

INTERNATIONAL NEWS

Capacity building for better water management

TRAINING
INFORMATION
MANAGEMENT
COOPERATION



*International
Office
for Water*

1991 ~ 2011
20th Anniversary



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Capacity building for better water management

In 2010, 6,000 trainees benefited from the training provided by the National Water Training Center (NWTC) of the International Office for Water.

Every year, the NWTC draws on its sites in Limoges and La Souterraine, the water professionals who want to improve their technical and regulatory knowledge and skills.

Nearly 2,000 trainees are thus trained directly on their workplaces.

From operators to department heads, all the staffs of drinking water supply and sanitation utilities find at the NWTC all the useful training courses needed for good control and evolution of their work.

For the staffs of Public On-Site Sanitation Services, Syndicates of Technical Assistance to

Wastewater Treatment and to Sanitation, governmental services, Water Agencies, municipalities, industrial companies or of consulting firms, the training offer is thought, organized and delivered so as to meet the needs for ongoing reorganizations, regulatory changes and new activities...

A specific catalogue is also addressing the personnel managing process water in the industry.

The NWTC's professional trainers, supplemented by the best experts as lecturers, design and develop training programs using a concept of putting the students in real working situation, unique in France and Europe.

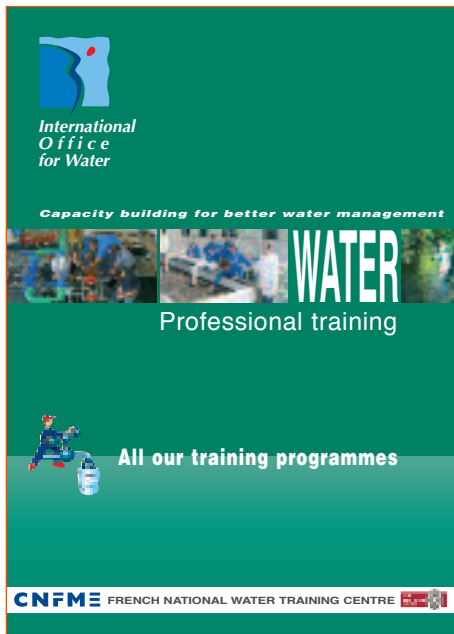
Participants will thus benefit from their training which can be measured with our instruments for assessing the knowledge acquired.

The NWTC also offers training programs, some of them graduating, on 15 training days, which correspond to periods of professionalization.

The NWTC is certified ISO 9001, Version 2000, and also has the quality labels "AQUAPLUS" and "QUALIPUIE" as center for rainwater reuse.



The catalogue of training courses on "Water" 2011...



The catalogue "Water 2011" regroups 293 training programs divided into 443 training courses and 6 large topics:

- **Discovery of water jobs.**
- **Service management, regulation and security:** management of water supply and sanitation utilities, staff safety.
- **Water in the city:** analysis and water quality, sensors and flowmeters, drilling, drinking water production, drinking water supply, storm water, construction and rehabilitation of networks, sewerage networks, treatment of urban wastewater, treatment of sludge, odor and waste,

on-site sanitation, pumping, maintenance, energy, automation and remote management.

- **Water in nature:** groundwater, rivers, water bodies, GIS and mapping.
- **Water in agriculture:** technical and regulatory management, design and operation of irrigation systems, sludges and effluents.
- **Water in industry:** management, analysis and control, process water, industrial wastewater treatment - detoxification in surface treatment.

36 new training courses appeared in the 2011 catalogue.

These training courses can be organized as a customized training program and curriculum, which may correspond to periods of professionalization.

Several training programs are graduating: maintenance of backflow preventers, electrical welding of polyethylene tubes, butt welding in collaboration with STRPE, handling of chlorine in bottles, trapping of coypus and our new training courses for intervention in confined space.

www.iowater.org/cnfme



Training Center

...But also Waste, Environment, Sustainable Development

The catalogue "Waste, Environment and Sustainable Development" 2011 offers 47 training programs organized in 51 training courses on the topics:

- **Waste:** management of "municipal waste" utilities, waste collection, selective sorting, customer's environment, logistics of a sorting and transfer unit, special waste, treatment and reuse of waste and wastewater treatment sludge, leachate, biogas, etc.
- **Noise:** noise at work in water and sanitation utilities, noise in the environment, protection of workers against noise.
- **Energy:** optimization of energy consumption and renewable energy in water production plants.
- **Sustainable development:** carbon footprint, sustainable development approach, sustainable purchase, hydraulic infrastructure integration into the landscape, "Qualipluie" (rainwater quality) label.
- **Air:** measurement of pollution in open air.
- **Sites and soils:** pollution appraisal and removal from polluted sites and soils.



Training program 2011 for industry



Historically, water has always been a strategic resource for industry and is found at the core of the production process.

Often, industrial plants were located near a water resource, which

is both a source of energy, a raw material and solvent or thermal fluid in the process. Its quality must be controlled and its quantity optimized to reduce production and water treatment costs.

Very often thought as responsible for "all kinds of pollution", huge efforts have been made by manufacturers in the past 30 years to limit pollution by "macro-pollutants" (COD, SS, ...) including by changing their manufacturing processes and especially by incorporating waste water treatment into their plants. The regulations require that the water discharged by wastewater treatment plants comply with quality standards and is completely reliable.

Today, faced with regulatory changes, the new challenge for industry will be to limit and deal with its production of "micro-pollutants".

Achieving these goals will lead to good chemical and ecological status of Water Bodies imposed by the European Directives.

Decrease in water consumption and recycling are at the heart of current thinking conducted by manufacturers to improve their processes. They are also working on possible reuse or recovery of some discharged pollutants.

Water management by the manufacturer is also becoming a "marketing" argument on his way to contribute to sustainable development.

More importantly, the development of green chemistry (to reduce or eliminate the use and synthesis of hazardous substances), pushes the industry to use new technologies or clean products.

Industrial sites must now have a comprehensive approach to managing the water cycle.

The emergence of new professions with specialized skills requires trained and qualified personnel.

NWTC, aware of these challenges for manufacturers, has developed a specific training offer in its catalogue "Industry 2011".



NWTC's complete training offer, as well as the planning for the whole year 2011, can be consulted on the website: www.iowater.org/cnfme



WATERDOC Sandre



"WATERDOC", IOWater's documentary base, has managed since 1970 a global fund of technical, institutional and socioeconomic documents covering the management of water and aquatic environments in France, Europe and Worldwide.

Thanks to the Polyspot search engine, the "WATERDOC" portal offers comprehensive and federated search to users.

The online consultation is free and unrestricted, and focuses on references of books, reports and journal articles in French (40%) and other European languages (60%) in agreement with intellectual property rights.

Users can also access full text documents when they are free of rights and information from other websites of the Office.

The watch tools used optimize the collection of documents that feed "WATERDOC" in real-time and its subheadings.

A "cloud of keywords" specific to the water sector, was established to monitor periodically the news sections on blogs, social networks and websites of publishers of books or magazines and French, European or international public and private organizations.

The "WATERDOC" portal also offers a range of services for technical assistance and support to information search and tailored services: technical watch, bibliometric analysis and bibliographic summaries, etc.

More information:

www.iowater.org/documentation



A quality year!

Reference frames allow gathering and exchanging data, they ensure technical interoperability of databases and applications for data management: they are thus the cornerstone of information systems.

The French National Water Data Plan, approved by the Ministers of the Environment, Local and Overseas Authorities, Health, Agriculture and Food, formalized **the National Data Reference Center for Water (Sandre)** that has existed since 1993, as a French reference frame of water data.

IOWater is in charge of its Technical Secretariat.

"Sandre" produces and disseminates reference frames (specification documents and data sets) free of use at:

<http://sandre.eaufrance.fr>

Year 2010 was marked by:

➤ **Obtaining an ISO 9001 certification** covering the alphanumeric reference data managed by "Sandre": parameters, taxa, analyzed fractions, etc.. This area will evolve in 2011; the objective is to progressively cover all activities of Sandre's Technical Secretariat.

➤ **Redesigning the Atlas**, a name which means the cartographic search engine for data sets, geographic references and associated metadata: measuring stations, infrastructures and zoning, etc..

This new service appears under the heading "Online Services - For a data set" on "Sandre" website.

➤ **Publication of specification documents relating to water and aquatic environments**, on various topics such as water bodies, water abstractions, industrial discharges and quality of coastal waters.

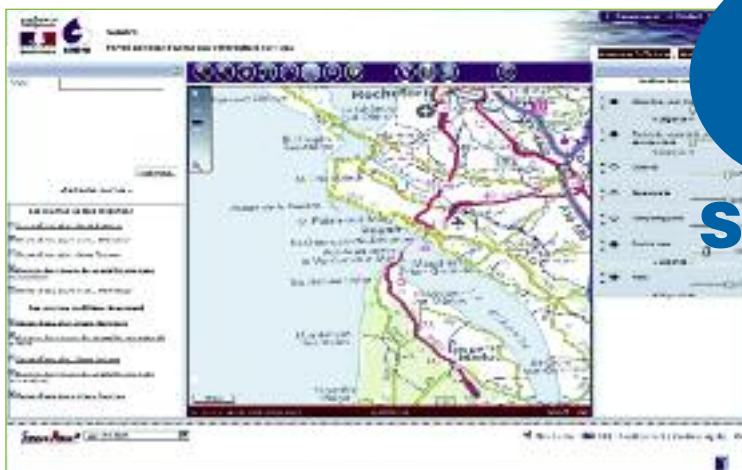
Also, "Sandre" continues to improve data exchanges for the information system of the Hydrometeorology and Support to Flood Forecasting Center (SCHAPI).

➤ **Completion of more than 650 certifications**, which cover exchange scenarios for hydrometry, land application plans and exchanges between laboratories, water suppliers and Departmental Health Services, via the information system of the Ministry for Health.

Of course, work carried out in France is in line with European or international standards, to which "Sandre" participates. Thus, it contributes to the specifications of the INSPIRE Directive.

It participates in drafting the "WaterML 2.0" specifications (working group on hydrology) of the OGC (Open Geospatial Consortium).

It is involved in the specifications for the exchange of water data of COVADIS, Joint Commission of the Ministries of Environment and Agriculture, responsible for standardizing geographic data.



<http://sandre.eaufrance.fr>



6th World Water Forum

IOWater is committed in the "Forum of Solutions"



Mr. Nicolas Sarkozy
President of the French Republic

© Presidency of the French Republic - P. Segrette

The 6th World Water Forum will be held in Marseilles from 12 to 17 March 2012.

Every three years, the Forum is the largest global event on the topic of water.

While building on the results of the Istanbul Forum and other recognized international processes, the participants are asked to go beyond identifying problems and proposing solutions by thinking about ways to implement them.

The 6th World Water Forum should be the "Forum of Solutions".

The preparatory process will propose decisions by identifying targets for twelve "Priorities for Action" and three "Conditions for Success".

It will be based on a participatory and partnership approach open to all stakeholders concerned, particularly at the level of each of the four major regions of the world: Africa, America, Asia and Europe.

► Launching of the process: "Kick-off Meeting" - June 2010

Some 400 personalities coming from the entire world gathered in Paris then in Marseilles on 2, 3 and 4 June 2010 to launch the preparatory process.

The participants were received at the Elysée Palace, in Paris, on June 2 by the President of the French Republic, Mr. Nicolas Sarkozy, then took part, in Marseilles, in two days of round tables and workshops intended to format their ideas and projects for the Forum.

► The French National Committee

Chaired by the Director of the Office of the President of the French Republic, the French National Committee (FNC) is the correspondent in France of the International Forum Committee (ICF), itself chaired by Mr. Benito Braga, Brazilian Governor of the World Water Council.

Mr. Pierre Roussel, IOWater's President, is the Vice-President and Mr. Jean-François Donzier chairs the Regional Process Commission and, as such, is responsible for leading the preparation of the Forum at the level of the European Region.

► The European Regional Process

A first meeting of all European organizations, heads of networks, was held in Brussels at the headquarters of the Walloon Region, on 21 December 2010, to involve all stakeholders concerned and clarify the priorities specific to water management for the European Union, the Balkans, Russian Federation, Caucasus and Central Asia when concerned, and of course the EU's outermost regions.

Thematic framework for the 6th World Water Forum

CREATING A BLUE MOVEMENT!

3 strategic directions

ENSURE EVERYONE'S WELL-BEING

CONTRIBUTE TO ECONOMIC DEVELOPMENT

KEEP THE PLANET BLUE

12 key priorities for water action

Guarantee access to water services for all and the Right to Water

Guarantee access to integrated sanitation services for all

Contribute to better hygiene and health through water

Protect populations and economies from risks

Contribute to cooperation and peace

Balance multiple water uses

Ensure food security

Harmonize energy and water

Protect and value ecosystem services and green growth

Improve the quality of water resources and ecosystems

Regulate pressures and footprints of human activities on water

Respond to climate and global changes in an urbanizing world

CONDITIONS FOR SUCCESS

Good governance

Finance water for all

Enabling environment

It is planned to hold five "Regional Water Meetings" to widely involve the partners of all these different geographical parts of Europe.

► The thematic process

Among the fifteen selected priorities, IOWater and OECD, with partners, will coordinate the topic of "good governance".

INBO and UNESCO will coordinate priority 1.5 "contribute to cooperation and peace" and the International Network of Water Training Centers (INWTC) will be involved in the topic "create an enabling environment" in terms of continuing professional training.

A "second partners meeting" took place in Paris on 17 and 18 January 2011, to bring all organizations interested by the Forum in working order to ensure its success.



General Assembly on Water in Mountains Megève - 22 - 24 September 2010

Mountains should remain the water towers of Europe!

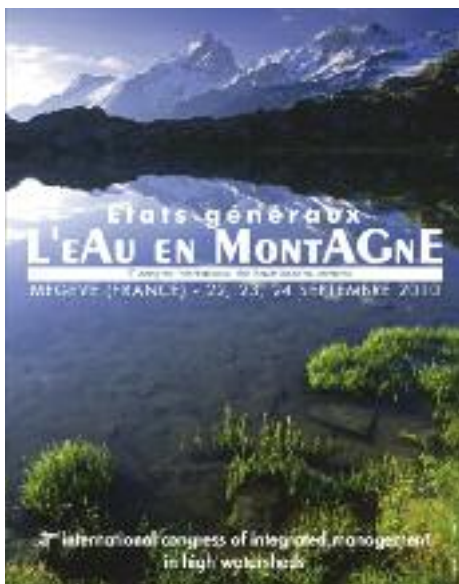
The "General Assembly on Water in Mountains", in which the International Office for Water was one of the co-organizers, took place on 22, 23 and 24 September 2010, in Megève (France), simultaneously with the 8th Conference of the "EUROPE-INBO" Group of European Basin Organizations for the implementation of the Water Framework Directive.

They drew attention to the need for anticipating the consequences of climate change on hydrological cycles in the European mountains and for urgently proposing essential adaptation measures.

The Conference gathered 600 participants, representatives of national administrations, Basin Organizations, municipalities, researchers, NGOs and companies, coming from 41 countries of the European Union, the Balkans, the Mediterranean, Eastern Europe, Caucasus and Central Asia, as well as from Australia and China.

The participants noted that the European mountains are already among the first victims of climate change:

In one century, the average temperature of the Alps has increased more than the double of total global warming.



More than 600 participants coming from 41 Countries

The models forecast in the Alps an increase in temperature by 2100 ranging between +2.6 and +3.9°C.

Warming could be significantly higher in upper mountains to reach +4.2°C above 1,500 meters.

The alpine glaciers, which have already lost between 20 and 30% of their volume since 1980, could still lose from 30 to 70% of their volume by 2050; almost all the smallest ones would then have disappeared! Snow cover will be reduced, especially at low and medium altitude...

With the decrease in snow cover and glacier melt, the water regimes of all major European rivers coming from mountains are now changing and this phenomenon does not only affect Europe: all the world's large rivers and their main tributaries have their headwaters in mountains.

The flows of the large European rivers with snow-glacier regime will be significantly modified in the next decades: on the average, there would be before 2100 an increase of 20% in the winter flows, but a reduction of 17% in spring and up to 55% in the summer flows, especially in the Central and Southern Alps. Aquifer levels could also lower by 25% in the Southern Alps.

In the basins of all large European rivers having their headwaters in mountains, flood frequency and intensity will greatly increase in autumn, winter and spring, as well as summer droughts.

The other consequences of climate change in mountains will be severe erosion, landslides, degradation in river quality and an increase in water temperature.

Climate change will also have a significant impact on hydropower production, the cooling of thermal and nuclear power plants, river navigation...

Competition between water uses will become fiercer particularly for irrigation in the south and with widespread snowmaking, which will become essential for the 666 current alpine ski resorts to ensure proper winter season.

Planning, development and protection of mountains are thus considerable stakes on a European and worldwide scale, especially for the regulation of the fresh water resources often used several hundred kilometers downstream in the plains.

www.eaumenmontagne.org



An attentive audience

For all the participants in the Conference, the question is no more to discuss about the reality of climate change, especially in mountains, but to launch different programs as fast as possible for adapting to it, mainly with regard to fresh water resources management, before it is too late!

Taking into account the great diversity of local situations, it is essential to quickly identify these changes and their consequences, basin by basin, and in each sub-basin, and to better analyze the ecological and socioeconomic consequences on the various activities.

The "General Assembly on Water in Mountains" presented field experiments, which were successful and gave results, which can be generalized or inspire others to progress.

Many solutions already exist: it is necessary to disseminate them and develop their implementation.

Three main categories of actions can be considered:

① **Firstly, saving water and facilitating recycling:** leak detection, re-use of treated waste water, groundwater recharge, desalination of sea water, research on low water-consumption uses must become priorities. New low water-consumption techniques for snow management of skiing areas are, for example, already used in Megève, in particular...

② **Then, rethinking the management of mountain water, lakes, wetlands and soils** by taking into account, better than today, the strategic constraints of water supply to the populations and agricultural, industrial and tourist economies at the foothills and in plains downstream, and by developing a "new risk culture".

Conservation and storage of water resources, development of slopes and lands to hold water during rainfall, management of plant and forest cover, protection of wetlands, development of protection areas, natural flood plains, recovery of degraded river beds..., the new regional planning policies will have to optimize the water reserves available for the community and to prevent natural hazards.

③ **Finally, better recognizing the role of mountains for the community as a whole and better helping the mountain dwellers, within integrated basin policies,** so that they can manage the territories, ecosystems and mountain water resources, build the integrated equipment necessary upstream for continuing to protect downstream areas against risks and provide the plains with abundant quality water, which they will increasingly need...

It will then be necessary to establish institutional and financial mechanisms for payment by the main downstream beneficiaries of the services provided by the managers of mountain ecosystems in the upper basins.

It is necessary to develop "win-win" strategies and to quickly launch programs of measures "with no regret", whose implementation will be anyway required in all possible scenarios, since water is essential in almost all the sectors whose development depends on its availability and its quality.



Mr. Van Sevenscoten, Flemish Environment Agency

Planning must be made in the basins of large rivers and based on strong inter-sectoral cooperation and also international when river basins are trans-boundary.

With the Water Framework Directive, the European Union has an effective tool which should also be used to develop these strategies of adaptation of water resources management to climate change.

Several Member States of the European Union are already developing such strategies; for instance, France has just launched a public consultation for its National Adaptation Plan.

In 2011, a European Information Center on the effects of Climate Change should be created and, in 2013, the European Commission will propose a Common Strategy to the Member States.

The measures needed for adapting water management will have to be integrated in the next Management Plans and Programs of Measures (2015 - 2021, then 2021 - 2027) of the European Water Framework Directive (WFD).

www.eaumenmontagne.org
www.inbo-news.org



INBO around the world



2nd International Symposium: "Sustainable River Basins" 29 September - 1st October 2010 - Mexico



The Mexican Ministry of the Environment and Natural Resources (SEMARNAT), the National Water Commission (CONAGUA) and the National Commission on Forestry organized the second International Symposium on "Sustainable River Basins", to which more than 1,100 participants attended.

A broad consensus emerged to achieve better use and better management of water resources, forests and soils, conditions for having basins able to provide protection against natural phenomena

Mr. Jean-François Donzier, INBO Permanent Technical Secretary, was invited to present, in the plenary session, the tools developed by INBO, particularly in Europe, with the Framework Directive, to introduce Integrated River Basin Management, especially to promote adaptation to climate change.

This event was part of the preparation for the 16th Conference of the Parties (COP 16) of the United Nations on Climate Change, held in Cancun from 29 November to 10 December 2010.



AsDB and the future of water in Asia 11 to 15 October 2010 - Manila



Over 600 participants coming from 53 countries in the Asia Pacific region discussed, at the home office of the Asian Development Bank (AsDB), about problems and solutions to the water crisis that threatens both the economic growth of the region and its environmental sustainability.

AsDB called for more genuine partnerships to increase knowledge and provide coordinated solutions.

The International Network of Basin Organizations (INBO) participated in this conference, especially in workshops on Integrated River Basin Management.

Mr. Jean-François Donzier, INBO Permanent Technical Secretary, stressed the advantage of strengthening exchanges of experiences among Asian River Basin Organizations and those of other continents.



Experiences of river basin management in Brazil 22 - 26 November 2010 - Fortaleza and Atibaia

The National Forum of Brazilian Basin Organizations mobilized more than 1,400 participants in Fortaleza, from 22 to 25 November, to discuss arrangements for reviewing the National Water Resource Management Plan.

The 2nd International Symposium of the "Inter-municipal Consortium" of Piracicaba-Capivari and Jundiá Rivers (PCJ) was held in parallel in Atibaia (State of São Paulo) from 23 to 26 November 2010, in the presence of all partners in water management of the States of São Paulo and Minas Gerais and neighboring countries of the International Parana River Basin.

A strong delegation from the Loire-Brittany Water Agency, twinned with the PCJ Consortium, presented the French experience in river basin management.

Mr. Jean-François Donzier, INBO Permanent Technical Secretary, participated in both events to support the development of the Brazilian Network (REBOB) and the Latin American Network (LANBO) and mobilize their members in view of the 6th World Water Forum in Marseilles in 2012.



AFRICA

AWIS

Access to information on the African water sector



The African Water Documentation and Information System (AWIS) is an initiative launched in 2007 by a group of institutions from the North and South: CREPA (Regional Center for Water Supply and Sanitation) OMVS (Organization for the Development of

the Senegal River) through ANBO (African Network of Basin Organizations), pS-Eau (Water Solidarity Program), IOWater (International Office for Water) and WEDC (Water Engineering and Development Center).

AWIS aims to build the information management capacity of organizations in the African water sector through sharing knowledge, experience and information between water professionals, communities and local and national governments on a pan-African scale.

Over the period 2007 to 2010, the feasibility and appropriateness of AWIS were tested as part of a preparatory phase financed by the European Water Facility. It ended in 2010 with success, thanks to the involvement of twenty relay partners spread across the African continent and that feed the knowledge base, news, "waterlibrarysite" of the Web portal.

AWIS will start to expand its network of relay organizations in 2011, continuing to build know-how in information management.

Some figures on AWIS:

20 Organizations, focal points of French-speaking and English-speaking Africa (Basin Organizations, documentation centers, administrations, associations, consulting firms), 100 current events, 500 referenced documents, 160 indexed websites, 3 topical newsletters in 2010, 90,000 visitors in the last 12 months.

www.african-wis.org



Performance Indicators for African Basin Organizations



The project of the International Network of Basin Organizations (INBO) for the development, testing and comparison of Performance Indicators for African Transboundary Basin Organizations ended in September 2010.

During the three years of implementation many tests were carried out in **10 pilot basins**: Congo (CICOS), Gambia (OMVG), Lake Chad (CBLT), Lake Victoria (LVBC), Niger (NBA), Nile (NBI), Okavango (OKA-COM), Orange-Senqu (ORASECOM), Senegal (OMVS), Volta (VBA).

They spread across the continent, had a wide variety of legal, institutional, socioeconomic or geographic contexts.

Interactive workshops for feedback and exchange between the basins allowed INBO to achieve an excellent appropriation of the project by the beneficiaries, best guarantee for the sustainability of such an approach using indicators in the river basins.

The final list of indicators includes:

- 20 indicators on the governance and operation of organizations in charge of the implementation of integrated management in transboundary basins;
- 15 indicators on the river basin, describing its condition, pressures and responses.

Basin Organizations have highlighted the entirely new and significant contribution of the project on the "Governance of a Basin Organization" aspects.

The exercise allowed the self-evaluation of organizations on their operation and achievement of their missions. It also helped to gradually include indicators in the various processes of reporting to the Councils of Ministers or to donors.

Moreover, comparison of the strengths / weaknesses of each pilot basin, through a web application for displaying results, allowed basins to consider future discussions on these specific points.

Disseminating the results of the project during the General Assembly of the African Network of Basin Organizations (ANBO), or during the World Water Week in Stockholm in 2010, showed a strong interest of basin organizations and donors on these notions of performance indicators but also the significant needs in terms of popularization and support for their future use.

As INBO Technical Secretariat, IOWater directed this project, in partnership with the African Network of Basin Organizations (ANBO) and Ecologic. The project was financed by the European Water Facility (ACP Water Facility) and the French Ministry for Foreign Affairs.

More information:

<http://aquacoope.org/PITB>



AFRICA

INWTC

AWA Congress in Kampala: Investing in training!



During the 15th Congress of the African Water Association, held in Kampala, Uganda, from 15 to 18 March 2010, the **International Network of Water Training Centers - INWTC** - invited participants to an International Workshop on "Professional training in water and sanitation". The event was organized with the French Development Agency.

The activities were divided into two parts:

- **Training as a tool for modernization of Water Services;**
- **Vocational training is a profession.**

The various presentations gave practical examples from the experience of African Water and Sanitation companies: MOWASCO and KIWASCO in Kenya, NWSC in Uganda, and of Training Centers, KEWI (Kenya), ZIE (Burkina Faso), ONEP (Morocco) and **IOWater** (France).

Capacity building of the staffs of water and sanitation utilities is more than ever a priority, if we do not want that water becomes one of the limiting factors of development in many countries of the World.

The time lost is becoming disturbing and unprecedented mobilization is essential for humanity to win the water battle and prepare the future.

Let's support capacity building projects regarding water in the world!

www.inwtc.org



ECOWAS

Dialogue on infrastructure projects in the water sector

"Dialogue Infrastructure" is a project financed by the **Water Resources Coordination Center of the Community of West African States (ECOWAS)**.

The goal is to provide Basin Organizations with dialogue tools to support the development of their investment plans for water in a consultative framework.

IOWater's assignment consisted in:

- Identifying the main existing and planned infrastructures in ECOWAS space;
- Examining the consultation mechanisms used;
- Analyzing the decision-making processes on a sample of infrastructures;
- Assisting in the formulation of recommendations on consultation mechanisms;
- Facilitating joint work of the experts' panel.

IOWater carried out a survey involving NBA, VBA, "OMVG", "OMVS" and MRU, and ECOWAS States, plus Mauritania, to gather information on current consultation mechanisms.

Implementation of the Regional Water Information Center

The 15 countries of the Economic Community of West African States (ECOWAS) decided to create a Regional Water Information Center.

The ECOWAS's Center for Coordination of Water Resources (CCWR), which is responsible for the management of this Information Center, relied on **IOWater** to develop the first tools for managing and disseminating information, using:

- **The portal of the Information Center**, whose content is now directly managed by the CCWR and which allows, firstly, to disseminate multilingual information (French/English) and, secondly, to organize the sharing of documents between the various partner countries.

The authorities in charge in each country can view and/or feed the various sections of the portal according to their access and update rights.

- **A database of IWRM indicators** using the data found in the tables of the "inventory of water resources in West Africa."



IOWater produced a bibliographical analysis of international law documents in the world, of texts available on a pan-African or regional and national scale or from donors' reports.

IOWater made a series of interviews with some key stakeholders involved in the decision-making process on three major infrastructures selected by the steering committee of the study: Bui (Ghana), Manantali (OMVS), Kandadji (NBA).

IOWater facilitated the work of the experts thanks to participatory facilitation techniques, adapted to joint work. Thus, during the workshop in February 2010, the experts produced 7 families of recommendations to improve dialogue on infrastructures.

They were presented to Basin Organizations at the end of the workshop.

The last step is to submit these recommendations to key stakeholders from 4 West African basins.



Interfaces were also developed to enable the updating and viewing of the contents of that database in the form of tables, graphs and maps, dynamically generated from the available data.

www.aquacoop.org/CEDEAO



AFRICA

Gabon



Audit of "SEEG"



IOWater is involved with Deloitte Company in the accounting and pricing, financial and technical audit of the agreement with the Energy and Water Company of Gabon (SEEG).

In 1997, after an invitation to tender, the Gabonese Government entrusted the management of the "SEEG" to Veolia Water, which became the majority shareholder together with Gabonese investors. The conceded area covers most of urban and semi-urban areas of Gabon.

IOWater provides the technical part of the audit relating to drinking water through the control of the good condition of facilities, the quality of operating procedures and compliance with contractual commitments.

The analysis of performance indicators will also assess the quality of the operation.



Madagascar



Evaluation of the "AGIRE" project in Madagascar

Since 2006, Greater Lyons has financed, with support from the European Union (Water Facility), the "AGIRE" (Improvement of Integrated Water Resources Management) project in the Upper Matsiatra Region in Madagascar, for the capacity building of public stakeholders in the water sector to implement the Water Code.

IOWater was chosen for making the final evaluation of the project in 2010, especially for:

- reviewing the project (interviews, field assignments ...),
- evaluating the project by using several criteria: relevance, effectiveness, efficiency, impact and viability/sustainability,
- making recommendations for the future (AGIRE 2).



Stakeholders of the AGIRE project in the rural area of Isorana

Two field assignments were carried out in July / August and September 2010, in addition to meetings with the interested parties in France. The feedback took place in autumn 2010 in France and Madagascar.



GRANDLYON
communauté urbaine

National WatSan portals

Data and indicators on drinking water supply and sanitation



Therefore in response to requests from countries, the World Bank's Water and Sanitation Program launched a regional African initiative called "WatSan" for strengthening national SIMS.

The project objective is the establishment of a platform for quick development and free hosting of national Web portals on water and sanitation.

The WatSan portals, with advanced functions and customized according to each country's needs, complement the existing sectoral databases.

Despite the significant efforts already made to develop national databases, following up progress towards the Millennium Development Goals, on access to drinking water and sanitation, remains a major challenge for most African countries because of weak Sectoral Information and Monitoring Systems (SIMS).

They are effective and participatory tools.

Their implementation should help to improve:

- Governance and decision making;
- Monitoring of technical installations;
- Effectiveness and efficiency of resource allocation.

The **IOWater** / EAUDEWEB / Imedia group was chosen for the development of the WatSan platform and its implementation in the first 2 pilot countries: Uganda and Senegal.

Imedia and EAUDEWEB are managing the development and customization of the portal's tools.

IOWater, for its part, is providing its expertise in structuring the database, and helps countries to develop/integrate their data sets on infrastructure (wells, WSS networks ...) and their national and local statistics on drinking water supply and sanitation.

Several other African countries have already expressed their interest in implementing their national portals.

This initiative may become, in the years to come, one of the flagship actions for water data administration in Africa.

<http://watsanportal.org>



AFRICA

Djibouti



Restructuring of ONEAD's commercial management

In 2009, the National Water and Sanitation Office of Djibouti (ONEAD) embarked on a major program of restructuring its marketing department.

Following the recommendations for reorganizing, updating and sustaining the customers' files, **IOWater** has made a major large-scale skill transfer.

Thus, over 50 people of this department benefited from practical training, applied to the context of Djibouti, in the fields of connections, metering systems, reading, billing,

commercial databases and customer reception and management.

For the most strategic training programs, **IOWater** used an innovative approach combining both knowledge input and practice first on test sites, then in the actual context of the agents' activity. The concerned operators had six months of coaching before continuing alone the tasks related to their new responsibilities.



Training of a meter reader from ONEAD

Kenya

Assistance to the Mombasa Water Company (MOWASCO)

The Water and Sanitation Department of the City of Mombasa, housing a population estimated at just over 900,000 inhabitants, was created in 2005.

The water supply system can only meet 30-40% of the water demand.

The number of direct customers tends to stagnate while the number of people served by water points (kiosks of water resale under license) is steadily increasing.

Out of a total of 65,000 customers, only 34,000 connections are classified as "active".

The billing of active subscribers is based on 52% of consumption readings and 48% on consumption estimates.

The French Development Agency is financing a major project to improve the quality of the service provided to the population and the **SEURECA-IOWater** group is providing technical assistance for 24 months, based on six key levers:

- Development of a Geographic Information System (GIS);
- Completion of a major program for leak detection;
- Setting up of a new computer system for Customers and Customer Relationship Management (CRM);



Extension work on the supply network



- A full audit of the functional organization of the Company to undertake possible restructuring;
- Strengthening of quality monitoring of the supplied water by modernizing the analysis laboratories;
- Extensive training program designed to develop the skills and professional abilities of MOWASCO's staff, including the use of new technologies (e.g. GIS and CRM).

In a first stage, **IOWater's** work includes components related to the organization of the company, its business activities, the monitoring of water quality and the implementation of a comprehensive audit, leading to an action plan to improve the internal operation and performances of MOWASCO.

IOWater is also responsible for the development of new software for customer management.



AFRICA

Benin



Basic training



Development of an educational hydraulic model of closed conduit flow

IOWater is helping to develop water training in the Polytechnic School of Abomey Calavi in Cotonou and Benin technical colleges within upgrading projects supported by NUFFIC (Netherlands Organization for International Cooperation in Higher Education).

Thus, **IOWater** designed and accompanied the creation of an educational hydraulic model of closed conduit flow and a unit for laying pipes for drinking water.

This collaboration led to the completion of a training of trainers of these Benin organizations on the operation of drinking water supply systems.

A teaching kit on this topic was given to the Benin teachers for them to pass this knowledge to their students.



Niger

Evaluation of the DWS project of Torodi

The City of Paris has requested a mid-term evaluation of the project on "**Water and Sanitation for sustainable urban development in the rural area of Torodi**", that it assists in Niger, a project led by the "Eau Vive" Association.



Users of the new well of Kankani

Chad



Training on municipal waste

The Technical Departments of the City of N'Djamena entrusted **IOWater** with 2 training programs for their agents, with the French Development Agency (AFD) financing, focusing on the technical management of waste and the administrative and financial organization of the Waste Services.



Participants from the Cleaning Service of the City of N'Djamena

These actions continued with funding from the French Embassy, with a study tour and two training courses in France on regulatory and legislative framework and operation of storage facilities for non hazardous wastes.



Senegal



Training of craftsmen



Training course on pumping

The French General Councils of the Drome and Ardeche assist the "ADOS" association in the design and implementation of local development projects in the Matam region in Senegal.

As part of a Regional Hydraulics Program and to encourage the emergence of local expertise, the process of identifying the craftsmen involved in hydraulic maintenance was carried out.

Good craftsmen's skill is a condition for sustainability of the hydraulics of Matam region. Thus, "ADOS" entrusted **IOWater** with a training course on the operation and maintenance of pumping stations in water wells.

This training was carried out in Matam at about 700 km from Dakar for an audience of 12 maintenance technicians.



Burkina Faso



Decentralized cooperation

The decentralized cooperation partnership, between the Province of Ouhimbide (Region of the Central Plateau of Burkina Faso) and the French Limousin Region, widens its action within a new three-year program over the 2010-2012 period.

It initiated various actions for water supply and sanitation.

IOWater is contributing to activities that fall within its competence: technical educational support, assistance to municipalities, training of Management Committees.



Brazil



Basin Masterplans in the State of Tocantins

Even in the heart of the dry season, the Rio das Balsas and its tributaries carry clear waters, much to the delight of swimmers and fishermen in the area.

During the day, the children dive from the bridge that gave its name to the town of Ponte Alta do Tocantins, and, in the evening, adults meet for an aperitif on the river beach.

Meanwhile, in the Rio Sao Valerio, although close, only a trickle of water is flowing, which is not even enough to supply water to the city of São Valério da Natividade.

In each of these two river basins, the Government of the State of Tocantins, with the help of Japanese Consultants (Nippon Koei Lac Co. Ltd.) and **IOWater**, is finalizing master plans for water resources management, aimed at reconciling its multiple uses.

Hydrogeological studies have shown that the contrast between the two basins is explained by the presence of the karstic aquifer Urucuia and its resurgences, guaranteeing the basic flow of the Rio das Balsas.

In the first basin, the orientations of the Master Plan focus on the necessary arbitration between environmental preservation, the

practice of ecotourism and projects for building hydropower plants.

In the Rio Sao Valerio basin, the master plan indicates the need to build a regulating dam, storing a portion of the water during the rainy season and preventing that the people suffer from lack of water during the drought that characterizes this region of Northern Brazil.

In addition to drinking water supply, the project will develop irrigated agriculture.

For the follow-up of the master plans, Brazilian law provides for the creation of basin committees. However, in the predominantly rural river basins of the Rio das Balsas and Rio Sao Valerio, the government is reluctant to create a new organization, as the population is already in high demand to participate in multiple participative organizations, for example in the fields of health, education and tourism.

The proposed solution is thus to create an inter-municipal consortium, allowing the municipalities of the river basins to pool their resources and expertise to ensure the implementation of the master plans for water management.



Such a consortium may also receive financial resources from the taxes on water use, thereby ensuring the sustainability of its operation.



Haiti

Overall management of river basins to reduce floods



Floods in Haiti

Devastated last January by a deadly earthquake, Haiti has become the symbol of a martyr country.

Yet deep institutional reforms are being developed in the fields of water and regional planning, driven by visionary and voluntary personalities.

"DINEPA" and "CIAT" made multisectoral efforts to reclaim the territory and manage water resources.

With them, **IOWater** is continuing to provide advice and expertise in Haiti.

Last March, an assignment was carried out to characterize the status of river basins and related stakes.

The identification of technical, institutional and socioeconomic actions to be jointly implemented to restore "life" and stability in these hydrogeological units,

allowed defining a benchmark for overall management.

Please be reminded that major risks occurring each year during the hurricane season are deadly floods linked to solid transport by impressive runoff.

These risks have been greatly increased since last January after the earthquake by the destruction of buildings and the presence of makeshift camps often in a flood-prone area. Land reclamation, land management, transformation of socioeconomic activities (agriculture), technical hydraulic development and other coordinated emergency or long-term actions will be the keys to new overall management, reduced risks and reconstruction in Haiti.



PACIFIC - ASIA

New Caledonia

Developing Sanitation

The development of sanitation is a major issue in New Caledonia. Out of 230,000 inhabitants, only 30,000 are connected to a wastewater treatment plant.

Wastewater treatment is all the more important as the archipelago is surrounded by a lagoon recorded as World Heritage by UNESCO. The local economy substantially relies on the quality of the natural environment through fishing and tourism.

The work to be done in sanitation is estimated at nearly 100 billion Euros by 2038.

One of the recommendations of the meetings held in 2008 was the creation of a collegial body that would be responsible for the sanitation strategy throughout the Territory. It would provide technical and financial support to the Municipalities through the development of common cause mechanisms and an equalization system.



For the establishment of this body, a special Steering Committee was created, which sought support from **IOWater**, SOGREAH-ICEA and IDR to analyze possible institutional, legal, technical and financial scenarios.

A first analysis of these scenarios was submitted at the end of 2010. The detailed study of the scenario will be carried out early 2011.



VALE Company



Second largest mining company worldwide, Vale operates in New Caledonia the largest nickel mines in the world.

Mining requires a preparation phase: surveys, drilling, and, in the operation phase, monitoring and control, including of groundwater, through the installation of piezometer networks.

The evolution of regulations on water monitoring, the nature of work and its complexity, have led managers operating in New Caledonia to entrust **IOWater** with the training of all the hydrogeologists of the company on knowledge of regulations, monitoring of the construction of piezometers and processing of the collected data.

Two groups of 10 persons were trained on-site at the VALE Company near Noumea in September and October 2010.



Vietnam



Dong Nai pilot project: IWRM on tracks!

The Vietnamese Ministry of Natural Resources and the Environment (MONRE), created in 2002, has been entrusted with the implementation of Decree 120 issued in December 2008 to develop a policy for Integrated Water Resources Management (IWRM) in Vietnam.

In compliance with the French-Vietnamese agreements on water, the Dong Nai Basin pilot project aims to provide MONRE with:

- **A national institutional support** financed by the French Loire-Brittany and Seine-Normandy Water Agencies (400,000 €), implemented by **IOWater** with the expertise of the French Water Agencies.
- **Assistance to the development of Dong Nai management plan and surface water monitoring**, financed by the French Ministry of Economy, Finance and Employment (800,000 €). It is implemented by SCE (pilot management plan) and Asconit Consultants (monitoring).

Year 2010 allowed putting on tracks the planned key actions:

- **A training/coaching plan for the national teams in charge of coordinating the preparation of management plans.** A first workshop on IWRM

was followed by sectoral workshops addressing sectoral policy makers (agriculture, regulation of water regime and hydropower, industry and management of domestic water services).

- **An analysis of water data on the Dong Nai Basin**, existing in the various national and regional institutions, with the development of a catalogue of shared data sources (metadata database).
- **An overall evaluation of the monitoring means and devices existing** in Vietnam and in the Dong Nai Basin, by checking their compliance with national policy requirements.
- **Finally, the structuring of the Vietnamese DWRPIS** (Division for Water Resources Planning and Investigation of South Vietnam) team in charge of preparing the pilot management plan.

A project steering committee associated high-level personalities closely involved in French river basin management and cooperation with Vietnam, especially Messrs. Jacques Oudin, Serge Lepeltier, Tien Duc Nguyen, Jean-Michel Stein and Jean-Louis Millo.



Haiphong Meeting

The meeting on Decentralized Cooperation between France and Vietnam took place in Haiphong on 5 and 6 November 2010.

This 8th Meeting addressed four issues:

- Integrated management of coastal areas,
- Urban planning,
- Water resource management,
- Climate change.

Mr. Millo, **IOWater's** Director of International Cooperation, presented the pilot project of Dong Nai Basin.



China

Cooperation in the field of water



Visit of a dam on the Hai River - December 2010



mon interest such as integrated water resources management and protection.

Under this agreement, two cooperation projects are being finalized:

- **The first project focuses on water management in the vicinity of nuclear plants.** Most Chinese power plants are currently located in coastal areas, but many construction projects along the rivers are being studied. The

French Government invited a delegation from the Chinese Ministry of Water Resources for a study tour in France at the beginning of 2011. The delegation also met the Directorate General for Energy and Climate and the Agency for Nuclear Security. It visited the plant of St Laurents-Eaux, which coordinates the radioactive discharges from the four power plants of the Val-de-Loire, and encounters all the problems related to nuclear power plants on a river.

- **A second project concerns river basin management.** It associate the Chinese Ministry of Water Resources and the French Water Agencies, as well as **IOWater**, which coordinate the project on the French side, and several partners, the EPTBs (River Basin Public Bodies) and municipalities in particular.

The Chinese party proposed that this cooperation focus on the Hai River, whose basin covers 318,000 km², including four provinces (Hebei, Shanxi, Henan, Inner Mongolia) and two Big municipalities (Beijing and Tianjin).

To identify specific ways of cooperation, a Chinese delegation visited France in September for the International "EUROPE-INBO 2010" Conference in Megève, which gathered the European Basin Organizations on the implementation of the European Water Framework Directive. A French delegation from **IOWater** and Seine-Normandie and Rhone-Mediterranean & Corsica Water Agencies travelled to China in the Haihe River Basin in early December.

In addition, within the EU-China River Basin Management Program and the agreement signed by the Yellow River Commission and INBO, several Chinese delegations visited **IOWater** in Paris, which introduced them to the organization of water policy in France and to the French 50-year experience in basin management.

A visit of the **National Water Training Center (NWTC)** and of the **National Data Reference Center for Water (Sandre)** was also organized in Limoges in November 2010.

✓

Access to water has become a major concern in China. It has in fact only 7% of the water resources of the planet for a fifth of the world population. The location of these resources is also uneven: abundant in the South, it is lacking in the West and North. Finally, water quality is threatened by pollution from industrial, urban and agricultural discharges.

To cope with these challenges, China is building significant infrastructures and modernizing water management.

For such a purpose, the Chinese Government develops international cooperation, with the European Union in particular, within the River Basin Management Program (EU-China RBMP).

An agreement was signed by the Chinese Ministry of Water Resources and the French Ministry of Ecology and Sustainable Development to develop cooperation in areas of com-



The EU-China Forum in Zhengzhou in July 2010

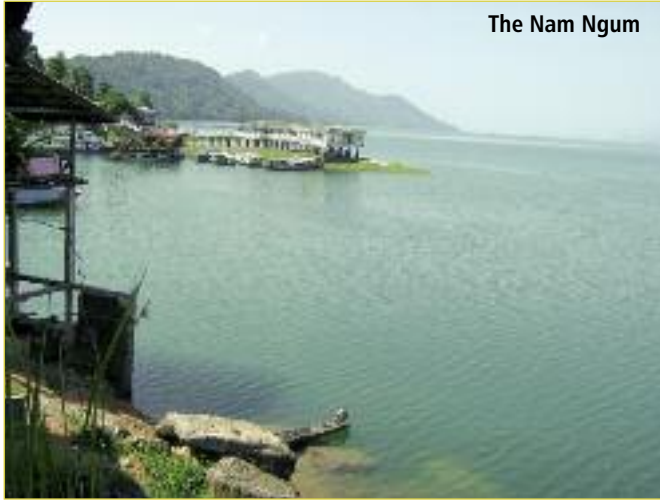


The visit of the Chinese delegation at IOWater - Paris

ASIA - CENTRAL ASIA

Laos

Towards an IWRM project in Nam Ngum Basin



The Nam Ngum

The French Water Agencies Rhine-Meuse and Loire-Brittany will finance the project under decentralized cooperation and will share their technical expertise for the benefit of the Lao party, with support from the **International Office for Water**.

The Nam Ngum River Basin, a major tributary of the Mekong River, covers about 8,000 km² and is of vital importance to Lao PDR.

During a study tour in France organized by the Loire-Brittany Water Agency, the Lao delegation led by Mrs. Khempeng Pholsena, Minister to the Prime Minister, President of the Water Resources and Environment Administration (WREA) get acquainted with the French experience in water resources governance and management.

Mr. Jacques Oudin, Honorary Senator, Chairman of "International Cooperation" of the Loire-Brittany Basin Committee, then accepted an invitation from the Lao authorities to discuss modalities for cooperation on a pilot basin project in the Nam Ngum Basin, where a study was recently carried out with financing from the French Development Agency, to establish the conditions for planning water management.

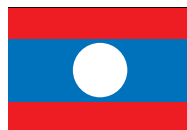
The challenges related to hydropower production are very significant as well as environmental degradation (soil degradation, water shortages, reduced fish stocks, deforestation ...).

The project aims to initiate a process of Integrated Water Resources Management (IWRM) with the Lao authorities through the development of tools and methodologies suited for the Nam Ngum Basin. Lessons learned will be disseminated at national level.

At completion of this 2-year project, Laos will have practical experience of development and testing of tools such as: planning, empowerment of local stakeholders, financing mechanisms.



Visit of Mrs. Khempeng Pholsena and the Lao delegation at IOWater in 2009



Uzbekistan

A Kit for Customer Management

The Government of Uzbekistan has established an important strategy for modernization of water supply and sanitation utilities with technical assistance from the World Bank, as a priority in the cities of Samarkand and Bukhara.

In this context, the World Bank has called on **IOWater** to design a complete kit on methods, techniques and tools for **Customer Relationship Management (CRM)** of these public water services.

Used for the training of the Uzbek personnel involved in client service management, this kit is composed by:

- A CRM Handbook developing the principles, means and tools needed to implement modern management of customers of water services;
- Examples of methodologies for designing a strategy to improve the quality of the service provided;
- Practical examples of "quality approaches" undertaken in several countries and continents;
- Power Points for the dissemination of know-how to the staffs of the various Uzbek water utilities.

IOWater's action was conducted in three main phases:

- **An analysis of practices and performances of water services in the cities of Samarkand and Bukhara;**
- **Development of Manuals and Handbooks on CRM as well as tools for dissemination and training;**
- **Training of seven experts, from the "Uzkommunkhizmat" Training Center, on CRM methods and techniques.**

The "Uzkommunkhizmat" Center then organized, with the World Bank, national workshops to disseminate these new concepts and methods to all water utilities of the country.



Eastern Europe, Caucasus and Central Asia

Data administration in two transboundary river basins

The countries of Eastern Europe, Caucasus and Central Asia are highly dependent on transboundary water resources for drinking water production, hydropower, irrigation, and for other uses: in these basins, it is therefore essential to develop effective policy between riparian countries to jointly manage water resources in accordance with the natural balance, especially as climate change threatens these resources quantitatively and qualitatively.

The implementation of these policies implies first and foremost to have a comprehensive assessment of water resources, based on consistent and homogenous information.

In this context and as part of activities related to the "Convention on the Protection and Use of Transboundary Watercourses and International Lakes", whose secretariat is hosted by UNECE in Geneva, the French Ministry of Ecology, Sustainable Development, Transport and Housing (MEDDTL) has proposed, with

IOWater support a pilot project, the financing of which was approved by the Steering Committee of the French Fund for Global Environment (FFEM) in April 2010.

This project firstly aims to **build the data management capabilities of the main national and regional authorities concerned in two pilot transboundary basins**, using methodologies that can also be applied to other transboundary basins of Eastern European, Caucasian and Central Asian countries.

On the other hand, at regional level, it should allow **developing tools for access to the information** (portal, catalogue of data sources, web services, ...) and disseminating the results and feedback obtained in the two pilot river basins.

The feasibility study, carried out by the "Canal de Provence" Company, allowed identifying:

- **The Dniester River Basin**, shared by Ukraine and Moldova,

- **The basins of the Aral Sea** (Amu Darya and Syr Darya River Basins) shared by the 5 Central Asian countries (Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, Turkmenistan) and Afghanistan.

This project is expected to be completed over a period of 18 months from September 2010. It will be administered by IWAC (International Water Assessment Center) and technically coordinated by **IOWater**.

Following preliminary contacts, it will be developed on the Dniester in close collaboration with the Dniester III project financed by UNEP/UNDP/OSCE/UNECE/REC-CE, and will be part of the "Action Plan for the Protection of the Aral Sea" as regards the component for Central Asia.



UNECE

Caucasus

A roadmap for organizing IWRM in the Kura River Basin

The REC (Regional Environmental Center) Caucasus has requested support from IOWater to finalize the TACIS project for which it is responsible for "creating an enabling environment for integrated management of the transboundary Kura-Aras Basin".

The Basin covers 205,037 km² and the Kura River flows into the Caspian Sea.

It is the main river of the three South Caucasus countries. Armenia has 100% of its territory in the basin, Azerbaijan nearly 80% and Georgia over 50%. Upstream, the basin is shared with Iran and Turkey.

The strategy proposed to the three Caucasian countries relies on the development of a national roadmap for structuring the main objectives to prepare management plans for

the portion of the basin owned by each State and a regional roadmap to coordinate actions for developing a "roof" synthetic management plan. The latter covers the transboundary aspects of the entire basin.

The three States have closer relations with the EU under the European Neighborhood Policy.

The principles of the European Water Framework Directive have been used as a standard.

A coordination mechanism was proposed, based on the creation of a working group prefiguring the operating mode of an international commission.

The developed mechanism would allow technicians in South Caucasus countries to acquire and harmonize methodologies for planning water resources to be used more effectively in the basin following the example of the Common Implementation Strategy (CIS), established in the European Union to harmonize the implementation of the Water Framework Directive between the Member States.



REGIONAL ENVIRONMENTAL CENTER



The Kura River in Mingachevir (Azerbaijan)

EUROPE



8th Conference of "EUROPE-INBO 2010" Group

Megève - France - 22 - 24 September 2010

The 8th conference of the "EUROPE-INBO" Group for the implementation of the Water Framework Directive (WFD) took place in Megève, in France, from 22 to 24 September 2010, at the invitation of the French Water Agencies. It gathered 177 participants, representatives of national administrations and basin organizations as well as of NGOs and companies, coming from 42 Countries.

As the conference was taking place in the Alps, special attention was paid to hydrology in mountains and to the measures to be taken for adapting to the effects of climate change.

The work of the Conference was organized around six problems:

- 1 **Drafting of the WFD Management Plans,**
- 2 **The Programs of Measures 2010-2015 and their financing,**
- 3 **Combined implementation of the WFD and the other water-related European Directives,**
- 4 **Strategies for prevention of drought risks in Europe,**
- 5 **Measures for adapting Water Bodies to the effects of climate change,**
- 6 **Cooperation with the neighboring Countries.**

The Conference allowed reaffirming that integrated and sound water resources management is more than ever a priority, if we do not want that this vital resource becomes the limiting factor for sustainable development in Europe and in the World.

Organizing management on a basin scale seems effective, as evidenced by the action started in Europe with the successful implementation of the WFD.

However, there are still significant challenges for achieving "Good Status" within the very short time left before 2015 and delays are recorded in the publication of some WFD Management Plans.

To promote their appropriation by the stakeholders concerned and thus ensuring their effectiveness, the Programs of Measures must be detailed at the level of sub-basins and involve the municipalities and all the economic sectors concerned.

Government authorities must also get mobilized in the field, imposing basis measures, controlling the effective enforcement of regulations and accompanying local stakeholders in their projects.

In Transboundary Basins, the positive role of International Commissions was stressed, especially for the coordination of actions, harmonization of practices, decision-making by consensus, conflict prevention and exchange of information between riparian countries. But the Management Plans of Transboundary Basins must be more than a mere assembly of parts of national plans.

The cost of the WFD implementation will imply significant financial efforts raising the question of acceptability by users of an increase in the water price. Frank and open discussions on financing should be organized on appropriate scales.

Of course, citizen participation is a guarantee for the implementation of the Management Plans. It should be oriented towards the general public and use suited tools according to the targeted audiences, geographic scale, objectives of the consultation and territory specificity.

The combined implementation of the WFD and the European "groundwater", "floods" and "marine strategy" Directives implies better coordination between the Basin Organizations and the proper Authorities, which is essential to guarantee the necessary synergy between these Directives.



Sweden, France, Portugal
in the presidium of the "EUROPE-INBO" Conference

Adapting water management to climate change is needed and urgent for prevention of drought risks in Europe in particular.

It is necessary to work out a strategic approach at basin level, which guarantees the adoption of effective and coherent adaptation measures by the various sectors and the various levels of governance.

Upstream-downstream common cause should be strengthened while keeping in mind that the mountains are the water towers of Europe and the World and that climate change involves modifications in the water regime of all the large European rivers.

With the WFD, the European Union has an advanced tool which must also be used to develop strategies for adapting water resources management as soon as the 2nd implementation phase from 2015 to 2021. Several European countries are already developing a national plan for adaptation to climate change.

The WFD is a successful example of regional initiative which can inspire other areas in the world. Its principles and method can be applied in the neighboring countries of the European Union, especially in the Transboundary Basins, in Eastern Europe, the Balkans or the Mediterranean Basin.

www.inbo-news.org



"For facilitating the implementation of the European Water Framework Directive"

EUROPE



The final Conference of **IWRM-Net** project "Improving research cooperation in the field of water policy through Europe" was held in Brussels from 1 to 3 December 2010. It was an opportunity for **IOWater** and all partners to present the results of their activities and paths for future collaboration.

To allow for constructive exchanges between participants and speakers, the Conference was structured in three steps:

- The first day dealt with the transnational coordination of research in the field of water,
- The second day focused on **IWRM-Net** activities and gateways that have been launched towards the future
- Finally, the third day allowed the transfer of scientific findings from research to users, managers of rivers.

The European network of managers of research programs on water facing new prospects

These three days were an opportunity for the 21 partners of **IWRM-Net**, European managers of research programs, of showing how the challenges of transnational research were brilliantly met in terms of:

- **programming practices of research:** by identifying research needs, scientific specifications of calls for projects, coordination of research;
- **facilitation of a social network:** by providing tools for the different stages of exchanges between the partners - knowledge management tool, European Water Community - available on the project website;
- **research:** two calls for projects were launched in 2007 and 2009 respectively.

Pending the constitution of the "Joint Program Initiative" on Water, initiated by Spain and the Netherlands, the partners of **IWRM-Net** will have the opportunity to share and collaborate via the "**Scientific Project Coordination (SCP)**", which is financed by the French Ministry of Ecology (MEDDTL) and managed by **IOWater** with support from ONEMA.

It aims to coordinate **IWRM-Net** research projects beyond December 2010 and to completing them.

More information:

www.iwrn-net.eu



Water Framework Directive and chemical pollution

A database on "priority substances"



IOWater, associated with INERIS, has been providing for 5 years technical assistance to the DG Environment of the

European Union for the implementation of the Water Framework Directive (WFD).

This mission should lead to a revision of the list of "priority substances" of the WFD and to fixing the concentrations to comply with in rivers.

In this context, IOWater created a database gathering 15 million of recent water analyses made in the surface waters of 28 countries.

After defining the data to be collected, creating the tools to make this collection and process the received data, **IOWater** created a website for information on the contents of the new database.

Year 2010 was devoted to processing these data to enable experts from different Euro-

pean countries to decide whether the evidence is sufficient to register the substances on the list to be proposed to the European Parliament in January 2011.

A lot of expertise work and quality analyses of these data were also done to guarantee the relevance of the experts' conclusions on chemical substances.

This work has shown the particular strengths and weaknesses of current systems for monitoring the quality of surface waters: under-representation of lakes and coastal and transitional waters, incomplete geographic referencing, data storage to be changed.

It also confirmed the relevance of the approaches selected in the Daughter Directive on Environmental Quality Standards (2008/105/EC) regarding data quality.



Southern Europe

"NOVIWAM"

The "NOVIWAM" project (NOVel Integrated Water Management Systems for Southern Europe) aims to promote interregional cooperation on tools and methods for water management in river basins.

This project, financed by the European Union under the 7th FPRD, involves 5 regional partners in Albania, Cyprus, France, Portugal and Spain and should develop to neighboring countries facing the same challenges.

With the help of a feedback and sharing of know-how and technology, the partners are considering the solving of existing problems of water management in the Euro-Mediterranean climate space, in an eco-efficient, sustainable and competitive manner.

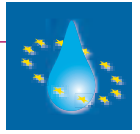
IOWater is responsible for communication and dissemination of the project results and coordination of the French group of partners (Poitou-Charentes Region, INRA, CEMA-GREF).

www.noviwam.eu



Bulgaria

Success of the institutional twinning for the implementation of the Water Framework Directive and Economic Instruments



Seminar closing the twinning, Sofia, 6 October 2010

The 2-year twinning agreement between the Bulgarian Ministry of Environment and Water and the French Ministry of Ecology, Sustainable Development, Transport and Housing (MEDDTL) ended in October 2010.

This project financed by the European Commission was implemented by **IOWater**, with a particularly important support from the Artois-Picardy and Rhone-Mediterranean-Corsica French Water Agencies.

On the French side, this twinning mobilized a full-time resident adviser in Sofia, Mr. Arnaud Courtecuisse, and many specialists from the MEDDTL, the 6 French Water Agencies, **IOWater** and BRGM ... a total of about 40 experts, 80 expert's assignments in Bulgaria and 2 study tours in France.

On the Bulgarian side, this twinning mobilized officials from the Ministry of Environment and Water and the 4 Basin Directorates: Eastern Aegean (Plovdiv), Western Aegean (Blaeogovgrad), Danube (Pleven) and Black Sea (Varna).

The project had two main objectives:

- ❶ **Providing support to the implementation of the Water Framework Directive (WFD) in Bulgaria;**
- ❷ **Strengthening water policy in Bulgaria through better use of economic instruments.**

It was implemented through a large program of institutional assistance and capacity building at different levels:

- **at national level**, the Bulgarian Ministry and Basin Directorates gathered a Working Group to monitor the project activities and coordinate the drafting of

Management Plans in the 4 basins. This Group benefited from training on different aspects of the WFD (presentation of methodologies, practical case studies, and tool for monitoring PoMs.);

- **in each basin**, the Basin Committees were associated to the development of the Management Plan and Program of Measures. Then, since the Urban Waste Water Directive emerged as the main measure, the actions targeted municipal officials responsible for investments in sanitation, with specific workshops and the development of an operational guide for project preparation.

The support to WFD implementation in Bulgaria took place in 3 phases:

- Until December 2009, the European calendar deadline for the publication of Management Plans, support to the development of Programs of Measures for basins, with: analysis of the work of the Basin Directorates; presentation of the methods used in France (to assess the effectiveness of measures, identify and justify the exemptions, address the lack of data ...); consultation with interested parties and the public ...;
- A 2nd phase from January to March 2010, with support to the implementation of reporting directly to the WISE website of the European Commission, which has resulted in a "green card" from the Commission confirming compliance with the WFD timetable by Bulgaria;
- The 3rd phase included support to the effective implementation of planned measures. This last component is particularly important because achieving Good Status by 2015 will depend on the speed with which the concerned contracting authorities (mostly municipalities for networks and wastewater treatment plants) will make the necessary investments in the field.

The strengthening of water policy through the use of economic instruments focused on two components:

➤ Improving the tax system:

It aimed to provide support to review the method of calculating the taxes levied by the Basin Directorates and donated to a National Environmental Fund; a gradual increase in the tax amount from the water sector should provide financial support to the WFD Programs of Measures.

Actions on this topic, led by the RM&C Agency, focused on the definition of taxes (pollution parameters, rate ...), on improving the information system and on the process for levying taxes.

➤ The economic analysis in plans and programs:

The work carried out under the twinning helped introduce the methods used in France and test them in the field; it led to:

- ❖ A simple tool for calculating the potential increase in water prices, following the implementation of the Programs of Measures,
- ❖ A guide on cost recovery in water utilities, dealing with pricing policies and their social acceptability,
- ❖ A guide on the economic analysis when preparing Management Plans, its objective is to propose ways of improving the analysis for the next cycle from 2015 onwards,
- ❖ A Bulgarian version of "Ecowhat", a training module organized around a role play designed to understand the use of economic analysis in Management Plans.

EUROPE

France

Management of municipal sanitation utilities

In France many municipalities regroup themselves for better organizing water supply or sanitation utilities.

The Landerneau-Daoulas Community of Municipalities, regrouping 23 municipalities, mandated the group Aeteq/**IOWater**/Water and Industry to help them define its future collective wastewater treatment service and identify the challenges at its establishment.

The study includes:

- An inventory of existing sanitation systems, listing equipment, its condition and level of compliance,
- A review of the organization and resources of the technical and administrative services of the member municipalities,
- A retrospective financial analysis of each service in order to identify its strengths and weaknesses,
- A technical and financial evaluation of the facilities to be created in the coming ten to fifteen years,
- The sizing of the future service in terms of human and material resources,
- A prospective financial analysis for developing several scenarios to define a single pricing of sanitation taxes.

Final adjustment and financial simulations (pricing and investment plan) will be presented during the first half of 2011 to allow the elected officials to make the choice whether or not transferring responsibility.

✓



Landerneau

1991  2011

International Office for Water:

20 years at the service of water in the world

Kosovo

How to secure water resources?



The Iber in Mitrovica (Northern Kosovo)

Since July 2010, **IOWater** has been involved along with SCE in the implementation of the World Bank project entitled "Water Security for Central Kosovo".

This project aims to help the Kosovar Government in developing a program to secure water resources in the Iber River Basin, a transboundary river with Serbia, by:

- Providing a suitable and reproducible model for integrated water resources planning and management;
- Identifying structural and non structural priority measures for sustainable socio-economic development;
- Quantifying achievable water savings.



The managers of the Iber River Basin with the project team

The Iber Basin hosts the capital Pristina and the power plant that feeds it. Other hydro-power projects are being studied.

This project therefore aims to **present different baseline scenarios** with different goals, industrial and mining uses, agricultural and domestic uses in urban, peri-urban and rural areas and to propose a range of measures to secure water supply in adequate quantity and quality and suitable for each use, to improve the performance of services including an increase in efficiency and management of facilities, while preserving natural environments.

The assessment of surface and groundwater resources and the modeling of the hydro-geological system for the Iber Basin are an integral part of the project.

Estimating uses and predicting their short-term evolution are another component for which **IOWater's** action has begun to clarify the future vision by 2035 for both agriculture and municipalities and for the management of transboundary waters.

Alternative scenarios, based on assumptions validated with the World Bank, will be supplemented by an analysis to identify priority investments.

IOWater is also involved in the economic evaluation of various recommended measures.

✓



Explore 2070

Visualizing the effects of climate change

"Explore 2070" is an ambitious project supported by the French Ministry of the Environment (MEDDTL). The climate scenarios derived from historical data are supplemented by socioeconomic simulations or compensation scenarios, to provide a vision for the future for year 2070.

IOWater was requested to define the functionality of a tool integrating the data from the French partners involved in the study or simulation of the impacts of climate change.

This tool will extract the long-term visions related to water (resources, flood, quality, environment, biodiversity, ...) to allow localized zooming on the scale of river basins or large cities.

✓



MIDDLE EAST

Saudi Arabia - Jeddah



IOWater is launching training in Arabic



The training team at Jeddah Center

The National Water Company (NWC) entrusted the **International Office for Water** with the implementation of the Plan for technical training of staffs of Jeddah Water Services (JWS).

This priority training program, which includes 36 training courses, was developed in 2009 following the analysis carried out by **IOWater** on the training needs of the various operating divisions of JCBU (Jeddah City Business Unit).

One feature of this training program is the use of IOWater's Arabic-speaking trainers, specialized in France at the National Water Training Center (NWTC - IOWater).

As part of its partnership with Suez, **IOWater** had also developed 40 training kits that were translated into Arabic by the partner Miahona (AcwaPower).

JCBU had built in 2009 the first part of its Training Center in Jeddah to the highest standards of quality and modernity.

This first training program, highly technical and operational, will run from September 2010 to September 2011.



شركة المياه الوطنية
National Water Company



Iraqi Kurdistan



Can we guarantee the water resource?

The Autonomous Region of Kurdistan includes three provinces: Erbil (1.75 million inhabitants), Suleymane (1.56 million) and Dohuk (0.78 million).

For the KRG, Kurdistan Regional Government, a concerted water policy is a major component of development in the autonomous region as in Iraq as a whole.

Water is a major challenge at national and regional level, which must be jointly addressed with the neighboring countries (Turkey and Iran), as well as with other Iraqi provinces.

Different priorities must be combined, dams and electricity generation, irrigation and agricultural development, drinking water production and management, industrial development and environmental protection.

The exploitation of surface and groundwater resources for different uses is increasingly important, as the region is facing high population growth and is rich with unique and fragile ecosystems.

Irrigated agriculture alone, based on traditional and high water consuming practices, accounts for 70-80% of abstractions.

The Kurdistan Autonomous Region has currently no specific laws concerning water uses.



The Greater Zab River

In 2010, the Ministry of Agriculture and Water Resources of Iraqi Kurdistan started, with French assistance, a study on the methods for implementing Integrated Water Resources Management (IWRM).

Carried out by the "Canal de Provence" Company and IOWater, in partnership with BRGM and SCE, this study is primarily focusing on the Greater Zab River Basin, which covers the provinces of Erbil and Souleymane. The governance, planning and monitoring topics will be central.

The implementation of the general principles of IWRM will require from Iraqi Kurdistan an adaptation of its legislation to use these new concepts, and the acquisition of new practices by institutions and services in charge of water management.



UNION FOR THE MEDITERRANEAN

Which strategy for the water sector?

The **International Office for Water** is participating in the drafting of the Strategy for Water in the Mediterranean (SWM) under the Union for the Mediterranean as support to the Directorate of Water and Biodiversity of the French Ministry of Ecology.

Four priority topics attracted the attention of the Ministers of the 43 UfM Member Countries who met on 22 December 2008 in Jordan and were mandated by the Heads of State and Government to develop a regional strategy to help the implementation of practical projects responding to people's expectations:

- ◆ **Water governance**, integrated water resources and water supply and sanitation management,
- ◆ **Solving of water problems related to climate change**, through adaptation measures associated with mitigation measures,
- ◆ **Optimization of financing** and appropriate instruments, with an emphasis on innovative mechanisms and the need to take into account the value of water,
- ◆ **Management of water demand**, efficient use of water and non-conventional water resources.

www.ufm-water.net



New technologies for better information in the Mediterranean

The Euro-Mediterranean Water Information System (EMWIS) organized, with the European Space Agency, a workshop in Frascati near Rome in late September 2010 on inputs from space technologies for the water sector.

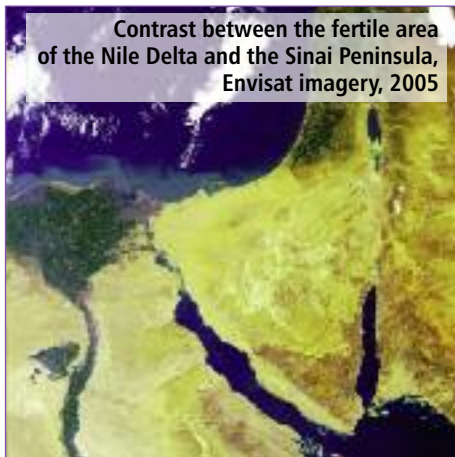
For countries that have no adequate measurement network for the characterization and monitoring of their water resources, technology applications of Earth observation provide reliable and affordable solutions to be quickly implemented. There are many possible applications: water resources mapping, follow-up of indicators on drought, assessment of man made pressures (irrigated, urban and discharge areas, etc.), flood and drought warning systems, identification of unauthorized abstractions, identification of pollution, improving efficiency in irrigation, etc.

The success of these applications goes through partnerships between space remote sensing centers and water authorities and capacity building of stakeholders so that they can appropriate the use of these technologies.

Advantage of exchanges of experience about the Water Framework Directive

The working groups of the Joint Process between the Water Framework Directive (WFD) and the Med-component of the EU Water Initiative are the opportunity of fruitful exchanges of experience:

➤ **The working group on water scarcity and drought (WS&D) met on 17 February 2010 in Madrid in parallel with a meeting of the European experts' group on the Water Framework Directive (WFD) working on the same subject.**



Contrast between the fertile area of the Nile Delta and the Sinai Peninsula, Envisat imagery, 2005

The meeting stressed the need to launch a new phase for the next 3 years.

The participants discussed various types of indicators to meet goals such as planning, current management, managing crisis situations, impact assessment, etc. A preliminary analysis of data availability for the development of such indicators was launched with the Mediterranean Partner Countries.

In parallel, a pilot data collection with quality control and calculation of indicators was carried out in two pilot river basins: Sebu (Morocco) and Litani (Lebanon).

This exercise was carried out by using the approach and tools developed for the EU expert group working on these issues. A summary was published and other pilot river basins could conduct this exercise in the near future.

The importance of linking indicators with simulation models and Decision-making Supporting Systems was also addressed, in particular for the implementation of participatory processes with end users (e.g. drought or scarcity management plan).

➤ **The 2nd working group on monitoring and water quality control networks in the Mediterranean Partner Countries, who met in November 2010, highlighted the major challenges to which pilot projects should give responses:**

- fragmentation of responsibilities in water quality control;
- coordination to improve efficiency and quality of measures;
- interest to include targets on water quality in agreements on transboundary resources;
- better dissemination of information on water quality;
- need for characterization of Water Bodies and economic analyses to optimize management programs.

Towards a shared environmental information system in the Mediterranean

The European Commission and the European Environment Agency (EEA) launched work on the implementation of a Shared Environmental Information System (SEIS) in Europe and in the neighboring countries. **EMWIS** is one of the partners chosen by the EEA for the early stages of implementation in the Mediterranean countries. Indeed, the recent work of **EMWIS** on the harmonization of National Water Information Systems (NWIS) contributes to the development of components for SEIS: metadata catalogue coupled with a tool for map visualization, harmonization of water data, based on the System of Environmental-Economic Accounting for Water (SEEAW), recommendations for compatibility of the NWIS with the Water Information System for Europe (WISE) and the INSPIRE Directive.



Working group at the European Environment Agency

THE MEDITERRANEAN

Egypt

European twinning on water quality, application to Lake Nasser



Nasser Lake

For 2 years, the Egyptian Ministry of Water Resources and Irrigation has been the beneficiary of this European twinning with Austria, France and Italy.

On behalf of France, **IOWater** was entrusted by the Ministry of Ecology with coordinating support to the implementation of an IWRM (Integrated Water Resources Management) policy through testing the drafting of a pilot Management Plan for Lake Nasser, using a methodology taking advantage of the fresh experience of the European countries in the implementation of the EU Water Framework Directive.

➤ **The first stage was the collection of information on the different studies undertaken on the lake**, such as the Lake Nasser Development Plan that has been used for the calculation of the potential pollution of activities and for building a baseline scenario of the pressures on the quality of the Lake in the future.

The project created a web-based catalogue of water data that will be further fed by the Egyptian partners and will be used as a basis for the development of the Water Information System with support from EMWIS (Euro-Mediterranean Water Information System).

➤ **The second step was to undertake an analysis of the different water uses.** This sectoral review allowed collecting and modeling the data needed for the development of the different parts of the plan.

This analysis was undertaken by **IOWater** for domestic and agricultural water uses, by the Rhine Navigation Commission and Strasbourg Navigation Service for shipping and by INRA for fishing and aquaculture activities.

An assessment of the Lake Nasser monitoring program and environmental characteristics has been undertaken by the Austrian Environmental Agency and Italian experts.

This study showed that the maintenance of good quality of Lake Nasser waters is possible with carefully controlled urban development. Nevertheless, agriculture and aquaculture development will have to be limited to avoid eutrophication of the lake. When using an approach of calculation of potential polluting flows, attention also could be drawn to the share of the nutrients brought by the upstream activities from Sudan.

➤ **A program of priority actions for the next five years was proposed to control the impact of each sector on water quality.** It includes implementation indicators. The study evidenced the importance of identifying the Organizations responsible for the application of the recommended measures and their control.

After this successful test of the adaptation of EU planning methodology to the Egyptian context, the next objective is the application of these guidelines to other water bodies of the Nile.



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Tunisia

Reed bed filters

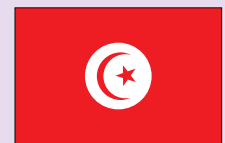


In 2008-2009, **IOWater** carried out the feasibility study and search for a pilot site for the building of a "reed bed filter" in Sidi Jdidi (Tunisia), under the decentralized cooperation between the French Limousin Regional Council and the Governorate of Nabeul.

In 2010-2011, **IOWater** is continuing its mission which now deals with:

- data collection,
- topographical survey,
- sizing of the project,
- implementation of filters, access and mains,
- development of plans,
- drafting special technical specifications.

✓



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THE MEDITERRANEAN

Algeria

An Algerian delegation visited the wastewater treatment plants of Nibelle and Nesploy

Accompanied by **IOWater**, Algerian engineers and technicians from the Ministry of Water Resources undertook a study tour from 5 to 8 July 2010 in the French Central Region.

The delegation was welcomed at Nibelle and Nesploy by Mrs. Monique Bévière, President of the Local Water Commission, and was able to study the solutions adopted in these two villages to treat wastewater.

The Algerian specialists listened carefully to the explanations of Mr. François Bonis, President of the Water and Sanitation Intermunicipal Syndicate of Nibelle and Nesploy, and Mrs. Nadine Rousseau, Mayor of Nesploy.

They could visit the wastewater treatment plant of Nibelle with its reed bed filter system before discovering the lagoon sanitation system adopted by Nesploy.

The visitors also got answers on the type of financing approved for these infrastructures and their impact on the water cost.



Reed bed filter at Nibelle

Training of staffs in charge of the National Water Plan (NWP)

A training workshop in France at the Ministry of Ecology



With financing from the European Union, the Algerian Ministry of Water Resources entrusted the SOFRECO, Grontmij / Carl Bro - Progress - **IOWater** group with updating the National Water Plan for Algeria (NWP).

IOWater is responsible for the training component which has concerned members of the Project Planning Unit (PPU) of the Directorate of Studies and Hydraulic Engineering, i.e. 9 engineers and 2 computer scientists and the 15 representatives of "Focal Points", the NWP's partners in the organizations supervised by the Ministry:

- The 5 departments of the central administration;
- The 5 River Basin Agencies (ABH);
- The 5 Decentralized Agencies and Offices: "ANRH", "ANBT", "ONID", "ONA" and "ADE".

IOWater's experts developed a training strategy to meet the needs of the NWP which was implemented in the form of a targeted program:

① **Basic training held in Algeria** in the form of 10 workshops combining the input of new knowledge and learning skills in all key areas for controlling the NWP and its operation, such as:

- Computer tools (ArcGIS geographic information, operation of the Mike Basin software, data administration);
- Technical knowledge: assessing groundwater, rainfall-runoff simulation model;
- Law and water institutions in Algeria, water demand for agriculture, financial analysis techniques.

② **Additional training in France:**

- on "advanced" techniques in computing: Modeling a decision-making information system, designing and implementing a data warehouse and using UML 2.0 language. These courses were organized in CEGOS and EGILIA LEARNING,
- on project and data management at the **National Water Training Center in Limoges (IOWater)**.

③ **Technical visits to French planning departments** providing an opening to very specific aspects of planning such as the European Water Framework Directive, cost recovery, service governance, intake protection...

The group could meet with key organizations operating in the planning sector: Loire-Brittany Water Agency, Bureau of Geological and Mining Research (BRGM), Department of Observation and Statistics of the Ministry of Ecology, Loire River Public Body, National Agency for Water and Aquatic Environments (ONEMA).

The conclusions were drawn at the French Ministry of Ecology in Paris with the Directorate of Water and Biodiversity.



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THE MEDITERRANEAN

Morocco



ONEP and IOWater: increasing and exemplary collaboration

For 4 years, the Water and Sanitation Institute (IEA/WSI) of the National Office for Drinking Water Supply (ONEP) of Morocco and the French National Water Training Center (FNWTC) of IOWater have undertaken to increase their collaboration.

Firstly, it should be reminded that in 2006, IOWater and the German consulting firm GWK (Poyry) drafted a plan for training the ONEP staff involved in the sanitation sector.

➤ In 2009 and 2010, the FNWTC was in charge of carrying out the KFW-financed training plan on "Automation, Remote Management and Instrumentation" of ONEP.

IOWater thus carried out 30 training courses and 150 training days in Morocco with the Moroccan SOHIME Company, addressing 60 executives and high-level technicians of ONEP.

IOWater also assessed the students' skills for selecting the 10 future trainers of ONEP on these topics.

In order to reinforce the practical side of these training courses and the acquisition of professional skills, IOWater assisted ONEP in installing training units for allowing the students to be in real working conditions.



Study tour in France of ONEP's trainees on sanitation

➤ In 2010, IOWater also carried out for ONEP's WSI, with financing from KFW:

- 4 training courses in France on the design and operation of wastewater treatment plants and sewage networks,
- 5 training courses in Morocco on the modeling of sanitation systems, pumping, cleaning of anaerobic lagoons, subcontracting at ONEP and project management in sanitation.

In 2011, it is planned that IOWater takes part in the engineering of the educational units for the design and implementation of a

sanitation system and the management of a wastewater treatment plant with activated sludge.

At the same time, IOWater is calling upon trainers of ONEP to carry out training courses in Arabic in Jeddah in Saudi Arabia, within the management contract signed by Suez Environment and based on the training plan and educational kits designed by IOWater.

ONEP is assuming the Presidency of the International Network of Water Training Centers (INWTC) and IOWater is in charge of the permanent secretariat.



An increased presence in Morocco



IOWater at Pollutec Morocco

IOWater participated in Morocco Pollutec Exhibition from 6 to 9 October 2010 in Casablanca in which it was involved in the technical workshop "Training: a tool for modernization of water supply and sanitation utilities".

IOWater was also present at the International Exhibition of Water and Sanitation Technologies (SITEAU) in Casablanca from 17 to 19 June 2010.

These two Exhibitions helped promote the new inter-company training catalogue of IOWater and Houssifi El Housseine Office (CHH) that specifically addresses the Moroccan professionals involved in the management of aquatic ecosystems and resources, operation of drinking water supply and sanitation utilities, industrial water users as well as consulting and engineering firms.

For downloading the catalogue: www.oieau-chh.ma



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