EAU”

A NEW MODEL FOR EVALUATING KNOWLEDGE AND COMPETENCE

The ESC’EAU project, led by IOWater within the framework of the ADAPT 1997 initiative programme of the European Social Fund, has made it possible to develop a new model for evaluating and certifying the knowledge and competence of workers in the water sector.

Linking French, English, Italian and German experiences in Europe and in connection with the ADAPT projects led by BEW (Germany) and HYDROCONTROL (Italy), the ESC’EAU model perfectly fits in with the current trend for recognition of the knowledge acquired through experience and professional training.

The ESC’EAU model deals with multi-skill professions in operation and management which are characteristic of the water sector and which need to incorporate several specialities. The ESC’EAU model evaluates them following two main lines: “basic knowledge” and “performance”, but with greater significance given to the latter.

This approach, which brings together the sometimes contradictory concerns of practitioners and trainers, is similar to the American

certification system. It shows the benefit of defining the whole of the multi-dimensional nature of the water professions at every level.

The ESC’EAU model, a self-evaluation tool which is accessible on the Internet, is based on multiple choice questionnaires (MCQ) for basic knowledge and evaluation software for performance.

It proposes to view the level reached by the worker with the help of a histogram in which each competence is clearly identified. We can easily imagine that the graph related to a given worker could serve as a certificate or represent his weaknesses. From this it will be easier to determine the necessary training in order to compensate for his weak points.

The ESC’EAU software package will be tested in the next few months on volunteer operators from wastewater treatment plants in the Provence-Alps-Riviera region.

If there are other people interested in the model or in its practical application, they would be very welcome in our panel.

WHO/MAP

MUNICIPAL WASTEWATER TREATMENT PLANTS: TRAINING COURSE FOR 15 MANAGERS

This course, organised by IOWater, from 20th to 24th April 1999, on the request of the World Health Organisation (WHO) and the Mediterranean Action Plan (MAP), gathered 15 managers of wastewater treatment plants from Algeria, Bosnia Herzegovina, Croatia, Cyprus, Egypt, Greece, Israel, Lebanon, Libya, Malta, Morocco, Slovenia, Tunisia and Turkey. This training course is part of the joint WHO/MED

POL project, Phase III (Programme for the monitoring of environmental pollution in the Mediterranean of the United Nations Environment Programme (UNEP).

It dealt with technical (operation, maintenance, crisis management) and financial and administrative aspects (budget, human resources), as well as with the management of wastewater treatment plants and domestic wastewater.



“EMWIS”

BEGINNING OF THE OPERATIONAL PHASE

Following the Marseilles Euro-Mediterranean Conference on Local Water Management (November 1996), a study was carried out in 1997 by a working group of ten countries, to clarify the procedures for the setting-up of a system which, through the use of modern communication technologies, would make it possible to network existing sources of information on water in the 27 countries who signed the Barcelona agreement: **EMWIS (Euro-Mediterranean Information System on know-how in the Water Sector)**.

The final outputs of this study, co-funded by France and the European Union, and led by the Water Directorate of the French Ministry for the Environment with the assistance of the International Office for Water, were approved in Naples (Italy) on 9th and 10th December 1997, during a conference which gathered water managers and the main operators from the countries involved in this project (see International News n°6)

Since this conference, several measures have been taken which were necessary for setting up EMWIS structures, with, in particular:

- The first meeting of EMWIS Management Committee (Paris - 17th March 1998), following which the governments of 14 countries (Algeria, Belgium, Cyprus, Egypt, France, Israel, Italy, Jordan, Lebanon, Malta, Morocco, the Palestinian Authority, Spain, Tunisia) agreed to set up their EMWIS national focal point.

- The creation of a European Economic Interest Group (EEIG) “in charge of proposing and implementing annual action programmes, validated by EMWIS Management Committee”.

The EEIG statutes were signed on 15th June 1998 by the International Office for Water, represented by Mr. Donzler (General Manager) and the “Societa per la GESTione degli impianti IDrici” (SOGESID S.p.A) for Italy, represented by Mr. Mazzola (President), while an agreement was signed by these two organisations and the “Centro de Estudios y Experimentación” (CEDEX) from Spain, represented by Mr. Felipe

Martinez Martinez (General Manager), in order to formalise their willingness to co-operate within EMWIS Technical Unit.

The International Office for Water has been nominated “EEIG manager” and the headquarters have been established in Sophia Antipolis (FRANCE).

- The second meeting of EMWIS Management Committee (Rome, 6th July 1998) during which the working programme and the annual budget corresponding to the first year of the Technical Unit’s activity were approved.

- The mobilisation of financial resources:

- ➔ Contributions from the three countries which make up the Technical Unit (France, Italy, Spain), with the French part co-funded by the French Ministry for the Environment (Water Directorate), the Maritime Alps General Council, the Provence, Alps, Riviera Regional Council.

- ➔ The Subsidy from the European Commission, which will cover regional expenses concerning both the Technical Unit and the national focal points (strengthening of the communication network, travel costs for representatives of Southern countries, technical assistance, training, ...).



Contact

EMWIS experimental Web site
www.iowater.org/emwis

MOROCCO

THE OUM ER RBIA PILOT AGENCY

The law 10/95 of 16th August 1995 is the legal basis of water policy in Morocco. It aims to establish the legal instruments necessary for controlling the use of water resources and for their conservation.

It plans for the creation of basin agencies, for which the missions are extensive. These bodies, which have financial autonomy and a legal status, are in charge of:

- **regalian missions concerned with water law** enforcement which are currently taken care of by State directorates (Directorate General for Water):
 - ➔ **the inventory of water rights and concessions,**
 - ➔ **the monitoring** of quality and quantity, both for ground and surface water,
 - ➔ **the issue of new permits and concessions for water withdrawals,**
 - ➔ **the control of the use of resources,**
- **new missions within the river basin context:**
 - ➔ the formulation and implementation of the **water development plan** which is to be integrated into the national water plan,
 - ➔ **the levying of pollution and withdrawal fees** which will be reinvested in pollution control,
 - ➔ **providing contracting authorities with financial assistance and services** for pollution control,

improvement in water resources and flood management.

To help the structures and human resources of the Ministry of Public Works adapt to this new policy, the Director for Water at the French Ministry for the Environment and the Moroccan General Director for Water signed a special co-operation agreement, on 19th April 1996. This agreement deals mainly with the creation of a **first pilot basin agency for the Oum Er Rbia basin.**

IOWater is the main operator for the French Authorities. This programme, carried out between 1996 and 1998, with the assistance of specialists from the Adour-Garonne Water Agency, included:

- awareness campaigns for users and communication actions among the population,
- assistance with fees and aid systems (institutional and financial aspects),
- training on floods (flood prevention, forecasting and warning),
- the restructuring of regional water analysis laboratories,
- the drawing up of the documents necessary for the effective implementation of the Oum Er Rbia pilot Basin Agency's financial services (procedures, control of tax bases, legal department, preparation of multiannual programmes),
- technical training courses for

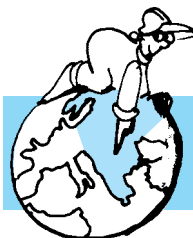
Moroccan executives leading to a "Higher Education Certificate in Engineering and Water Resources Management" with the assistance of the National School of State Public Works.

This action will be followed by a **new 1999-2001 programme** based on three main actions:

- ➔ **the continuation of the assistance to the Oum Er Rbia Basin Agency** with the formulation and drawing up of administrative and financial procedures linked to the first meeting of the Board of Directors,

- ➔ **the setting-up of a basin information system** to allow for quick access to information on the state of water resources,
- ➔ **the development of an effective flood warning system** in the Oum Er Rbia basin which is likely to be extended to the whole country.

The implementation and co-ordination of all these co-operation actions are carried out, on the French side, by a steering committee led by the Water Directorate of the Ministry for the Environment, including the Adour-Garonne Water Agency and IOWater which provides the secretariat.



EUROPE

MEUSE RIVER BASIN COMPARATIVE STUDY FOR MONITORING INDUSTRIAL POLLUTION

The future framework directive requires integrated water resources management in river basins. It will lead to the standardisation of practices, especially as regards transboundary rivers. In order to be prepared, the International Office for Water has proposed and led a comparative study of **the methods used for monitoring industrial pollution in the Meuse River basin. This basin concerns 4 countries: France, Germany, Belgium (Walloon region and Flanders) and the Netherlands.**

The study was undertaken within the framework of the DGXI's LIFE programme, with the assistance of the Rhine-Meuse Water Agency, RIZA (the Netherlands), the North Rhine Westfalen

Lander, VMM (Flanders) and the Ministry of the Walloon Region. This study includes a precise inventory of the practices used in each country. It proposes significant changes in administrative and technical practices in order to constitute homogeneous inventories of discharges on the scale of the river basin. Its conclusions were submitted and discussed during a seminar held in Liege in June 1998. The final report summary is available in French, English, German and Dutch and can be obtained from IOWater.

★ **Web:**
www.iowater.org/life



Jurisdiction area of the Oum Er Rbia basin agency

Information

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Twinning agreements for admission to the European Union

What does community "acquis" mean?

The twinning process involves providing the Central and Eastern European countries, which are candidates for becoming members of the European Union, with all the technical and administrative knowledge they require to include in their national law all the legislative and regulatory texts adopted and applied by the current Member States.

General introduction

The European Commission has proposed to focus the actions of the PHARE programme on two priorities aiming to assist the countries which are candidates to European integration:

- investments for infrastructures,
- capacity building which will be achieved by twinning between Eastern and Western Institutions having the same responsibilities.

This institutional assistance requires general co-operation for several years. **Conveyed by a precise working programme which is scheduled and financially estimated, it is accompanied by an obligation to achieve results, aiming to provide a candidate country with an efficient operational organisation, making it possible to fulfil community obligations in complete safety.**

A twinning covenant is thus signed by the candidate country and the member State. It will define the expected results of the project, the responsibilities of each party, the means to be used and their cost.

When several member States are concerned, one of them will be the project leader and will sign the covenant on behalf of the others.

The following co-operation methods have been envisaged for each twinning arrangement:

- long term full-time secondment of civil servants from member States,
- short missions carried out by specialists,
- training courses in the administrations and organisations concerned in the member States, addressing experts

from the candidate country participating in the adaptation and setting-up of new systems,

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

As regards the preparation and implementation of twinning covenants in the water sector, the International Office for Water is the operator of the Ministry of Regional Planning and the Environment (MRPE).

The implementation of programmes will require experts from the MRPE and external services of the Ministries involved (DIREN, MISE..), as from the Water Agencies and IOWater.

6 Twinning agreements have been signed by the French Ministry of Regional Planning and the Environment:

BULGARIA

The Bulgarian Ministry for the Environment and Water, has signed an 18-month twinning covenant with Germany which covers the areas of air, water, wastes, environmental protection and access to information.

Germany is the project leader, with Austria and France as partners. France has chosen ADEME and the International Office for Water as its operators.

Interventions in the water sector will deal with the formulation of regulations for wastewater discharges, the establishment of procedures for issuing discharge permits, a method for determining the emission threshold taking into account discharge standards and the quality of the receiving environment, and also training initiatives.

The means used in this area amount to a budget of 90,000 Euros (590,000 FF.) involving experts' missions of short duration and training courses in Bulgaria.

ESTONIA

The Estonian Ministry for the Environment has signed a twinning covenant in the water sector with Sweden in partnership with France, represented by the International Office for Water.

For 18 months, this project will include the introduction to the organisation of water management in France, the analysis of procedures for the transfer of our experience acquired in terms of basin management as well as an analysis with recommendations for the setting-up of new economic instruments for financing water policy.

The budget will total 73,000 Euros (480,000 FF.) for short experts' missions, a study tour in France and training courses in Estonia to be carried out.

HUNGARY

A twinning covenant, signed by the Hungarian Ministry for the Environment and France in partnership with Austria, Finland and Germany, was approved by the Commission in May 1999. It will cover the areas of wastes, chemical substances, air, water and industrial hazards and will last 18 months.

The interventions in the water sector involve the reviewing of the procedure for issuing discharge permits in accordance with the directive on hazardous substances, as well as the definition of a method for setting up a water quality monitoring network and systems for the follow-up of the ecological quality of rivers. The budget amounts to 57,000 Euros (375,000 FF.) for carrying out short experts' missions.

POLAND

The twinning covenant benefiting the Polish Ministry for the Environment covers the areas of water, air, wastes, environmental protection, natural resources management and access to information. This 2-year twinning covenant was approved by the Commission in May 1999.

France is the member State leading the project in partnership with Germany and the United Kingdom.

Intervention in the water sector involves the adaptation of the main Directives, the analysis of the institutional framework and methods and procedures for applying them, particularly at the river basin level, together with the preparation of a water management and development plan and a monitoring and investment programme.

The budget totals 1,020,000 Euros (6,700,000 FF.). This includes the long-term secondment of an expert for the duration of the project, a study tour in France, short experts' missions and training courses in Poland.

ROMANIA

The Romanian Ministry of Water, Forestry and Environmental Protection has retained the French proposal for a twinning covenant in the water sector. The International Office for Water will lead this 21-month project, which will involve the adaptation of the main Directives, the analysis of the institutional framework, methods and procedures for applying them, especially at the river basin level, procedures for accessing information and training activities.

The total budget amounts to 600,000 Euros (3,900,000 FF.).

SLOVENIA

The Slovenian Ministry of Regional Planning and the Environment signed a twinning covenant with Austria, covering the air and water sectors. France and Germany are involved in the project which is expected to last a year.

Interventions in the water sector, entrusted to the International Office for Water, will enable the definition of procedures for adapting the draft Framework Directive, the analysis of the institutional framework and the organisation of river basin management, the creation of new economic instruments, the formulation of procedures for accessing information.

The budget devoted to this sector amounts to 150,000 Euros (985,000 FF.) and covers short experts' missions, seminars and training courses in Slovenia and a study tour in France.

HUNGARY

THE NATIONAL OFFICE FOR WATER - OVF AN INTEGRATED WATER INFORMATION SYSTEM

Due to its central location in the heart of the Danube basin, Hungary has already developed some very efficient tools for water resources management, particularly for flood control.

With a view to joining the European Union and applying the future community framework directive, **the National Office for Water (OVF) of the Ministry of Transport, Telecommunications and Water has started a co-operation programme with IOWater aiming to develop its Integrated Water Information System (IWIS).**

The first component of this programme is now completed and during 8 months (between August

1998 and March 1999), the following was organised successively:

- A mission to study the existing information systems in Hungary,
- A study tour in France for 5 Hungarian experts for their introduction to the French Water Data Network (RNDE),
- 4 missions of French specialists to Hungary.

The main results obtained were:

- A rich exchange of experiences on techniques for the integrated management of water-related data with the adoption and the start of the implementation, in Hungary, of methods developed in France by RNDE;

- The development of a **first conceptual model of IWIS's hydrological data** by combining data models from several systems which already existed in Hungary;
- The formulation of technical terms of reference for the implementation of a **"pilot project for the standardisation of procedures for the exchange and management of data on groundwater"**. This project will enable the use of procedures for managing and exchanging groundwater data in Hungary with the possibility of applying them for the management of an international aquifer, shared with Romania.



Presentation of a conceptual model

UKRAINE

MONITORING WATER QUALITY IN THE BUG, LATORICA AND UZH RIVERS

The Ministry for Environmental Protection and Nuclear Safety has entrusted the REDECO - IOWater - VERSEAU group with the development of a strategy for improving and protecting water quality in the transboundary basin of the Bug, Latorica and Uzh rivers, tributaries of the Vistula. This project, costing a total of 1.980 million Euros (12.900 MFF), is financed by the European Commission's TACIS programme and involves the Ukraine, Poland, Belarus, and Slovakia.

The project, which applies the terms of the 1992 Helsinki Convention, plans:

- to develop a control and follow-up strategy for water quality in the Western Bug basin,
- to apply the European directives on water quality in this basin,
- to define and promote analysis and technical control procedures in accordance with the terms of these directives,
- to propose possible changes in these directives according to the results obtained.

The project is based on:

- the collection of existing data regarding quality,
- the identification of the main point sources of pollution,
- an assessment of non-point sources of pollution,

It should enable the standardisation of procedures in all the riparian countries.

A basin information system, gathering the various data collected both at national and international levels, will be the tool for the standardised, co-ordinated and permanent follow-up of water quality in order to control pollution.

The system will make it possible to:

- facilitate the collection and processing of data related to water quality,
- develop the national information system in the Ukraine,
- use data exchange procedures at international level between the Vistula riparian countries.

A computer expert was seconded by IOWater to Kiev in April 1999 for one year.

THE SOUTHERN BUG: TOWARDS A BASIN COMMITTEE

By alternating between training and experts' missions in the Ukraine and a seminar in France, with the support of the Rhone-Mediterranean-Corsica Water Agency, this pilot project, funded by the European Commission's TACIS programme and the French Ministry for Foreign Affairs, deals with **integrated water resources management in the Youjny Bug river basin (Southern Bug)**, after a first phase aiming to raise the awareness of executives of the Ministry for Environmental Protection and Nuclear Safety as well as of local representatives from communities and industry.

This experience is likely to be used for other basins in the Ukraine and for international basins such as that of the Dniestr or the Dniepr.

The training courses have introduced executives to the French institutional arrangements and therefore made it possible to think about their adaptation to the Ukrainian context.

Draft legal texts are taking shape and towards the end of the programme, proposals will be made to the Ukrainian Soviet for formalising the Bug basin pilot system with the possibility of extending it to the whole country.

The Vice-Minister in charge of Water and Aquatic Ecosystems is himself leading the formulation of this new water resources management policy, all the more so that, in March 1999, the Ukrainian Ministry for the Environment gathered under its responsibility the State Committees for water resources, geology and mineral resources and hydrometeorology.

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CZECH REPUBLIC

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

The Training and Information Centre for Decision Makers on water management in the Czech Republic was created in the T.G. Masaryk Institute with the assistance of the International Office for Water.

In 1997 and 1998, this project mobilised 220,000 Ecus (1.430 MFF), co-funded by the Czech Ministry for the Environment, the French Ministry for Foreign Affairs and the European Commission within the framework of the Phare-Partnership programme.

The project enabled:

- **The setting-up of a Scientific Council** made up of the representatives from the main stakeholders in the water sector and Czech training organisations;
- **The training of personnel from the T.G. Masaryk Institute** on the organisation and operation of a training centre;
- **Three training courses for trainers** carried out in the Czech Republic and in France, on:

- ➔ **legislative, economic and technical aspects of water management** as a result of the application of European Directives,
- ➔ **the necessary educational techniques** for the development of professional continuing training,
- ➔ **methods for assessing training needs** in water utilities.
- **Training modules to be drawn up** on the following topics:
 - ➔ the development of modern water management methods at the level of the **administration and local communities**,
 - ➔ economic and legislative tools for **controlling pollution sources**,
 - ➔ **legislation** in the water sector, modified and closely related legal arrangements,
 - ➔ **management tools** and possibilities for funding actions relative to drinking water supply and sanitation, local and international resources.

- **Two training courses, organised by the Centre's trainers in Prague and intended for staff of the administration, and 2 seminars addressing elected officials gathered 115 participants.**

The Centre is managed by Mrs. Jitka Spoustova and has its premises in the Masaryk Institute in Prague (offices and a conference room), and the necessary computer and audio-visual equipment for organising training courses on its premises and in other towns in the country.

The catalogue of training courses plans the organisation of 10 courses in 1999 intended for representatives of regional and local administrations, based on the modules developed within the project.

The Masaryk Institute's documentation centre has access to the "EAUDOC" data base that can be consulted either locally or on-line via the Internet. A project is underway to examine the possibility of the Masaryk Institute being part of the international AQUADOC-INTER network of Documentation Centres in the Water Sector.

1999 PROGRAMME

10 courses will deal with the following topics:

*Topic 1:
The economic and legislative instruments for controlling pollution sources*

- Legislation in the water sector, its adaptation to the European Union's regulations,
- Choice of water management techniques according to the town's particular situation, resources, treatment plants, wastewater treatment plants.
- Management tools and the possibilities for financing water supply and sanitation.

*Topic 2:
Techniques for environmental protection*

- Flood prevention: The role of State administrations and municipalities.

"WAWAMAN"

FOR BETTER INTEGRATION INTO THE EUROPEAN UNION

The WAWAMAN project (Water and Wastewater Management) started in 1998 to help Central and Eastern European countries prepare their executives from public services and water utilities for joining the European Union.

A consortium has been formed gathering organisations which are heavily involved in the training of water specialists, such as the T.G. Masaryk Institute (Czech Republic), the National Committee of Water Producers and Suppliers (Romania), the Engineering Ecology Consultative Technical Centre (Lithuania), the Centre for Distance Learning of the Gdansk Technical University (Poland), the French National Centre for Distance Learning, the International

Office for Water, as well as the Gdansk Water Foundation (Poland) which, in addition, is managing the project.

The objective is to enable distance training in the different countries involved using the New Information and Communication Technologies (NICT).

The project is currently in its final phase. The consortium has already widely achieved the project's objectives, with:

- The drawing up of a handbook for quality assurance and the associated procedures for the follow-up of the project,
- An in-depth survey of the future users in the 4 Central and Eastern European countries involved in order to assess the

training needs of water specialists as well as the teaching means.

- The drafting of training modules and their technical specifications.
- The drawing-up and translation (into English, Polish, Czech, Romanian and Lithuanian) of five training modules,
- The creation of a virtual telematic training centre on water on the Internet.

It is planned to "test" this telematic centre on target groups of trainees and then to promote it after some possible changes.



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POLAND

The Polish Training Centre for Water Professions

Gdanska Fundacja Wody

The setting-up in Gdansk of the Polish National Training Centre for Water Professions, between 1994 and 1998, required an amount of 11.400 million French francs that was co-financed by the French (national and decentralised) and Danish co-operation, the Polish Authorities and by the European Community's "LIFE programme for the Baltic".

The Gdanska Fundacja Wody which owns and manages the Centre, is a Foundation under Polish law, whose founder members are the Polish Ministry for the Environment, Gdansk Voivodship, City Hall and Regional Environment Fund, as well as the Fresh-water Centre (Denmark), the Limousin Region and IOWater.

The Centre has currently a full time staff of seven.

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



Training course for technicians from Polish municipalities

A technical-educational unit, designed in conformity with the practical training principles that have been applied by the French Training Centre for Water Professions (CNFME) for many years in Limoges-La Souterraine, enables employees and technicians of Polish water utilities to attend continuous vocational training under real working conditions.

The building of the technical unit, situated on the premises of the Wschöd wastewater treatment plant (Gdansk city), is now completed. It consists of various edu-

cational units, in particular a pilot wastewater treatment plant provided by STEREAU company, a laboratory for water analysis equipped with Polish material and an educational drinking water supply system for the training on leak detection, using materials provided by Pont-à-Mousson company.

Today, GFW offers a complete range of professional training courses for staff at all hierarchical levels of the municipalities, administrations and companies in all regions of Poland and the riparian countries of the Baltic Sea (Baltic countries...). The training courses are conducted in Polish and are charged at cost price, in zlotis, to the trainees' employers.

The first training programmes were organised in the second half of 1995, and today enjoy a huge success, which is illustrated by increasing participation which has risen from 146 participants in 1995, to 506 in 1996, 715 in 1997 and 723 in 1998. Thirty one training courses were organised last year.

In 1999, 30 training courses are planned, with the aim of welcoming more than 1,000 trainees.

The GFW, together with IOWater, has been entrusted by the European Commission with the implementation of the international distance learning programme, WA-WAMAN (Water and Wastewater Management), which aims to train executives from PHARE countries for their integration into the European Union. (see article on previous page 20)



The STEREAU's wastewater treatment pilot unit

PARTICIPATION OF 30 FRENCH COMPANIES IN GFW

Supply of pilot units and equipment, contribution to training courses, technological information and supervision of trainees during study tours in France

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



Training courses and seminars organised in 1999

Drinking water supply:

- Automation of the operation of drinking water supply systems
- Microbiological analyses of drinking water
- Principles for operating water mains in rural areas
- Recent developments in water treatment plants
- Leaks in water supply systems: detection, methods for cleaning and renovating the systems.

Sanitation:

- Operation of wastewater treatment plants: problems and practical solutions for wastewater and sludge management
- Optimisation of the operation of wastewater treatment plants using the activated sludge process - for technicians
- Optimisation of the operation of wastewater treatment plants using the activated sludge process - for operators
- Analysis of the construction and operating costs of wastewater treatment plants
- Wastewater management in rural areas - legal, technical and economic aspects

Water quality:

- Use of quality procedures in water analysis laboratories
- The control role of a laboratory in the operating of wastewater treatment plants
- Sanitary recommendations for swimming pools
- Covered swimming pools. Operational problems and design of a project

Legal and regulatory aspects:

- Reform of the State administration - sharing of responsibilities and missions regarding environmental protection
- Water conservation: regulations concerning the construction of small wastewater treatment plants

TURKEY

Protection of Izmir bay against pollution and integrated management of Aegean rivers

When they met in Paris on 5th March 1997, the Turkish and French Ministers for the Environment agreed to launch a pilot project aimed at the integrated management of water resources (infrastructures and pollution control) of the three Aegean rivers, GEDIZ, KUZZEY EGE and MENDERES, in the Izmir area.

This project, which particularly aims to control pollution in Izmir Bay in the Aegean Sea, is supervised by a joint steering committee made up of the Ministry for the Environment, DSI, Iller Bankasi and SPO, on the Turkish side, and of the Ministry for the Environment, the French Embassy in Turkey, the Rhone-Mediterranean-Corsica Water Agency and IOWater, on the French side.

The French Ministry of Economy, Finance and Industry has agreed to pay an amount of 3.200 million French francs out of the FASEP Fund for the first phase of this programme which was jointly implemented by IOWater, ANTEA, BRL Engineering and SEURECA-SPACE, in support of a technical field team made up of the Turkish partners.

For 18 months, IOWater has organised and planned the actions of many experts. Using existing collected information, these actions have made it possible to assess the state of this area, both in qualitative and quantitative terms, in order to "prove the feasibility of

integrated water resources management in the Aegean river basins", and to propose measures to make further progress.

In Izmir, on 22nd March 1999, World Water Day, the International Office for Water, on behalf of the group, ceremoniously submitted the final conclusions of this first phase to Mr. Firuz Demir YASAMIS, the Turkish Under Secretary of State for the Environment, in the presence of Mr. Cyril BOUYEU-RE, head of the Trade Commission of the French Embassy in Ankara and Mr. Laurent CAPLAT, representative of the French Ministry for the Environment.

A detailed presentation of the document was given to the joint Pilot Committee who approved the conclusions.

In addition to an overall assessment and a detailed survey of the area, **the study of the first phase recommended three main actions corresponding to the terms of reference:**

- **A priority action programme**, with a budget of 40 million Euros, regroups **28 projects**, the most important of which deal with water quality protection in the Gediz basin. In general terms, these actions are to be undertaken in the short term and involve urban or industrial treatment plants. This priority action programme was drawn up after **the assessment of the ability to pay**



Irrigation systems in the Gediz basin

of the different water users in the region and the simulation of a financial system based on their contributions.

- **A pilot institution for the Gediz basin:** the study proposes the creation - based on existing texts regarding associations in Turkey - of a basin organisation applying the principles of integrated management, users' participation and the use of financial incentives through the introduction of taxes on withdrawals and discharges, so that the funds collected can then be used for the preservation of water quality.
- **A basin information system:** it is broadly outlined in the assessment document which deals above all with the quality of collected data, their comprehensiveness, and the partnership between the various data producers. In the medium term, this system could be supported by a local body such as the one proposed for the Gediz basin,

Various missions (from November 1997 to March 1999), carried out by the Group's experts, have made it possible to establish precisely:

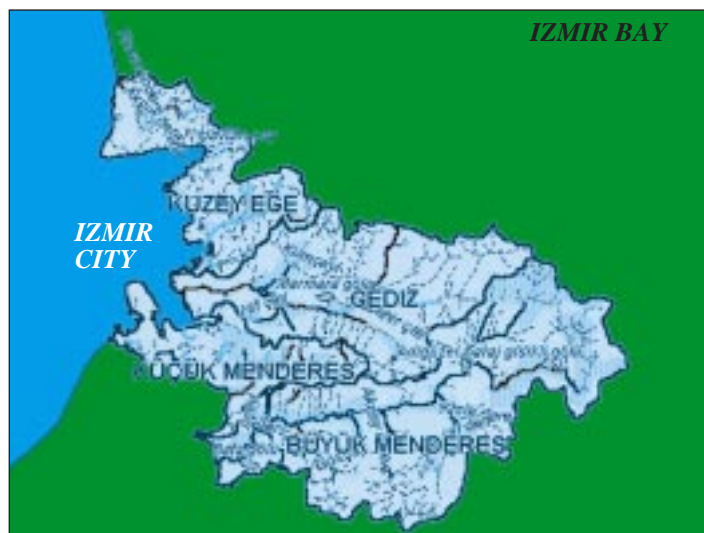
- The objectives to be set for this system, based on an analysis of the local partners' expectations;

- The organisation of the management structure and the necessary co-ordination for the efficient operation of this system;
- The identification of the information to be collected and the organisation of the information flow between partners, while ensuring that the quality of the data exchanged is controlled.

A 3-year working programme has been recommended, aiming at the collection and optimum development of regional data necessary for integrated water resources management.

It is essential to get effective and reliable measurements and analyses, thus ensuring an in-depth knowledge of the uses of abstracted water and of discharges, carried out while using the same standards whoever the network manager may be.

Taking into account the conclusions of the first phase of the co-operation programme, **the steering committee is now trying to mobilise the funds necessary for implementing the Priority Action Programme**, by calling upon Euro-Mediterranean (MEDA) and multilateral funds, within the framework of the METAP III Programme in particular.



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The Training Centre for Water Professions: building work is quickly progressing

The Mexican Training Centre for Water Professions will, by year 2000, offer a range of practical training courses for continuing training, in all the technical areas of drinking water supply and sanitation, in terms of both design of facilities and operation, maintenance and management of utilities.

In the long term, it will be possible to train nearly **3,000 people** from all professional categories in the water sector, employees from the National Water Commission (CNA), from the water utilities of the Federal District of Mexico and large Mexican cities, from Mexican, French or other companies in the sector, working in Mexico or in the neighbouring countries in Central America (engineering, equipment, public works, water supply, sanitation)...

It was during the visit to France, on 6th October 1997, of the President of the United States of Mexico, Mr. Ernesto Zedillo, that the Mexican Minister of Finance, Mr. Ortiz, signed an agreement with his French counterpart, Mr. Dominique Strauss-Kahn, amounting to 5.500 MFF, to finance this project with a grant for the technical and educational engineering provided by IOWater.

This project is original as it involves the creation of a technical unit, gathering all the equipment and material actually used in Mexico in municipal water utilities in order to develop active educational methods, setting the trainees under real working conditions.

The building of the Training Centre began in November 1998, on the occasion of the visit to Mexico of the President of France, Mr. Jacques Chirac. It is located on the bank of Texcoco Lake, on the outskirts of Mexico City, close to the future wastewater treatment plant planned for the Federal District.

The cost of the project is estimated at about 59.000 MFF, shared between the National Water Commission (CNA) on the Mexican side and forty French companies, gathered under the aegis of the French Embassy in Mexico (PEE) around the Générale-des-Eaux (Vivendi) and the Lyonnaise-des-Eaux-Suez.



The construction site: the educational building



The future reception hall

From next year, the Training Centre will be provided with a drinking water clarification unit, a workstation with a treatment process by ozonisation, a laboratory, some pumping units, a pilot unit for leak detection in drinking water supply systems, a unit for training on the laying of mains and, of

course, all devices necessary for automation and remote control..., organised in **eight educational workshops designed by IOWater.**

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

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

Given the rapid progress of the building work, **the training of Mexican trainers, led by the International Office for Water, should start in the first quarter of 2000 and the first training courses could therefore be organised in Texcoco, in Spanish, before the end of 2000.**

List of the 42 French companies providing educational equipment:

- AGRIPPA FAST - A.K.A
- ALPHACAN - AREAL
- CHARLATTE - DEGREMONT
- ENDRESS & HAUSER
- FAURE Equipements S.A.
- FRIATEC
- GENERALE DES EAUX - GIRPI
- HUOT - HYDROVIDEO
- HYTEC - LEGRAND
- LEROY SOMER
- LYONNAISE DES EAUX
- METRAVIB
- OLDHAM FRANCE
- OTV - PCM POMPES
- PE INDUSTRIE
- PERAX - PRONAL
- R & O DEPOLLUTION
- RAMUS
- RAUFOSS FRANCE S.A.
- SAHOWER - SAINTE LIZAIGNE
- SALMSON - SAPPÉL
- SEPEREF - SERES
- SEWERIN - SNF
- SODIMATE - SOFREL
- TALBOT
- TRAILIGAZ
- TROUVAY & CAUVIN
- ULTRAFLUX - YSM

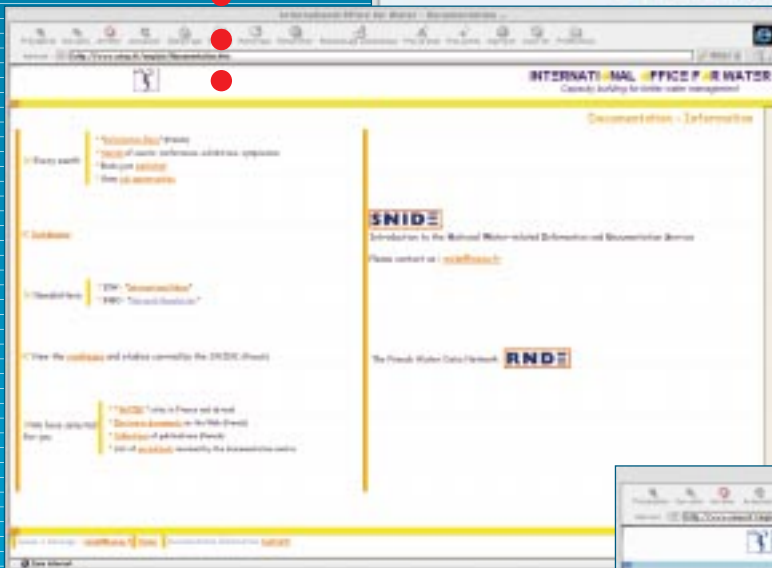
This list is likely to change according to the interest shown in the project by other manufacturers.



Texcoco, the construction site viewed from outside



IOWater on the Internet



<http://www.iowater.org>

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All Training Courses of the International Office for Water

