# INTERNATIONAL NEWS

## Capacity building for better water management

## Trains information management cooperation

International Office for Water

N° 23 - English version - January 2013

# Capacity building for better water management

**In 2012, 6,100 trainees benefited from the training provided by the National Water Training Center (NWTC) of the International Office for Water.**

In its two Centers in Limoges and La Souteraine, the **NWTC** trains professionals in water, waste and environment, anxious to perfect their knowledge and expertise on the **IOWater** units.

**It also trains some 2,000 trainees directly on their workplace. In this context, training may become a "learning action", with an audit of the site facilities.**

The **NWTC** training offer is designed, organized and delivered to meet the needs of professionals facing technical and regulatory changes, but also current reorganizations or the development of new activities.

All practitioners in water management, whatever their level of responsibility or position find at the **NWTC** all the training courses needed for good control and evolution of their work.

**In addition to its traditional "Water" training offer the NWTC** has developed for years three specific catalogues:

- **"Waste - Environment - Sustainable Development" (WESD);**
- **"Water in the industry";**
- **"Water - Irrigation - Agriculture".**

The **NWTC's** permanent l trainers, supplemented by the best experts as lecturers, design and develop training programs based on real case studies and putting the students in real working situation on educational facilities, reproducing working conditions, which are unique in France and Europe.

Participants thus benefit from their training which can be measured with tools assessing the knowledge acquired.

To assist professionals in their evolutionary process and/or career adaptation, **the NWTC has designed "professional" curricula:** combination of selected training courses, gathering the essential knowledge and skills. Evaluated by a jury of professionals, the participants in some of these courses obtain the **"International Office for Water qualification".**

**The NWTC is certified ISO 9001, Version 2000.**

**Upon request, all these training courses may be carried out in English for groups of trainees.**

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# The catalogue of training courses on "water" 2013 ...

Wastewater treatment training unit

**The catalogue "Water 2013" regroups 285 training programs divided into 428 training courses and 7 main topics:**

- **Discovery of trades,**
- **Management of water supply and sanitation utilities, regulation, staff safety,**
- **Water in the city:** analysis and water quality, sensors and flowmeters, drilling, pumping, drinking water production, process water, drinking water supply, community sewerage, storm water, sewerage networks, urban wastewater treatment, treatment of sludge, odor and waste, self-monitoring and quality control, maintenance, energy, automation and remote management,
- **Water for recreational activities,**
- **Water in natural environments,**
- **Water in industry,**
- **Water in agriculture.**

**In 2013, the NWTC offers 12 new courses in its catalogue.**

Spread over several months or even a year or two, **qualifying training programs are offered to meet regulatory requirements and skills validation needs:** maintenance of backflow preventers, welding of polyethylene tubes and butt welding (in collaboration with the "Syndicate of pipes and fittings in polyethylene - STRPE)", handling of chlorine in bottles, intervention in confined spaces in sewers.

**In 2013, the is extending this qualifying training offer to some topics:** determination of tastes and odors in drinking water, water sampling, sampling hazardous substances in the environment, control of inside water facilities fed by another water resource, control of connections to the sewerage system, treatment and control of swimming pool water.

The **NWTC,** in collaboration with ONEMA, proposes training on "Sampling of watercourses" to meet the requirements of "AQUAREF" reference frame.

The **NWTC** has developed a specific educational unit to carry out qualifying training courses under real and safe working conditions, meeting the regulations on **work in confined spaces** (urban sewer systems and pumping stations).

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**www.iowater.org/nwtc**

# Training Center


The NWTC in La Souterraine

## Training program 2013 for industry

**In this catalogue 2013, the NWTC proposes 50 training modules, divided into 63 training courses on the following topics:**


Practical work in flowmetering

- **Regulation on classified facilities for environmental protection (ICPE), self-monitoring, hygiene and safety, pollution removal on polluted sites, etc.;**
- **Drilling, pumping, maintenance and automation;**
- **Production and distribution of industrial water, fire fighting system, internal network and health protection.**
- **Treatment of industrial effluents, odor removal and sludge treatment, valorization of biogas exploitation of a unit;**
- **Effluent treatment in surface treatment ;**
- **Sustainable development, energy savings, carbon footprint, and industrial waste characterization and management.** ✔

## Training on irrigation & agricultural effluent treatment in 2013

With this new water irrigation & agriculture catalogue 2013, the **French National Water Training Center (NWTC)** decided to capitalize on its know-how and provide 18 new specialized training courses:

- **Design/sizing:** irrigation system, earth dam reservoir, water pumping system, treated wastewater reuse.
- **Asset Management:** assessment of irrigation systems, electromechanical maintenance of pumping systems.
- **Operation of irrigation systems:** pumping stations, use of remote management facilities.
- **Water resources:** protection from non-point source pollution.
- **Treatment and reuse of wastewaters:** treatment of agricultural effluents, agricultural use of sludge, biogas, methanization of agricultural wastewaters.

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**NWTC's complete training offer, as well as the planning for the whole year 2013, can be consulted on the website:**
**www.iowater.org/nwtc**

## Training on "Waste, Environment, Sustainable Development"

**In its catalogue "Waste, Environment and Sustainable Development (WESD)" 2013, NWTC proposes 47 training programs organized in 49 training courses on the topics:**

- **Waste:** regulation, service management, hygiene and safety, communication, collection, collection and selective sorting, maintenance of facilities, treatment and reuse of waste and wastewater treatment sludge, leachate, biogas, odor treatment, etc;
- **Air:** measurement of pollution in open air;
- Noise: noise at work in water and sanitation utilities;.
- **Sites and soils:** pollution appraisal and removal from polluted sites and soils.
- **Energy:** electrical energy, use of renewable energy;
- **Sustainable development:** carbon footprint, sustainable purchase, landscape integration into hydraulic structures, storm water drainage.

In 2013, the **NWTC** is proposing 7 new courses and **a training program for operators of Waste Storage Facilities (WSF)** which include four courses: operator of a Non Hazardous Waste Storage Facility (NDWSF), adjustment and optimization of a biogas system, valorization of biogas, leachate treatment.

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# A "confined spaces" training unit unique in France

To meet the training demand on "safety" for work in confined spaces, the **NWTC** has just built a new training unit for work in urban sewer systems and pumping stations.

The French regulations of 25 June 2009 state that employers should only send specially trained staff to work in confined spaces and to whom a work permit is issued.

**Identically reproducing a sewer system that can be visited,** the **IOWater** educational unit, with a total length of 84 m, is made up of 5 sections with a diameter from 1,600 mm to 2,000 mm, and a pumping station.

It allows the practical and safe training of trainees for them to acquire good behavior during work preparation and implementation.

Varied simulations of incidents or accidents are made, allowing the training of personnel to respond positively in these situations. ✔




Diagram of the "confined spaces" unit

# International network of the NWTC

## "Building water and sanitation skills worldwide"


© IOWater - C.Runel

The **International Office for Water,** as Secretary of the **International Network of Water Training Centers (INWTC),** organized an event on "Building water and sanitation skills worldwide", at the French pavilion, during the World Water Forum on 15 March 2012.

**The effectiveness of Water and Sanitation Services requires continuous building of their staff's skills.**

Everywhere, training requirements for all categories of staff are considerable and especially their continuing training.

This event allowed presenting feedbacks from various and complementary organizations: the National Directorate of Water Supply and Sanitation in Haiti, the National Drinking Water Office in Morocco, the International Committee of the Red Cross, Suez Environment, the French Ministry of Economy and Finance, Agro ParisTech and **IOWater.**

These presentations provide answers to the following key points: How capacity building contributes to the effectiveness of water and sanitation services? What kind of training, for which public and with which training organizations? What synergies between the building of skills and human resource management? How to finance training activities in a sustainable manner? ...

**www.inwtc.org**

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## WATERDOC

**WATERDOC** offers a wide range of access to documentation on water:

- **Access to 253,500 references** from **IOWater's** documentation base and to full-text documents.
- **Tailored services are proposed for information watch and search** on all issues of water policy (technical, regulatory, socioeconomic, etc.) allowing the production of customized documentary records and summaries.

### The collection of "IOWater Summaries"

Launched in 1997 in partnership with ENGREF - AgroParisTech (French National School of Rural Engineering, Water and Forests), and since 2010 with ENGEES (French National School of water and Environment Engineering), **the collection of IOWater technical and scientific summaries provides, with nearly 180 titles available nowadays, an updated coverage of topics relating to the small and large water cycles.**

Thus, the impacts of climate change, the implementation of European directives, emerging pollutants, innovative treatments, etc ... are some of the topics covered in these documents of about twenty pages each.

These summaries are acclaimed by professionals wishing to know the state of the art in a field before starting studies, as well as neophytes who want to learn about a topic.

Their list is available online on the Web, and a search engine is questioning about various titles, abstracts, authors and dates.

**Find all these titles on the WATERDOC website: Publications section**

**More information :**

**www.iowater.org/documentation**

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WATERDOC

## "SANDRE"

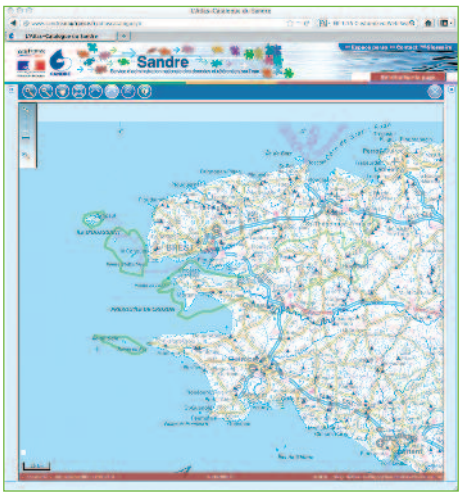
Under the French National Water Data Plan, officialized by the joint order of 26 July 2010 of the Ministries of the Environment, Local and Overseas Authorities, Health, Agriculture and Food, **IOWater takes care of the French National Service for Water Data and Common Reference Frames Management (SANDRE).**

With specification documents and lists of codes, the **"SANDRE"** reference frames improve the exchange of data between all the public and private water stakeholders.

**"SANDRE"** produces and disseminates these reference frames (specification documents and data sets) free of use rights.

Year 2012 was marked by:

- **The redesigning of the ergonomics of the "SANDRE" website.** It has an improved search engine; from now research focuses on all the disseminated reference frames. The current events of this site are also available on Twitter and FaceBook.
- **The merging of the Atlas and metadata catalogue.** The Atlas part was completely reshaped. It has a more powerful search engine. It is now possible to merely search and download maps and their metadata. The maps are also disseminated by the **"SANDRE"** Web services; traditional cartography software can thus recover the various cartographic layers disseminated by the **"SANDRE"** Website.





- **Obtaining the ISO 9001 certification** covering the specification documents of the exchange scenarios of **"SANDRE".** The long-term goal is to cover all the activities of the technical secretariat of **"SANDRE".**
- **Publication of specification documents** on various topics such as surface and inland water quality, groundwater and Programs of Measures.
- **Over 47,000 codes were created for all reference frames.** The **"SANDRE"** is working to establish a new service for the dissemination of data sets including history management.
- **More than 800 certifications of exchange files were achieved according to "SANDRE" formalism** including exchanges between water suppliers and the Regional Agencies of the Ministry for Health. The **"SANDRE"** has now a new certification for Web services.

Furthermore, **"SANDRE"** improved the exchange scenario for enhancing the information system of the French National Hydrometeorology and Support to Flood Forecasting Center (SCHAPI).

As part of the INSPIRE Directive, of the Open Geospatial Consortium (OGC) and of the work of COVADIS, **"SANDRE"** is a contributing member of the drafting of specifications on data exchange on water: WaterML 2.0 specification (working group hydrology of the OGC), INSPIRE and COVADIS specifications.

**http://sandre.eaufrance.fr**

**(English choice)**

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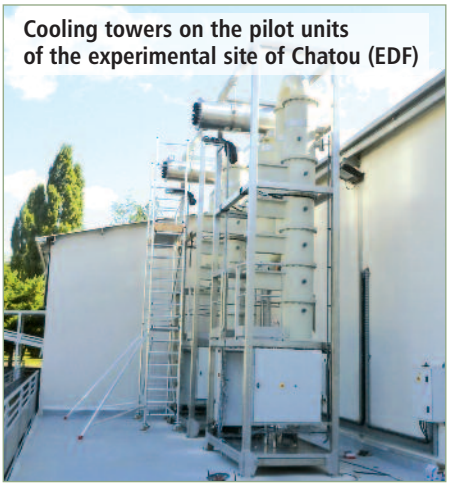
# "PERICLES"

## IOWater is building the new experimental pilot units of "EDF" laboratory



Cooling towers on the pilot units of the experimental site of Chatou (EDF)

For its development needs, **"EDF R&D"** decided to develop a new experimental unit for research and innovation for the study of industrial cooling systems.

Installed on the Chatou site near Paris, it will allow the **French National Laboratory of Hydraulics and Environment** to make research to optimize the environmental performance and processes of the cooling systems of Nuclear Power Plants (NPP).

The complexity of these research programs requires having experimental facilities able to reproduce the most varied situations.

**After ten years of operation of the same type of pilot units, the French electricity company "EDF" entrusted IOWater with the design and implementation of four pilot units, representative of the cooling systems of nuclear power plants on a scale of about 1/100,000th, for studies and experimental trials.**

Thus, **these pilot units include new features** such as:

- Control over the conditions of the air entering the cooling tower;
- Means for measuring the physico-chemical characteristics of the water in the systems and of the air;
- The possibility of sampling without interrupting trials;
- Increasing ventilation speeds in cooling towers, etc.

The development of a new automation and supervision program allows more precise tests and **a continuous acquisition of more than 500 monitored and recorded variables.**

For this unprecedented engineering operation (28 man/months), **IOWater** created a consortium with the **Allez-Brive company,** specializing in automation, and developed technical partnerships with companies with recognized expertise: F2C (stainless steel boiler), UVGermi (ultra violet treatment of air), ERLA (plastic boiler).

The pilot units incorporate many components that **IOWater** selected from some 50 suppliers (valves, pumps, physico-chemical sensors, water and air flow meters, temperature sensor, water filtration, etc.).

All equipment was installed at the end of November 2012, so that the first experiments can start in January 2013.

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EDF

## 9th World General Assembly of the International Network of Basin Organizations - INBO
## Fortaleza - Brazil - 12 - 16 August 2013

| | | |
|---|---|---|
| ➤ Tuesday 13 August | 20:00 | OFFICIAL OPENING CEREMONY |
| ➤ Wednesday 14 August | | FIRST OFFICIAL DAY |
| | 09:30 | **Presentation of water issues and institutions in Brazil** |
| | 11:00 | **First statutory session of INBO General Assembly** |
| | 14:30 | **First topical round table:** Institutional frameworks for action of the Basin Organizations. |
| | 16:45 | **Second topical round table:** Adaptation to the effects of climate change and prevention of extreme phenomena of floods and droughts. |
| | 20:30 | **Official dinner** |
| ➤ Thursday 15 August | | SECOND OFFICIAL DAY |
| | 08:45 | **Third topical round table:** Participation of local authorities, water users and the public, role of the basin committees. |
| | 11:00 | **Fourth topical round table:** Management of transboundary rivers, lakes and aquifers. |
| | 14:30 | **Fifth topical round table:** Financing of water management and of basin organizations. |
| | 16:30 | **Forum of International Cooperation Organizations** |
| | 17:30 | **Second statutory session of INBO General Assembly** |
| | | ● **Fortaleza Declaration** ● **Final resolutions** |
| | 18:30 | **Closing of the General Assembly** |
| | 20:30 | **Evening of the Senegal River** |
| ➤ Friday 16 August | | THIRD OFFICIAL DAY |
| | 07:00 | Technical Visit |

**To participate, Please register!**
**www.inbo-news.org**

# RIO+20

## Can you better manage water resources by disregarding the reality of river basins?


TV show at the French pavilion
© IOWater - C.Runel

Under the "Special Consultative Status" of the UN Economic and Social Council (ECOSOC), which it obtained in 2007, **the International Network of Basin Organizations (INBO) was accredited to participate with "Major Groups" in the RIO+20 International Conference, held from 13 to 22 June 2012 in Rio de Janeiro - Brazil.**

With the participation of 191 UN Member Countries represented by their Heads of State or of Government and their Ministers, RIO+20 was a great event for all those who campaign for more sustainable development, and who came in great number to support the emergence of new ambitious agreements in this direction ...

Everyone and the official delegations were disappointed with the final declaration pompously entitled **"The World We Want",** as in times of economic crisis and in spite of the efforts of the delegations of the European Union, many governments have opposed to new constraints, reaffirming the primacy of national sovereignty ... The Diplomats, to achieve unanimity on the text, had to settle for a declaration with no real new progress and without firm commitments and a specific timetable.

Except, perhaps, on the protection of the ozone layer, they were able to agree only on the fact that almost none of the targets set in Rio in 1992 had actually been achieved, despite some progresses which are too individual.

Management of freshwater resources and access to drinking water and sanitation were the subject of a small chapter, for which it was necessary to fight hard, and quotes were made here and there when agricultural irrigation, floods or drought were mentioned: it's better than nothing and something at least!

**Besides the official international slackness, the civil society, in all its forms, has shown its vitality and ambitions in speaking in all the spaces that were reserved or open to it.**

**INBO** and **IOWater,** which takes care of the former's World Secretariat, were able to bring their vision of modern management of local, national and transboundary river basins, as it is now applied in more than seventy countries, on the occasion of various events giving it high visibility:

- **The 20th Anniversary of "Green Cross International",** to which **INBO** was invited to present the experience of its members in the management of transboundary rivers, lakes and aquifers in different parts of the world;
- **The round table, as a "TV Talk Show", organized at the French Pavilion by the French Water Partnership (FWP),** which had asked **IOWater** to act as a facilitator, presented the experiences of the Lake Chad, Mekong and Scheldt Basins, of Brazil, New Caledonia, Turkey and France (Artois-Picardy), and the viewpoint of large operators such as "EDF" or "IRD";
- **The "Water Dialogue",** for which INBO representatives had been selected under the "Major Groups" and which finally passed a proposal calling on governments "to develop plans for integrated management and efficient use of water resources to guarantee their sustainable use, at all levels, as appropriate". Figure it why, in an International Conference, just writing "basin" is still taboo?!
- **The "Water Day" organized by UN Water "Recognizing Progress, Taking Action for the Future We Want",** June 19, 2012, ... to which **INBO** was officially invited to present its experience in transboundary water management and its recommendations, during a round table chaired by the Directors General of WMO, UNESCO and UNECE, in the presence of the President of the Republic of Tajikistan, following the Preparatory Conference held in Dushanbe in November 2011
- **The seminar of the elected representatives and partners of the PCJ Intermunicipal Consortium of the State of Sao Paulo in Brazil,** which together with REBOB takes care of the secretariat of the Latin American Network of Basin Organizations (LANBO), which organized this official event on basin management under the Brazilian Federal Law of 1997 on the occasion of the Rio+20 Conference.

On Monday 16 June at the French Pavilion, representatives of "Green Cross International", LANBO, BNBO (Brazilian Network of Basin Organizations), Brazilian Basin Committees of the PCJ and São João Lagos officially signed **"the World Pact for better river basin management",** initiated at the Marseilles Forum, in the presence of **INBO** Secretary General, thus increasing the number of signatories of the pact which is to date over one hundred.

**Water is at the core of sustainable development. It is the common denominator of all major global challenges:** health, food, energy, inland navigation, peace, security, poverty eradication ... RIO+20 has finally given it an official place in the strategies of the United Nations ... but still far too small, given the stakes!!!

**www.inbo-news.org**

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The Water Dialogue
© IOWater - C.Runel

# International Committee of the Red Cross - ICRC

## Strong collaboration with IOWater

For several years, **the ICRC's Water and Habitat (Wathab) services** and **IOWater** are strongly collaborating in the field of training and technical assistance in the water and sanitation sector.

**IOWater** carried out many training courses abroad (Burundi, Democratic Republic of Congo, Guinea, etc.) for **ICRC** beneficiaries on the topics of drinking water supply, electricity, automation, maintenance, electromechanics of pumping stations and drinking water treatment plants and their operation.

**IOWater** also carried out technical assistance missions for the **ICRC:**

- Assessment of the wastewater treatment plant of the hospital complex in Mosul;
- Assessment of the drinking water treatment plant of N'Zérékoré city (300,000 inhabitants) in Guinea Conakry;
- Optimization of drinking water treatment plants and water supply systems of Goma, Uvira and Kindu cities (Democratic Republic of Congo). Evaluation of the skills of operating staff;
- Validation of the methodology for collecting data useful for modeling the "Cité Soleil" district (Haiti), etc.

In this continuity of professional exchanges with the **ICRC, IOWater** worked during two weeks in early 2012 in the Republic of South Sudan.


The group of Sudanese trainees

The first week brought together staffs operating several plants treating the Nile and Bahr el Gazal waters (Malakal, Renk, Bentiu and Rubkona) in the north of the country for training on the operation of drinking water treatment plants.

The second week was spent in the Bentiu and Rubkona plants to carry out a technical analysis of the drinking water production plants and assess the knowledge of the operating teams.

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ICRC



## AFRICA

# South Africa

## Rand Water and IOWater are starting a partnership

Executives of Rand Water are visiting the NWTC

Executives of **Rand Water** visited **IOWater's** NWTC (National Water Training Center) in April 2012. It was the start of a strong partnership with **IOWater** that covers many areas of collaboration.

Indeed, within the project of creating its training center close to Johannesburg, **IOWater** trained in August 2012 a team of 8 trainers of **Rand Water** for a month.

This training course was designed to increase the knowledge of South African engineers on technologies related to drinking water and wastewater, but also to familiarize these trainers in the use of educational units to carry out practical work.

Other training courses are already being planned for 2013 in both South Africa and France.

**Rand Water** officially launched the **"Rand Water Academy"** on 12 October 2012 on the site of Zuikerbosch.

**IOWater** has been asked to contribute in the definition, design and starting of this excellent training center, as well as in the definition of technical specifications for the educational units.

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RAND WATER
ACADEMY

## AFRICA

# Guinea

### Capacity building for executives of the Water Company of Guinea (SEG)

Within the technical assistance activities implemented by the **Water Syndicate of Ile-de-France (SEDIF)** for the **Water Company of Guinea (SEG)** under Decentralized Cooperation, the SEDIF entrusted the **International Office for Water (IOWater)** with the organization of two Training Seminars for executives of this company.

They focused on the following:

- Patrimonial Management of Water Utilities;
- Public Service Delegation (PSD).

Training seminar for SEG executives

The training topics chosen for these two seminars meet the needs of strengthening the professional skills of SEG executives to prepare and support the ongoing transformation of the water sector with the prospect of a reorganization of the Company that could lead to:

- An Asset Management Company;
- An Operating Company which may be entrusted to a private company through Public Service Delegation.

This **IOWater** assignment, carried out in October 2012, allowed training a total of 40 executives in two seminars, and fully met the expectations of the **"SEG"** General Coordination.

Prospects of complementary **IOWater** actions have been identified, such as for instance: the Control of the Operator by the Delegating Authority.

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# Kenya

### "MOWASCO": Mombasa Water Company

Mombasa

Since 2010, **IOWater** has undertaken with **SEURECA** an important project to support the **Water and Sanitation Company of Mombasa (MOWASCO)**, Kenya, funded by the **French Development Agency (AFD).**

During the first two years of the project, **IOWater** conducted an audit of the organization and of all the activities of the Company (418 people) to highlight the difficulties and challenges.

A new organizational chart was proposed and approved by the Directorate General, with a precise definition for each of the departments of the company, of its functions, activities, organization, number of employees, required qualifications and performance indicators.

The project was extended for one year to complete the work undertaken to update the customer database and the installation of new software.

**IOWater oversees an extensive field survey to gather updated information on consumers.**

This survey also helps identify cases of fraud and should provide **an updated client database,** thus enabling contacts with consumers and bill payment recovery.

**IOWater** also oversees **the installation of new software for customer management** and billing. The new software functionalities should allow **MOWASCO** evolve towards more automated and accurate commercial service management to the satisfaction of the users.

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## Support to the Nairobi Water Company to reduce "Non Revenue Water"

**IOWater** started a new project in partnership with **SEURECA** to support the **Nairobi Water Company's** policy to reduce **"Non-Revenue Water (NRW)".** This 2-year project is funded by the **AFD.**

**IOWater** is particularly in charge of three components:

- **Organization and establishment of a special unit dedicated to reducing NRW.** Relationship between this special unit and other departments of the company should also be defined in terms of role, responsibility and communication.
- **Analysis of customer database and billing software** in order to prepare an action plan for **reducing package metering** and increasing bill collection.
- **Establishment of a performance contract** with a private operator for reducing NRW in a pilot area.

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# Transboundary waters

## Good practices in transboundary water resources management: publication of four guides based on practical experiences

The **French Development Agency (AFD)** is supporting a project for the exchange of best practices between Transboundary River Basin Organizations - Niger Basin Authority **(NBA),** Volta Basin Authority **(VBA),** Organization for the Development of the Senegal River **(OMVS),** International Commission of the Congo - Ubangi - Sangha Basin **(CICOS),** as well as the Water Resources Coordination Center **(WRCC)** of the Economic Community of West African States **(ECOWAS).**

**IOWater** is facilitating these exchanges in coordination with **ANBO.**

Transboundary Basin Organizations are the privileged framework for water resources management beyond national borders. They develop diverse practices according to the context of their respective river basins.

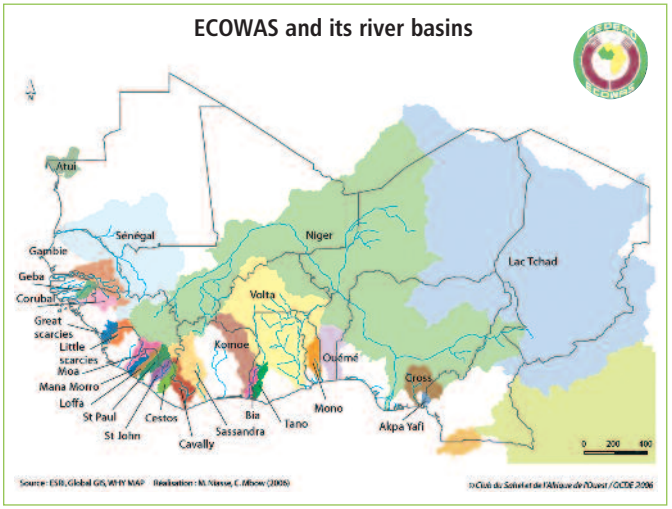
Thus, each organization develops experience, special knowledge in specific fields.

**OMVS** for instance has a significant expertise in managing structures shared between Member Countries, while **CICOS** is a reference in terms of promoting waterways navigation.

Therefore, this should lead to operational improvement of the activities of relevant institutions, through the sharing of knowledge and expertise.

Using these experiences, **four Good Practice Guides have been produced by IOWater** on the topics of Governance, Optimization of monitoring, Strategic Planning and Search for autonomous and sustainable financing.

ECOWAS and its river basins




An electronic forum was also organized on monitoring.

**www.ecowas.int**

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# Volta Basin Authority

## Capacity Building for implementing the 2010-2014 Strategic Plan's priority actions

This **VBA** capacity building project started in January 2012 for a period of 40 months and received funding from **the European Union (ACP-EU Water Facility), the Seine-Normandy Water Agency (AESN) and the French Development Agency (AFD).**

The **International Network of Basin Organizations (INBO),** helped by the **International Office for Water (IOWater),** is supporting the Authority for the overall implementation of the project, which aims to:

- **Develop the ability of the Stakeholders Forum,** advisory body of the **Volta Basin Authority (VBA),** in basin development; this Forum is composed of about thirty members representing the different categories of water users, civil society and decentralized local authorities of each national portion of the basin as well as representatives of national focal structures, governmental bodies of the six **VBA** Member States sharing the basin;
- **Develop the ability of the Experts Committee,** VBA executive body consisting of at least two representatives of the six Member States of the Authority, including one belonging to the national focal structure;
- **Build the capacity of the Executive Board,** VBA first executive body established in September 2006.

The activities carried out in 2012 enabled to support the organization and to implement:

- training workshops during the **meeting of the Stakeholder Forum,** which was held from 18 to 19 January 2012 in Ouagadougou;
- the 6th meeting of the **Experts Committee;**
- a training seminar in France for **5 representatives of the Stakeholders Forum and the Executive Board** on 26 and 27 June 2012, followed by their attending a statutory meeting of the Seine-Normandy Basin Committee on 18 June 2012 in Paris.

Meanwhile, exchanges with the **Volta Basin Executive Board** helped build its abilities by developing a monitoring tool for the implementation of the Strategic Plan, as well as discussions on the methods for developing a Water Charter and the Basin's Master Plan, which are two major pillars of future actions of the **VBA** Member States.

Activities will continue in 2013 along these lines including the involvement of experts from other French institutions, the Adour-Garonne Water Agency in particular.

**www.abv-volta.org**

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## AFRICA

# Lake Chad Basin Commission

### Preservation and development of Lake Chad: starting a project to support the LCBC

**The French Global Environment Facility (FFEM)** is funding the project "Preservation of Lake Chad: a contribution to the development strategy for the lake". The recipient is **the Lake Chad Basin Commission (LCBC),** which gathers six countries: Cameroon, Central African Republic, Libya, Niger, Nigeria and Chad.

The project aims to develop operational proposals respecting the conservation of ecosystems and joint water resources management. It has four components:

1. Summary of knowledge and definition of management constraints and monitoring indicators;
2. Reliability / complementing of the existing model;
3. Support for the entry into force of the "Water Charter" and strengthening of relationships with the other Basin Organizations;
4. Assistance to Project Management.

Other projects underway at **LCBC,** whose implementation will be coordinated with the FFEM project, are funded by the Global Environment Facility (GEF), the European Union and the African Water Facility.

**IOWater** is in charge of implementing Component ❸ with other partners including BRL Engineering.

This project is supplementing existing projects in the transboundary basins of the Niger, Senegal, Congo or Volta rivers and allows exchanging experiences for better management of Lake Chad Basin resources.

**www.cblt.org**

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# Burkina Faso

### Nakanbé River Basin

**Support from the Loire-Brittany Water Agency to the Nakanbé Water Agency (NWA)**

The Cooperation Agreement between the two Agencies was signed in 2010 for developing joint actions in Integrated Water Resources Management and decentralized cooperation under a 2012-2013 Action Program developed in late 2011; the **International Office for Water (IOWater)** being in charge of its implementation.

The project focuses on three essential pillars of IWRM on the Nakanbé basin scale:

- Consolidating governance and planning of water resources management in the basin;
- Improving water data management at the basin and national levels;
- Studying sustainable financing mechanisms through the application of the user-pays and polluter-pays principles.

The project kick-off Seminar in Ziniaré

The various activities undertaken in 2012 allowed:

- the participation of the **NWA** in the 6th World Water Forum in Marseilles;
- a Kick-off Seminar focusing on the Nakanbé Master Plan for Water Development and Management;
- the participation in a meeting of **NWA partners;**
- a training session on data management;
- the participation in the Forum of **Local Water Committees of the NWA.**

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# CICOS

### Hydrological monitoring and SDAGE in the Congo River Basin

First workshop of the project in Kinshasa

The project to support the **International Commission of the Congo-Ubangi-Sangha Basin (CICOS)** started in early 2012 with funding from the Water Facility of the European Union.

**IOWater** is coordinating the capacity building project focusing on hydrological monitoring on the one hand (Congo-HYCOS project) and, on the other, on transboundary planning for supporting the **drafting of the Master Plan for Water Development and Management (SDAGE) of the Congo River Basin.**

**CICOS** and the hydrological services of its four Member States (Hydrological Research Center in Cameroon, National Meteorological Directorate in the Central African Republic, Research Group in Natural Sciences in Congo and the Waterways Board in the Democratic Republic of Congo) thus benefited from three training courses organized in 2012 in the basin countries. A kick-off seminar for the **Congo-HYCOS** project was organized in Brazzaville in November 2012 with the collaboration of the **World Meteorological Organization** and support from the **French Global Environment Facility (FFEM).**

In 2013 to complement the training courses on operational hydrology, the Rhine-Meuse Water Agency, Solidarity Water Europe (SEE) and "Eau Vive" will intervene alongside **IOWater** to accompany **CICOS** in developing its SDAGE. Aspects related to public participation will be especially developed, based on the experiments already completed in the Niger or Senegal Basins.

**www.cicos.info**

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# Reunion Island

## Control of WWTPs operation: a successful collaboration

In 2007, the **City of Saint Paul** created the **"Creole",** a public company dedicated to sanitation management. In 2008, its technical services entrusted the **International Office for Water** with a technical assistance mission for the 2008-2011 period, including:

- An annual audit of the sewerage system (50 pumping stations) and two wastewater treatment plants (WWTP) of the **"Creole";**
- A monthly assistance to the WWTPs operation which, through a tailored data exchange format, allowed regular advice to be given to the technical services and to alert the operator when necessary to anticipate and prevent malfunctions .

The **"Creole"** wished to operate with transparency and permanent improvement.

A training plan was also initiated to improve the skills of their staffs on their working tools.

These crossed activities were doubly rewarding, they allowed **IOWater** to refine its knowledge of WWTPs operation in tropical and insular areas.

**Speech of Jocelyn Picard, Operations Manager of the "Creole" sanitation utility**

When taking up the operation of the public company, the stakes were high and challenges numerous. The technical team constituted at this time had his own skills but we were a bit isolated not only because of insularity, but also because we were the first public company of the Reunion.

Collaborating with **IOWater** helped us out of this isolation and gain confidence on the control of the plants.

Associating professional training to regular audits without complacency is a unique combination that helped us surpass ourselves and meet technical challenges: training helps to fill the gaps, to improve practices.

The fact that these training programs were adapted to our tools has been instrumental to the progression of the staff.

Technical assistance has helped improve practices and adjust the training content.

Capitalizing on in-house know-how paid for the **"Creole",** even though the operating challenges are renewed daily and this makes the richness of this profession.

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Practical work during the training in the "Ermitage" WWTP

## "Water Days" on the Reunion Island

**The Reunion General Council and Water Board (ODE) organized on 27 September 2012, the 4th "Water Days",** dedicated to finding practical solutions to ensure water supply for all uses.

Invited by the organizers, the **International Office for Water** participated in this event, which included workshops for each micro-region.

Many speeches in plenary sessions allowed reminding the institutional and regulatory context in which water stakeholders' work and bringing out solutions to ensure a continuous supply of water for all uses (domestic, industrial and agricultural). **IOWater, on its part, spoke about the "challenges of integrated water resources management on the Reunion Island".**

The problems and challenges of each micro-region of the island were discussed and possible courses of action, both technical (e.g. improvement of interconnections) and institutional, were identified during workshops.

These thoughts will also feed two major planning documents: the Departmental Plan for Water and Hydraulic Facilities and the Departmental Drinking Water Supply Plan.

The day ended with reports from various workshops and with speeches of **IOWater** experts, who underlined the quality of the "Water Days", due to the active participation of stakeholders. They noted the existence of a genuine "water culture" on the Reunion Island, a large variability of hazards, increased by the impact of climate change, leading to a need for quantitative and qualitative regulation tools, for anticipating risks and managing water demand and supply.

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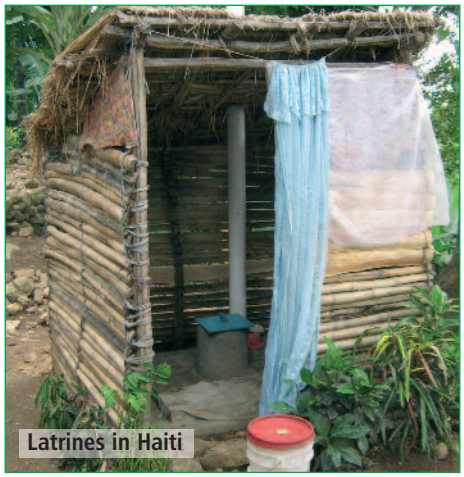
## LATIN AMERICA AND THE CARRIBEAN

# Haiti

### Assessing latrines for the French Red Cross


Latrines in Haiti

Following the earthquake and the cholera epidemic affecting Haiti, the **French Red Cross** has implemented about 400 Ecosan latrines in the town of Croix-des-Bouquets.

This kind of latrine, while particularly technically complete (diversion of liquids, recovery of materials ...), raises problems of acceptance by Haitians. Latrines are misused or even abandoned.

**IOWater** carried out a technical and sociological assessment which included field visits with beneficiaries and professionals in the sanitation sector.

The results of this study will enable the **French Red Cross** to choose its strategy for sanitation in Haiti, and refine its community approach methodology so that the latrine recipients are aware of the use of this type of latrine ...

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### Building the technical reference frame on water and sanitation

**DINEPA, National Directorate for Water Supply and Sanitation in Haiti,** has entrusted **IOWater** with drafting national Directives and technical guidelines in the field of Drinking Water Supply and Sanitation.

Faced with the diversity of stakeholders in the design and implementation of infrastructure projects, **DINEPA** should achieve the harmonization of practices and materials.

To do this, **IOWater** is drafting guidelines that prescribe the minimum technical requirements for each type of structure, but also guides with a more educational goal, which emphasize a practice both technically valid and suited to the Haitian context.

**For the sanitation sector** for instance, hundreds of latrine models have been designed by many national and international stakeholders for decades. This diversity of structures, not always best suited technically, makes it particularly difficult to adopt a national strategy, which aims to increase the rate of access to quality sanitary structures in a country severely affected by cholera.

**In drinking water supply** the diversity of materials and equipment used, the many customary measurement units, or even the methods used by many private, public, national and international operators complicate operation and maintenance.

This also means that the entire DWSS sector should better control the master plans and their financial aspects and ensure quality results and, ultimately, the quality of supplied water.

About sixty documents have already been produced and submitted to the Steering Committee of the project financed by **UNICEF.**

The following steps, in addition to writing the numerous remaining technical papers, are the dissemination of the guidelines, the training of future users of these documents, or the adaptation of the recommendations regarding changes in the sector, that are many and quick in Haiti.

Thus the local stakeholders will gradually develop the sector's economic activity, avoiding the pitfalls of bad workmanship due to ignorance or lack of technical and regulatory framework. This action is actively involved in the construction of the water sector and its development.

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# Chile

### Second International Summit on Water


Opening speeches of the Ministers and Secretaries of State

Chile is encountering serious problems in water resources management: increased water shortages in the North due to climate change, high loss of freshwater to the sea, lack of river basin management and of long-term planning tools for infrastructure development, limitation of rights of use, etc.

Faced with these challenges, **the National Irrigation Commission (CNR) of the Ministry of Agriculture and the Latin American Association for Hydrogeology Development (ALHSUD),** in collaboration with GWP-Chile, the Center for Research and Water Resources Development (CIDERH), the Corporación Minera de Coquimbo (Coquimbo mining corporation - CORMINCO), the Association for Irrigation and Drainage (AGRYD) and the Water Center for Agriculture (CAA) organized on 27 October 2012, the "Second International Summit on Water" (2nda cumbre internacional del agua), with conferences held simultaneously in five cities of the country and transmitted by videoconference.

The **International Office for Water** was particularly honored during this conference through an opening speech in Santiago, Chile, on the topic "How to improve data management to strengthen water resources management".

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# Colombia

## Institutional support to the Ministry of Environment and Sustainable Development

River Basin management exercises began in Colombia in the 80s. Unfortunately, the lack of homogeneous governance structures prevented the generalization of these experiments and achieving their long-term sustainability.

According to the reform of the constitution in 1991, the Ministry of the Environment is head of the **National Environmental System (SINA)** still in force today.

**The Regional Autonomous Corporations (CARs) were established.** Nevertheless, the management of natural resources in river basins did not begin until ten years later in 2002, when the Colombian Government published two decrees that govern the development, implementation and monitoring by the CARs of the first river basin management plans, the **"POMCAs"** (Planes de Ordenación y Manejo de Cuencas).

Although this new planning tool is a real breakthrough, some problems remain, such as the heterogeneity of the "POMCAs", planning inconsistencies between two neighboring "POMCAs" and limited community participation.

In 2007, the supervising Ministry initiated a reform of the "POMCAs".

A consultation of the stakeholders at the national level underlined the need for **Macro-Basin Management Plans,** for structuring **River Basin Councils** and finally prioritizing planning tools.

The Ministry of the Environment then began to develop a **National Policy on Integrated Water Resources Management.**

Finally, after a 5-year process, a new decree was signed on 2 August 2012, amending the regulations on river basin and water resources management.

In such a context, the **Colombian Ministry of Environment and Sustainable Development (MADS)** wishes to benefit from the 50 years of practical experience of the French and now European system both at the technical and economic levels, through an institutional support project, funded by the French Adour-Garonne Water Agency and coordinated by the **International Office for Water.**

The three areas of work of this project are:

- Implementation of the National Policy on Integrated Water Resources Management (IWRM);
- Consolidation of the National Water Information System;
- Prevention of industrial pollution.

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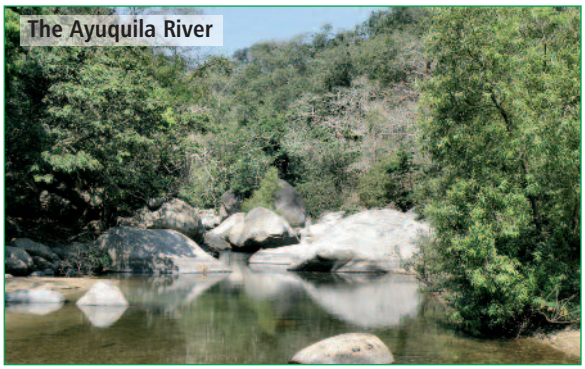
Mapping of macro-river basins in Colombia

Andean Landscape in Colombia (2400m high)
Ubaté River in the Magdalena River Basin

## LATIN AMERICA

# Mexico

### The Ayuquila-Armería pilot River Basin


The Ayuquila River

A memorandum of intent was signed by the **French Development Agency (AFD)** and the **National Water Commission of Mexico (CONAGUA)** "expressing their wish to establish a dialogue of mutual interest, to identify opportunities for encouraging the emergence of sustainable projects in the field of water resources". This agreement must contribute to the achievement of the **National Water Program (PNH),** which sets out the objectives to be achieved for improving the management of water resources and water services in the country.

#### French experience sought by Mexican partners

In parallel to this agreement, the **French Water Agencies Adour-Garonne and Seine-Normandy,** which have interesting similarities with the Mexican Basin Organizations, started a cooperation project to improve the river basin management processes undertaken in the country.

These exchanges will allow **CONAGUA** and Mexican Local Authorities to benefit from advice on the strengthening of IWRM and on improving their wastewater treatment systems.

#### Ayuquila-Armería, a pilot River Basin for cooperation

The Ayuquila Armeria River Basin was chosen because of its size, ideal for experimentation, the importance of its challenges but also its lead in terms of participation and initiatives for the conservation of the environment.

**IOWater** is the operator of this cooperation program and works with local structures in order to:

- Contribute to the improvement of federal and state policies, especially regarding participatory approach;
- Ensure sustainable water resources management in the experimental Ayuquila Armeria Basin, focusing on participation, planning and management of data and information systems.

French experts' assignments, specific studies, workshops and field visits in France and Mexico, will allow presenting the French know-how in the water sector and studying its adaptability to the local situation.

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# Peru

### New taxes on water use?

Peru is a country globally rich with water. Unfortunately, the areas where needs are the most important are the least well endowed in terms of rainfall or groundwater resources.

To cope with this challenge of more effective water management; **ANA (National Water Agency)** is developing an ambitious policy to establish river basin management and a system of taxes for water use and wastewater discharge.

**IOWater and experts from French Water Agencies** have intervened in this **World Bank-financed project,** whose aim is to provide pragmatic elements for establishing these water taxes: how to calculate them, what economic basis to justify them to future taxpayers, what use of the collected sums?

The Peruvian context is rather enabling: the GDP growth rate reaches 4 to 5% per year with low inflation; miners seem willing to make an effort because they are regularly stigmatized by the Medias for their poor environmental practices.

However, the successful implementation of a tax system depends on solid arguments for those who will actually pay these water taxes.

An economic justification is required. It should not be theoretical, but based on the acceptability of these taxes as compared to the added value generated by different economic activities on the households' budgets.

The use of the collected taxes is also a fundamental element; their use for financing facilities (wastewater treatment plants, protections of water intakes, etc.) on the basin scale is obviously an argument favoring their acceptance.

French experts have therefore provided very practical support to the development of formulas for the calculation of different taxes for water uses and wastewater discharges.

Symposium on the Value of Water
ANA - November 2012

Simulations of the amounts that could be collected were carried out as well as the preparation of arguments towards the various economic sectors.

The results of this project were presented to the ANA Board of Directors on 19 July 2012 and were very favorably received.

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ASIA

# Mekong River Commission - MRC

## Hydrological monitoring of the Mekong River Basin: final evaluation of the Mekong-HYCOS project

The final evaluation of the **Mekong-HYCOS** project, which has been developing since 2006, with the support of the **French Development Agency (AFD)** and **French Global Environment Facility (FFEM),** was conducted jointly by ISL Engineering and **IOWater** on request from the **Mekong River Commission (MRC).**

This project is part of the WHYCOS (World Hydrological Cycle Observing System) program, developed by the **World Meteorological Organization (WMO)** in response to the inadequacy or lack of accurate data and information accessible in real time on freshwater resources in many parts of the world.

The main target of Mekong-HYCOS is to ensure the availability of hydrometeorological data on the basin, both at the MRC Secretariat and in the four Member States (Cambodia, Laos, Thailand and Vietnam).

Each country is responsible for the maintenance of its measurement stations with the support of the Secretariat, provides flood forecasts on their territory and share information under Mekong-HYCOS.

**49 hydrometric stations** are now complying with HYCOS standards and a data management system is operational and accessible through the MRC portal.

However, the MRC human resources should be increased to ensure sustainability of the services and links between national hydrological services and data users can also be improved.

**www.mrcmekong.org**

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**Hydrometric stations downstream of the Mekong River Basin**

# Vietnam

## Success of the Dong Nai Basin pilot project


**Dr. Lai, Vice-Minister for the Environment, at the closing seminar of the project**

**The Dong Nai Basin pilot project, funded by the French Loire-Brittany and Seine-Normandy Water Agencies, as well as by "FASEP", was structured under the Cooperation Agreement signed on 6 June 2007 by the French and Vietnamese Ministers in charge of the Environment.**

It aimed to provide the Vietnamese Authorities with "Technical Assistance to the implementation of an Integrated Water Resources Management (IWRM) policy through a pilot application in the Dong Nai River Basin".

**The official closing of the project with a final seminar took place on 17 April in Ho Chi Minh City in which the results of the project were presented.**

**IOWater** coordinated the project and followed up the institutional component, **SCE** has been a leader in the preparation of the management plan with the support of **Asconit.**

In this context, nearly 200 men/days of training on the integrated water management process, with the establishment and operation of Basin Organizations, were given by experts from the French Agencies and **IOWater** to the Vietnamese executives.

Methodological support to water data management and to the strengthening of measurement networks was also provided.

Finally, **a first Management Plan covering an entire river basin has been prefigured.**

The different steps used for planning were inspired from the principles of the European Water Framework Directive (WFD) and the French experience in its implementation.

Thanks to this project, the practice of integrated water resources management in Vietnam has undoubtedly progressed as evidenced by:

- The updating of the Vietnamese Law on water resources approved on 21 June 2012 by the Parliament.
- The solemn commitment made by Vietnam during the last World Water Forum in Marseilles to start the integrated management of its rivers and streams.
- The preparation by the Vietnamese Ministry of Natural Resources of documents for establishing a pilot Basin Organization in the Dong Nai Basin.

The implementation of that last decision is the key to the development of institutional and operational measures for the conservation of water resources and aquatic environments in Vietnamese river basins facing strong anthropogenic pressure and high demand for hydropower production.

**www.monre.gov.vn**

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## ASIA

# Laos

### The Nam Ngum pilot Basin project at midterm

Laos still has a unique biodiversity and abundant water resources of good quality. But the recent economic and industrial development of the country has been accompanied by the emergence of conflicts between the various water users, including hydropower, mining and agriculture. Environmental and socioeconomic hazards mainly related to the construction of hydropower dams, an important source of growth and foreign exchange for the country, remain difficult to understand by local institutions.

The Lao Government is pursuing a proactive policy in this area, as evidenced by the adoption of a national policy for water resources management, the development of pilot River Basin Committees and establishment of **a new Ministry of Water Resources and Environment (MoNRE)** in 2011.

The pilot Nam Ngum River Basin project, launched last year, aims to support the Lao Government in this process.

Seven assignments have already been carried out by experts from the **French Loire-Brittany and Rhine-Meuse Water Agencies** and **International Office for Water,** which is in charge of coordinating the project, in close relation with the **Secretariat of the Nam Ngum Basin Committee and the Department of Water Resources of MONRE.**


Working groups for the establishment of the program of measures

Efforts are focused on the definition of actions to be implemented, their location and cost estimate and on the study of potential sources of funding.

At the same time, thinking on the functioning of **the Nam Ngum Basin Committee,** created late 2012 by decree of the Prime Minister, was completed.

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# Cambodia

### Launching of the Stung Sen pilot Basin Project


Signing of a MoU by Mr. Puy LIM (Tonle Sap Authority) and Mr. Alain BERNARD (IOWater) in the presence of Mr. Kean Hor LIM, Minister for Water Resources and Meteorology, and Mr. Jacques OUDIN, Honorary Senator

Water is one of the priorities of French cooperation in the Mekong River Basin countries, supported by the **Loire-Brittany, Seine-Normandy and Rhine-Meuse Water Agencies.**

A pilot project was launched in 2012 in the Stung Sen River Basin, main tributary of the Tonle Sap Lake in Cambodia, where studies are currently being carried out to build two dams for agriculture and hydropower.

**The Tonle Sap Authority (TSA),** partner in this project, has the main task of coordinating the management, conservation and sustainable development of the Tonle Sap Lake Basin, which is a unique water system.

**The Tonle Sap is the largest freshwater lake in Asia.**

Its hydrology depends on the Mekong: during the rainy season, the river flows into the lake which absorbs 20% of its flow rate, while during the dry season, the flow reverses and the lake inputs the flow rate of the Mekong.

The remaining supply of the lake comes from its catchment area through 11 tributaries, including the Stung Sen.

**In the medium term, the TSA wants to develop a Master Plan for Water Development and Management of the entire Tonle Sap Lake Basin.**

This will be necessary to build a real action plan. But this assumes to gather and prioritize the existing upstream information, establish forums for dialogue at national and provincial level, and to organize a monitoring and follow-up system.

**In the short term, the goal of the cooperation project, of which IOWater is the operator, is to test new governance in the Stung Sen sub-basin.**

This project, whose kick-off seminar was held in October 2012, will allow building the capacities of the TSA, the **Ministry of Water Resources and Meteorology (MOWRAM)** and of its representations in the Provinces and Districts to make it possible and to support:

- The technical and methodological strengthening of the Cambodian institutions and stakeholders involved in water resources management;
- The drafting of a sustainable water resources Management Plan for the Stung Sen River Basin.

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ASIA

# China

## French-Chinese cooperation on the pilot Hai River Basin and Zhou sub-basin

Signing of the second phase agreement in Marseilles on 12 March 2012
© IOWater - C.Runel

China is facing many challenges in water management. In terms of quantity, it has only 7% of the planet's resources, unevenly distributed, for a fifth of the world population. In terms of quality, pollution from industrial, urban and agricultural discharges has reached alarming levels in many rivers.

To cope with these challenges, the Chinese Government undertook to build large infrastructures and is modernizing its water management methods. It has developed many kinds of international cooperation, especially with the European Union and France.

An agreement was signed on 21 December 2009 by **the Chinese Ministry of Water Resources and the French Ministry of Ecology and Sustainable Development.** Its aim is the exchange of experience and capacity building in areas of common interest of Integrated Water Resources Management and Protection.

**As part of this agreement, the Hai River Basin, which covers 318,000 km² and four provinces (Hebei, Shanxi, Henan, Inner Mongolia) and two large municipalities (Beijing and Tianjin), was selected to develop a pilot 4-year project.**

It especially aims to test the application in China of some mechanisms for basin management, water pollution control and ecosystem protection, used in France since the 1964 Act, which created the Water Agencies.

The project partners are, on the Chinese side, **the Ministry of Water Resources, the Hai River Conservancy Commission** and **the Water Boards of Tianjin Municipality and Hebei Province,** and, on the French side, **the Ministry of Ecology, Sustainable Development and Energy (MEDDE), the Seine-Normandy Water Agency (AESN), the Interdepartmental Sanitation Syndicate of Greater Paris (SIAAP), the Interdepartmental Institution of Great Lakes of the Seine and the International Office for Water (IOWater),** which is taking care of the project technical coordination.

The first phase of the project (April 2011/March 2012) contributed to the development of a mutual understanding of the functioning of basin institutions and of the procedures and means they use in France and China. Four French experts' missions were organized in China as well as three training courses for 70 Chinese officials on management tools used in France and Europe. Three Chinese delegations were also received in France.

The second phase of the project (October 2012/ October 2015) follows the agreement amendment signed at the World Water Forum in Marseilles, in the presence of the Chinese Minister of Water Resources, Mr. Chen Lei.

It will mainly focus on the Zhou River sub-basin where an assessment of the resource, an in-depth legal and institutional analysis of water management, the establishment of an operational coordinating group inspired from the French Basin Committees and adapted to the local context, and the development of a Management Plan for the sub-basin will be tested.

Late November 2012, a training course was organized in Tianjin on the topic of basin governance with lecturers from the Ministry of Ecology, SIAAP, the Great Lakes of the Seine and **IOWater.**

In Mid-December 2012, a second mission of French experts allowed making a first assessment of the sub-basin status.

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Signing of the Action Plan for the project second phase in Tianjin on 23 November 2012
© IOWater

# Water Convention

## Transboundary data administration

Countries of Eastern Europe, Caucasus and Central Asia are highly dependent on transboundary water resources. To develop an effective Integrated Water Resources Management (IWRM) policy, it is necessary to have a comprehensive assessment of water resources and uses, which is based on consistent and coherent information.

This **FFEM**-funded project developed under the **"Convention on the Protection and Use of Transboundary Watercourses and International Lakes",** aims to improve water data administration in order to facilitate the production of the information needed.

**IWAC (International Water Assessment Center), the main recipient of the funding, entrusted IOWater with the technical coordination of the project activities.**

Activities were launched in early 2011 in two pilot transboundary basins:

- **The Dniester River Basin** in Ukraine and Moldova;
- **The Aral Sea Basin** (Amudarya and Syrdarya river basins) which concerns Kyrgyzstan, Kazakhstan, Uzbekistan, Tajikistan, Turkmenistan and Afghanistan.

The assessment of water data administration carried out in each country includes:

- A legislative and institutional analysis (database of the stakeholders);
- Organization of national workshops gathering the key stakeholders involved in data production and management;
- Support to the presentation of data sources by the producers (metadata catalogue);
- Production of data flow charts (who exchanges what with whom?);
- An initial needs analysis related to data management.

The developed actions provided the following results:

### In the Dniester River Basin

- Procedures and tools for the calculation of indices of surface water quality with online publication of dynamic maps updated by the partners;
- The "Web Processing Services" allowing the production of useful geographic data;

### In the Aral Sea Basin

- A prototype of hydrological bulletin on the Syrdarya, within an action initiated by the UNRCCA and EC-IFAS;

6th Meeting of the Parties of the International Water Convention - © OIEau - C.Runel

- Conceptual analysis of the National Information System in Tajikistan;
- An online interactive diagram of the Syrdarya hydrology in Kazakhstan.

The final phase of the project (2nd quarter of 2013) will allow the transfer of the project's feedback to the national and regional beneficiaries, and the production of guides highlighting the lessons learned for transfer to other transboundary basins of the region.

The main results are available on the Website (in English and Russian) and were officially presented at the **6th Meeting of the Parties of the Water Convention** in Rome on 28 November 2012 on **UNECE** initiative.

**www.aquacoope.org/ffem-eecca**

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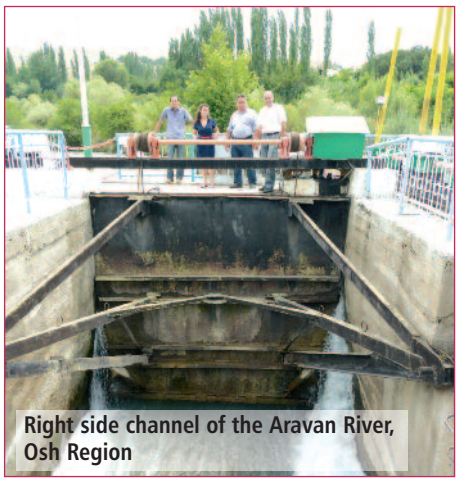
# Kyrgyzstan

## Towards an integrated water information system



Right side channel of the Aravan River, Osh Region

**The Swiss Agency for Cooperation and Development (SDC) entrusted the International Office for Water with a study on data management and information needs concerning water supply and demand for irrigation in Kyrgyzstan.**

Kyrgyzstan is located far upstream of the Syrdarya, which has been the subject of interstate agreements setting the downstream reserved water share at more than half of its internal renewable water resources.

Agriculture remains an important economic sector (20% of GDP) and accounts for over 90% of water withdrawals in the country.

The study analyzed the processes of data management and use: a survey on tools (databases, forms, files, archives, software, etc.), and on the mechanisms for data collection, transmission and validation was conducted with the support of the Directorate of Water Resources and its regional services.

Two field assignments and a national seminar organized with PKTI (Institute of Metrology and Automation) validated these results which are available on the dedicated Website:

**www.aquacoope.org/sdc-ca**

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EUROPE

# 10th European Conference "EUROPE-INBO 2012" on the implementation of the Water Framework Directive 17 - 19 October 2012 - Istanbul - Turkey

354 participants coming from 47 Countries
© IOWater - C.Runel

**The 10th conference of the "EUROPE-INBO" group was held in Istanbul, Turkey, from 17 to 19 October 2012, at the invitation of the Turkish Water Institute (SUEN).** It gathered **354 participants,** representatives of national administrations and basin organizations as well as Research Centres, Universities, NGOs and companies **from 47 Countries.**

The conference was organized around six major issues:

- Water, food and energy nexus;
- Cooperation with EECCA and Mediterranean Partner Countries on the implementation of the WFD principles and methods;
- Improvement of water governance in transboundary river basins;
- Adaptation to challenges linked to climate change and to the prevention of extreme phenomena: with the implementation of the Floods Directive and the reduction of drought risk in particular;
- Development of new approaches to river restoration and protection of water ecosystems;
- Economic analysis, cost recovery under the WFD, value of ecosystems services, water resources use efficiency, involvement and solidarity of the stakeholders.

The experience gained in the European Union with the implementation of the WFD and other EU directives on water and tools developed for this concern are interesting not only the Candidate Countries, but also other Partner Countries of the Balkans, EECCA and the Mediterranean, which could consider adjustments in their own institutional, geo-climatic and socioeconomic situation, through enhanced cooperation.

**The EUROPE-INBO group members made recommendations to further improve water resources management in the European Union and in the Partner Countries, relying in particular on their WFD field experience.**

River basin management is truly the most appropriate way to manage water resources, allowing more consistency between the different sectors, including between water, energy, agriculture, and food and inland navigation and better integration between land management and water resources management to cope with present and future challenges, including those related to global change.

Despite progress made, the WFD which resolutely adopts this approach in the European Union, as well as its "Daughter Directives" or the basic measures of its annex A, must improve their articulation with the "Floods", "Marine Waters", "Renewable Energy" Directives, with the Common Agricultural Policy and the system of official aid.

Similarly, coordination is needed between different administrative services, sometimes located in different ministries, which implement them, e.g. between the services that manage floods and drought plans and those which are directly in charge of implementing the WFD.

The evaluation policy **(fitness check)** implemented by the **European Commission** (which resulted in the publication of a **"Blueprint"** at the end of November 2012), already shows several areas for improvement: the need to reduce water demand by integrating efficiency requirements in the various water uses especially in buildings (public and private, apartment blocks or houses, industry) and agriculture, better regulations on drought and flood control, by strengthening the link between water planning and land use planning in particular, the clear definition of the cost recovery principle and the wider use of economic instruments, improving availability of quality information on water resources, especially when uncertainty increases.

**The participants in the "EUROPE-INBO 2012" Conference consider that, at this stage, it is advisable to make efforts primarily on the application of the current water legislation and not to produce a new legislation.**

**Better cross-sectoral integration must necessarily be sought for to achieve sustainable water resources management in the future,** especially with the Common Agricultural Policy, regional policy, renewable energy and inland navigation policies, and with land use, while also taking into account the need to adapt to climate change.

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

## EUROPE

Opening ceremony on 17 October 2012
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It seems necessary to find a balance that allows both effective implementation of the Water Framework Directive and compliance with the objectives of renewable energy production that Europe has set and the objectives of the CAP.

**Discussions on adaptation to global changes, especially climate change, should be introduced as soon as possible for preparing the second phase of River Basin Management Plans (RMBPs) 2015-2021** especially for analyzing their effects and vulnerability and for defining adaptation measures to be recommended in a context of uncertainty. In this context, the choice of appropriate indicators to assess the "water Footprint" of the different uses and improve efficiency in relation to water scarcity is fundamental.

**It is also necessary to develop new approaches to river restoration and protection of water ecosystems,** by passing from a point approach to large-scale restoration projects, articulated with different multi-purpose planning mechanisms on appropriate scales. To do this, we need to promote the sharing of information, expertise and best practices, as well as improving knowledge through appropriate actions in R&D, hydromorphology and restoration of rivers and wetlands.

**Water governance in transboundary basins should be improved** especially in the "International Districts" created for the EU-WFD implementation, which requires cooperation agreements signed by riparian countries to establish the conditions for appropriate governance, based on mutual confidence, common understanding of the basin problems, on available and shared accurate data and analysis, with the involvement of stakeholders. **The role and means of the International Commissions for transboundary rivers, either existing or being established, should be strengthened** to enable effective WFD implementation in the concerned EU countries.

To cope with the challenges related to global change (climate and socio-economy) and to the prevention of extreme phenomena, it is necessary to integrate adaption to these changes in the key steps of the drafting of River Basin Management Plans, taking care to introduce an uncertainty logic to define sufficiently flexible measures. Policies should be adaptive enough to allow progressive adaptation and basin experiments involved in such a process should encourage the building of new institutional and individual capacities that are required.

The WFD can be used as a toolbox for addressing adaptation to climate change in areas at risk to reduce the impacts of droughts and flood risks.

Regarding the economic analysis, it is necessary to improve knowledge on how subsidies were considered in the RBMPs and to clearly define cost recovery.

**The assessment of Environmental and Resource (E&R) costs requires better methodology and data availability while the economic approach to ecosystem services is to be strengthened.**

**Monitoring and information systems should be strengthened** and adapted to the objectives to be achieved and better compared between member countries, but the issue of their investment and operation costs arises in many situations.

**The high cost of implementing the WFD and "daughter" directives raises a problem in the context of an economic and budgetary crisis to achieve the set-out ambitious goals on schedule.**

The goals of controlling non-point pollution and restoring degraded water ecosystems may not be achieved for many water bodies in any case for the 2015 or even later deadlines.

New measures will be required implying additional means which are not currently planned or have been pushed back to the end of the 2021 - 2027 period.

Finally, the involvement of stakeholders and the public is crucial to improve water resources management, their early information and participation in the decision-making processes should be further increased.

**Appropriation by all users of the water-related policies and of the resulting measures is essential for progress and effectiveness of undertaken actions.**

Recognizing, on the one hand, the interest of the WFD principles and methods for other regions of the world, and on the other, the sharing of some transboundary water bodies with neighbouring countries of the EU, **community cooperation with Partner Countries from the Mediterranean, the Balkans and Eastern Europe, Caucasus and Central Asia is to be pursued and increased.**

In particular, this cooperation should primarily focus on topics for **dialogue and transboundary surface and groundwater management** with the support of regional institutions, for **strengthening national information systems** and their harmonization with international reporting mechanisms, for **training** managers or planners of water resources and the **participation** of users, local authorities and associations.

**www.inbo-news.org**

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EURO-RIOB
EUROPE-INBO

# Science-Policy Interface

## Development of research on water


3rd "CIS SPI" event - 14 - 15 November 2012 - Brussels

How to make sure that research results reach the water managers in charge of implementing the Water Framework Directive?

Conversely, how to facilitate the expression and account taking of research needs from the different levels (local, regional, national, transboundary and European) to implement the European Directives related to water?

These two questions allow understanding and defining a simplified **Science and Policy Interface (SPI).**

They also reveal the challenges.

For this interface to work, it is necessary to:

- Capitalize scientific knowledge;
- Ensure that research needs are expressed in an understandable manner to researchers:
- Make research results appropriable by the water stakeholders that are supposed to use them;
- Raise awareness of all water stakeholders to initiate changes in practices.

**IOWater** is involved in raising awareness about the SPI challenges by coordinating and participating in many projects in various but complementary fields, including for research planning and promotion.

**IOWater has thus coordinated the IWRM-Net Network of national research donors until December 2010.**

It meant organizing participatory workshops inviting researchers and policy-makers to work together to identify research needs, orienting the new bids for projects by requiring researchers to integrate the practical uses of their work, launching new research programs in badly covered fields in the implementation of the Water Directives, and presenting the results in a format that allow easy reading by field practitioners.

To continue this project, the French Ministry of the Environment has initiated a Scientific Coordination of Projects funded under **IWRM-Net** (IWRM-Net SCP, 2010-2013):

**www.iwrm-net.eu**

One of the major challenges is to allow exchanges between donors, researchers, and water managers through forums, workshops and new online learning platforms.

Once research projects are initiated, the phase promoting their results should start.

**For this purpose, IOWater is coordinating two European projects: WaterRtoM and WaterDiss.**

These two projects share the goal of capitalizing on existing knowledge and supporting researchers in their efforts to make their research results valuable to be used:

- **Water RtoM,** focusing on projects financed by the Life and Interreg Programs, aims to support the commercialization of research products and is resolutely addressing market stakeholders.
- **WaterDiss** is addressing European FP6 and FP7 projects and aims to accelerate the transfer of research results to the institutional stakeholders of the public sector.

**To facilitate exchanges between stakeholders aware of SPI actions, IOWater is hosting a virtual platform: "European Water Community" with now more than 400 members.**

Finally, SPI concerns different geographical and administrative levels: under the **Common Implementation Strategy (CIS),** a specific group, coordinated by the French **ONEMA** and the **DG Environment,** was established.

**IOWater** is supporting the activities of this group to compare the state-of-the-art of research with identified needs and to reveal new research needs.

Working and experts groups are organized around seven topics: ecological status, groundwater, chemical aspects, floods, climate change and water, water scarcity and drought, agriculture.

Activities and their results were presented at the Conference "Water science meets policy: How to streamline knowledge to address WFD policy challenges?" that took take place on 14-15 November in Brussels.

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**www.europeanwatercommunity.eu**

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## EUROPE

# Water Research to Market

**Water RtoM, funded by the LIFE+ Program (2010-2013) aims to accelerate the transfer of research results (3 to 5 years) to end users.**

**IOWater** and its partners have identified **150 innovative research products** in the field of water in **LIFE, INTERREG** information bases, and at national level in French, Polish, Romanian and Spanish programs.

**Out of these 150 research projects about fifty have undergone a detailed analysis to identify innovative results and evaluate their distance to the market.**

This analysis also describes additional steps to be implemented to make the selected innovations "ready for use".

It aims to assist field practitioners (Water Agencies, Water Administrations, Municipal Services and developers) by giving them instructions for use needed to make operational these research products.

The promotion of these innovations is one of the pillars of the project.

This is why they are made available to the public in the form of a non-technical summary on the **waterrtom.eu** website under the heading "e-fair".


Many presentations are also organized during national or European conferences, at professional meetings in collaboration with Enterprise Europe Network.

Ultimately, the **Water RtoM** consortium wishes to prove the value of such a service, firstly for researchers by facilitating the dissemination and promotion of their innovative results, and secondly for water managers so that they can comply on schedule with the objectives of the European Water Directives.

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## Climate change and its impact on water resources

**"Explore 2070"** is a project of the French Ministry of Ecology, which aims to identify possible scenarios for the impact of climate change by 2070.

It especially takes into account the topics related to biodiversity, groundwater and surface water, coastal areas and to the socio-economic prospects and their interactions.

**The ultimate goal is to plan for the necessary adaptations to cope with climate and anthropogenic changes in France.**

**IOWater** is a partner of the group responsible for implementing the integrative model that provides the link between topics and access to results.

The Website will allow consulting these data, regrouped according to four key issues: water supply and demand, biodiversity, coastal risks and extreme events, on different geographical scales (national, river basin, shoreline, wetlands, large cities). On certain aspects of the water supply and demand, the model will calculate the risks and costs of climate change and adaptation to cope with it.

The final project meeting took place on 18 and 19 October 2012 in the presence of different partners: Ministry of Ecology, BRGM, BRL Engineering, Météo France, Actaeon, **IOWater,** ONEMA, Armines, BIOTOPE, BIPE and Artelia.

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## EUROSTAT

### Water statistics for beginners

**Eurostat,** the statistical service of the European Commission proposes each year to the staffs of national statistical services a training program.

These training courses are conducted by specialists on each topic. **IOWater,** in partnership with the Austrian **UBA** was retained for the 2012-2016 period for training on Water Statistics and Water Accounts.

From 4 to 6 June 2012, the first training session on water statistics for beginners took place in Vienna in Austria.

The training course, which was attended by 18 participants, addressed the entire water cycle, and combined theoretical training, practical exercises, exchanges between participants and visit of the Vienna Waste Water Treatment Plant (4 million population equivalents, one of the largest in Europe).

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## EUROPE

# France

### Urban Community of Perpignan:
### Optimization of pricing rates for water and sanitation services

Since the beginning of the 2000s, the Communities of Perpignan decided to transfer their "water" and "collective sanitation" responsibilities to the recent **Urban Community of Perpignan - Mediterranean.**

In a first step, it meant finding synergies between different utilities, developing an approach to more consistent technical water management and increasing investment capacity. However, the Communities wished to keep a control on pricing rates and choice of management method for drinking water and sanitation services, with quite disparate levels of service and price.

Meanwhile, the number of member communities grew from 17 in 2004 to 36 municipalities on 1st January 2011, of which 14 are operated as public companies.

**The elected officials, anxious to provide their citizens with the best service at a fair price, entrusted IOWater with an assessment of the financial situation of the services and with providing a consistent pricing strategy for the 2012-2015 period.**

The study was carried out in two steps:

- **Phase 1** established, for each service, the cost of drinking water and sanitation at the end of fiscal year 2011 and proposed pricing rates for 2012 taking the planned investments into account;
- **Phase 2** required to reconstitute the revenues and expenses of each service over the 2005-2011 period, to design and develop a computer application to perform a retrospective financial audit of this period and to establish a prospective pricing simulation for the 2013-2015 period.

**IOWater** was able to provide, for each municipality and for several investment scenarios, a pricing strategy that could be implemented.

In a world where financial resources are scarce and donors' requirements increase, this study also highlighted the need to start a debt control as a prerequisite to moderating water pricing rates in the medium and long term.

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### Urban Community of Agen:
### Assessment of water services and infrastructure

Within the transfer of drinking water supply, sanitation and stormwater drainage responsibilities, the **Urban Community of Agen** wished to launch three operative assessments and to study its infrastructure master plans in its current and future area.

**In 2011, IOWater prepared all consulting documents for the Community.**

Three technical assessments were carried out on schedule in 2012 by three distinct service providers with satisfactory reports.

**IOWater** intervened as assistant to the contracting authority by providing:

- Coordination of service providers;
- Technical monitoring and validation of the provided services;
- Administrative and financial follow-up;
- Management of joint schedules;
- Management of follow-up and presentation meetings.

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### Adour-Garonne Water Agency / AQUAREF:
### Monitoring Program for Water Bodies in France: training for water samplers

Performing analyzes has become a controlled and automated action, the risk of error being very limited. However, taking a representative sample and keeping it in good conditions for recording the collected information require good use and very good knowledge of materials, methods, risks of degradation, etc.

**Staff competence is linked to the know-how acquired in real working situation on sampling sites.**

Students during on-site sampling

**"AQUAREF",** French National Reference Laboratory for monitoring aquatic environments (BRGM, IFREMER, ISTREA, INRIS and LNE consortium, with the support of ONEMA) proposes technical references that sampling technicians will use in their actions to make sampling practices reliable and standardized.

To provide the samplers of the Adour-Garonne Basin with theoretical and practical skills for proper exercise of their profession, a pilot training course was carried out at the initiative of the Adour-Garonne Water Agency.

**IOWater** designed and organized this course, attended by representatives of the Water Agency and INERIS.

This initial training of 10 trainees was held over 3 days at the **National Water Training Center** of La Souterraine, and was a great success.

Building on this success and given the significant demand, the Adour-Garonne Water Agency could schedule several courses during year 2013.

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## EUROPE

# France

### Seine-Normandy Water Agency:
### Hazardous substances discharged by individuals

**IOWater,** associated with **Odessol** of the **University of Limoges,** was commissioned by the **Seine-Normandy Water Agency** to conduct an assessment of discharges of hazardous substances by the use of cleaning products in the Seine Normandy Basin.

The first step of this work has allowed establishing **a database of more than 740 substances used in household products and their dangerousness.**

The list of types of household products has been studied in detail to determine the quantities used in the Basin.

Using this quantification of uses and the dangerousness of the identified hazardous substances, products were selected and **a first attempt at quantifying 58 hazardous substances** was performed using standard coefficients and a simplified approach to describe the magnitude of the problem.

The analysis of the results led to propose possible improvements regarding the information system, the reference frames to develop and possible future actions of the Agency in this area. ✔

### Provence-Alps-Riviera Region:
### Regional water management decrypted for the World Bank

**A specific request**

On request of the **World Bank,** a visit to study the multi-purpose water management model used in Provence was organized on the sidelines of the World Water Forum in Marseilles from 12 to 17 March 2012.

This meant organizing a program for twenty specialists of the Latin American and Caribbean water sector that allowed understanding the origin of the French water management system, its recent developments and the factors that have influenced it.

The Delegation's visit in Provence-Alps-Riviera

**A Region, exemplary for its diversity and complexity**

Over three days, with the participation of the Rhone-Mediterranean and Corsica and Adour-Garonne Water Agencies, the Canal de Provence Company, the Marseilles Water Company, Electricity of France and **IOWater,** the Delegation studied, during many visits, the diversity and complexity of the Provence-Alps-Riviera region through the legal framework of institutional management, the main tools for planning, management and regulation, urban management of water and sanitation services, including monitoring and warning systems, customer management and quality service, public-private partnerships, management of hydraulic infrastructure (channels, hydropower structures), water demand management and water allocation rules and regional planning for multiple and balanced uses.

**IOWater: a knowledge vector**

**IOWater** has a dual position: a recognized participant in international cooperation on four continents and partner for over 20 years of French public and private institutions in charge of water management. This precise knowledge of territories and men makes it able to identify and to quickly contact Local Authorities, managers, donors or companies on current issues and to assist in the development of their project.

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Région Provence Alpes Côte d'Azur

BANQUE MONDIALE

### Limousin region:
### Wetlands in Limousin

The "Agricultural Wetlands: prospects and search for sustainable management" program has just been completed. Field work was carried out in 2011, data synthesis was made and a guide on good practices was written.

This extensive work was carried out by a team coordinated by the **Chamber of Agriculture of Haute-Vienne** to which the **International Office for Water** is member.

This project involved an agri-environmental study, a phyto-sociological survey, a soil survey, a hydrological study and an economic study.

The results obtained by crossing data from these various surveys/studies gave technical references on how to enhance wetlands, while respecting both agricultural constraints and environmental requirements, with a view to sustainable development.

In addition to the guide, a booklet for dissemination of technical know-how and a bulletin were drafted to reach the widest audience possible.

The "Agricultural Wetlands: prospects and search for sustainable management" program has achieved its objectives: a seminar officially closed the project in December 2012. The project team is currently thinking about the possibility of continuing this program.

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# Croatia

## Two twinning arrangements with Croatia on advanced IWRM topics!

### Water Framework Directive and pollution by hazardous substances discharged into aquatic environments:

The objective of the **EU-funded** twinning is to harmonize Croatian legislation and its implementation with the EU "acquis" in this area.

The European Directive on hazardous substances requires that these are:

- Prohibited for the most dangerous of them,
- Subject to protection measures and to reduction of discharges for the other substances.

Many activities produce or use hazardous substances and are at the origin of discharges into the environment: industry, agriculture, but also infrastructure, urban facilities, hospitals and medical activities, craftsmanship and even domestic activities.

### France and Austria are associated for this European twinning with Croatia.

The immediate challenges of this twinning are knowledge of these products uses, the pollution they create in the country and the implementation of measures planned in the Directive on Hazardous Substances and Water Framework Directive:

- Inventory of substances used and discharged, and their presence in surface waters, groundwater and marine waters,
- Establishment of monitoring networks,
- Implementation of new performing analysis equipment,
- Development of tools and quality procedures to ensure the reliability and representativeness of the results,
- Exploitation of data and exchanges between the different partners.

A substantive action on data management was undertaken by **IOWater** experts with the drafting of a catalogue of data sources of the Water Information System and harmonization of production formats between the Croatian interested parties.

Kick-off Meeting of the twinning on "hazardous substances"
Head office of the European Delegation - Zagreb - Croatia - September 2012

The Croatian institutions, beneficiaries of this project are the Ministry of Agriculture and Croatian Water Company. The Ministry of Environment and Nature Protection, Ministry of Health, Croatian Environment Agency, National Institute for Public Health, State Institute for Nature Protection, Institute of Oceanography and Fisheries, Meteorological and Hydrological Service, Croatian Water Pollution Control Society are also associated.

On the French and Austrian side, the twinning partners are: **the French Ministry of Ecology, Sustainable Development and Energy (MEDDE), the International Office for Water, the National Institute of Environment and Industrial Risks (INERIS), the National Environment Laboratory (LNE), the Office of Geological and Mining Research (BRGM), the French Water Agencies as well as the Austrian Environment Agency (UBA) and the Austrian Ministry of Agriculture, Environment, Forestry and Water.**

In total, about forty French and Austrian experts are involved, in collaboration with their Croatian colleagues to carry out the activities of this project, which receives funding from the European Union for a period of 12 months until mid-2013.

### Floods Directive:

Adopted in 2007, the Floods Directive imposes its timetable that will eventually be synchronized with that of the Water Framework Directive.

### Austria, France and the Netherlands won the European twinning agreement with Croatia on the implementation of the Floods Directive.

The 15-month project will especially focus on the mapping of flood risk in priority areas.

The pilot working areas are spread over the Black Sea Basin and the Adriatic coastal rivers with specific flood characteristics.

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## EASTERN AND CENTRAL EUROPE

# Albania

### Updating of the national technical standards

As part of the **"FASEP"**-funded project to update technical requirements for studies and construction in the field of water and sanitation in Albania, **IOWater,** in partnership with **SAUR,** produced 8 booklets:

**1: Trenches and earth moving work;**
**2: Pumping;**
**3: Drinking water production;**
**4: Reservoirs;**
**5: Drinking water supply systems;**
**6: Sewer networks;**
**7: Wastewater treatment;**
**8: On-site sanitation and septage treatment.**

These booklets were presented during a seminar to national stakeholders of the sector.

These new booklets aimed to make more autonomous the Albanian engineering and construction sector regarding water and sanitation systems and improve the quality of the achievements.

The technical standards thus produced are compatible with European Union standards.

The Albanian stakeholders and international donors active in the sector are invited to give their observations.

Seminar for presenting technical standards for the drinking water supply sector

The definitive standards will be incorporated into the Albanian legislation by the Ministry of Public Works and Transport.

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# Ukraine

### Success for the European twinning: management of municipal drinking water supply and sanitation utilities

Twinning closing seminar at the Ministry of Housing and Municipal Economy, on 25 September 2012 in Kiev

This Twinning aimed at harmonizing Ukrainian legislation with EU regulations, improving the management and delegation of water and sanitation services, establishing a system for monitoring services performance and an information system.

This 18-month project financed by the **European Union** involved:

- **On the Ukrainian side,** the Ministry of Regional Development and Municipal Economy, the National Commission for the Regulation of Public Utilities, the Water Services Association and the NIKTI technical center;
- **On the French side,** the Ministry of Ecology, Sustainable Development and Energy, ONEMA, Water Agencies (Rhine-Meuse, Loire-Brittany, Artois-Picardy), **IOWater,** responsible for conducting the project, and ADETEF;
- **On the Bulgarian side,** the National Commission for the Regulation of Water and Energy Utilities and the Ministry of Environment and Water.

Through many work meetings of French-Ukrainian expert groups, regulations and models of delegation contracts were revised, methodologies for costing and pricing have been developed, handbooks have been produced including on regulation of public services, patrimonial management and performance indicators for municipal utilities.

Several seminars helped to disseminate the project results to a wide audience of governmental bodies and water utilities.

Given the success of this work, the working group for French-Ukrainian cooperation on the environment wished to continue this cooperation in the following fields:

- Decentralized cooperation between French and Ukrainian Local Authorities;
- Professional training of the staff of water and sanitation utilities;
- Establishment of financial mechanisms such as direct service cost recovery from users and creation of national or basin funds.

**IOWater** participated in early November in the "AQUA UKRAINE - 2012" International Congress held in Kiev.

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# Kosovo

## Institutional Support to the Ministry of Environment and Spatial Planning (MESP) of Kosovo


Pristina

Kosovo is still facing environmental problems, concerning water, waste and land management in particular.

Kosovo has made progress on adopting a new legislation but more work is needed to create an administrative environment that will ensure further approximation to European Union standards.

To this end, a 2-year European twinning project was launched in December 2011 in order to build the capacity of the **Kosovo Ministry of Environment and Spatial Planning (MESP),** which is the competent authority for waste, water management, nature protection and planning, and of other stakeholders in the environmental sector.

France is participating to this twinning as Junior Partner with Italy.

Regarding the water component, experts from the **French Ministry of Ecology, Rhine-Maas Water Agency and International Office for Water** are being working jointly with their Kosovo counterparts to exchange on experiences and to develop recommendations on WFD implementation and elaboration of River Basin Management Plans, pollution control, and to strengthen the Water Information System in Kosovo.

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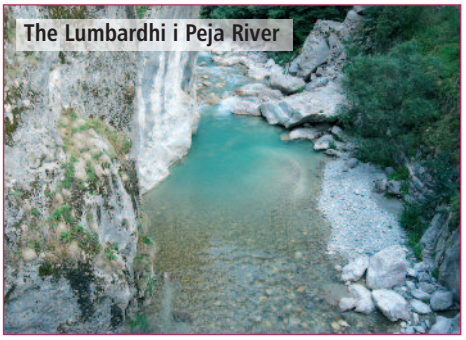
The Lumbardhi i Peja River

## Mitrovica Regional Water Company (MRWC)

**Dev Lux (Luxembourg Development) entrusted the International Office for Water** with three training sessions, corresponding to 15 training days between July 2012 and November 2012 for a dozen employees of the Water and Sanitation departments of the **Mitrovica Regional Water Company (MRWC).**

The educational materials used were designed by **IOWater** to meet local requirements. Training kits were developed in English and translated into Albanian.

Upon completion of this training program, it is planned that **IOWater** accompanies MRWC in the design of a database of performance indicators for the Mitrovica drinking water supply system.

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Training by IOWater in Kosovo for the MRWC on the laying out of drinking water pipelines

# EMWIS

## Better management of water-related knowledge in the Mediterranean

### Towards a certification by the Union for the Mediterranean (UfM)

One of the commitments made at the last World Water Forum organized in Marseilles in March 2012 was to build shared water information systems to support cooperation and peace in the Mediterranean.

Under the impulse of the UfM Secretariat, the promoters of three regional informative projects gathered to prepare a unifying and ambitious project: the Lebanese Ministry of Energy and Water, the Arab League and **EMWIS, the Euro-Mediterranean Water Information System.**

This new project is made of 4 components:

- **Regional coordination,** especially with the European Union (SEIS, WISE, INSPIRE) and the United Nations for exchange of experiences, drafting of guides, recommendations, tools and standard documents, etc.;
- **Strengthening of National Water Information Systems (NWIS)** in 4-5 pilot countries (Morocco, Tunisia, Jordan, Lebanon and under conditions Bosnia and Herzegovina);
- **Regional training programs on water data management** (reference frames, data dictionaries, quality, legal aspects, etc.);
- **Demonstration of data automation and reporting** for international initiatives such as the Water Strategy of Arab countries or the Action Plan for the Mediterranean of UNEP.

All interested parties met in Barcelona on 5 and 6 November 2012 to finalize the technical and financial proposal for certification by the 43 Member Countries of the Union for the Mediterranean. In particular, they reiterated the urgent need to support countries in the implementation of their National Water Information Systems (NWIS).

All Mediterranean countries will participate in regional activities and may reinforce their own NWIS at a later stage on the basis of the feedbacks of this project.

### Optimizing measures against water scarcity

One possible application of the System of Environmental-Economic Accounting for Water (SEEAW) in river basins is to optimize the choice of measures to be applied within a drought management plan.

**EVREN** and **EMWIS,** in association with the **Jucar River Basin Authority in Spain,** are analyzing the advantage and feasibility of this approach in a project funded by the **DG Environment of the European Commission.**

This work is based on the exercise carried out by the European Environment Agency for systematic calculation of "water accounts" at the level of elementary river basins (ECRINS base).

### First steps towards a knowledge hub on water in the Mediterranean

**Impulsed by the International Union for Conservation of Nature (IUCN), EMWIS, CEDARE and national NGOs in Morocco, Egypt, Jordan and Palestine, a project for a regional water knowledge hub network will be initiated with funding from the European Commission.**

The objectives are firstly to collect, analyze and assemble the knowledge generated locally on water resources management, and secondly to make this knowledge available to NGOs and decision-makers and managers, in local authorities in particular.

### Earth Observation for better water management

Meeting at the European Space Agency from 3 to 5 December 2012

**EMWIS is continuing its collaboration with the European Space Agency (ESA)** with a training workshop for the countries of the southern Mediterranean held from 3 to 5 December in Frascati near Rome.

The topics chosen for this training are: access to data from the observation of the Earth, processing of these data for identifying water bodies, floods, land use, assessment of evapotranspiration, and changes in groundwater bodies.

Synergies with the regional project of the World Bank and NASA in this field have also been identified to prepare the first proposal made by **ESA** and **EMWIS** on capacity building of remote sensing centers.

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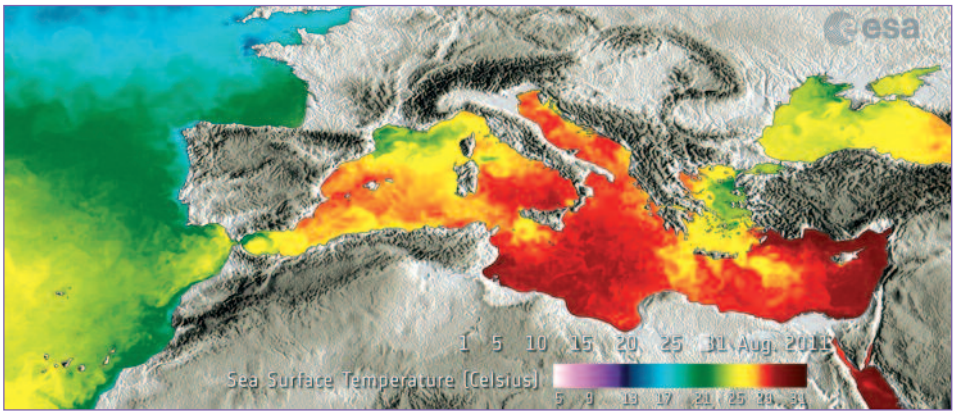


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# NOVIWAM

## Southern European regions: a new water cluster approach

Noviwam European Conference on "Research for Integrated Water Resources Management"

NOVIWAM
Novel Integrated Water Management Systems
Southern European Regions

The **NOVIWAM** project (Novel Integrated Water Management Systems for Southern Europe) aims to promote interregional cooperation on tools and methods for water management at river basin level.

**NOVIWAM** facilitates long-term relationship between participating groups, mutual learning activities and cooperation on these topics.

**Funded by the European Union under the 7th Framework Program for Research and Technological Development,** it addresses regional clusters regrouped in consortiums (Albania, Cyprus, French Poitou-Charentes Region, Northern Hydrological Region in Portugal and Andalusia in Spain).

One of the objectives is to expand these partnerships to neighboring countries facing similar problems in water management.

The **International Office for Water** is involved in various areas of the project, such as analyses of gaps, weaknesses and opportunities of decision-making supporting tools, drafting of a guide for regional authorities to promote internationalization of research and innovation, but also communication and dissemination, as well as the coordination of the French group of partners (Poitou-Charentes Region, INRA, CEMAGREF/IRSTEA).

The **NOVIWAM** original approach is to involve research centers, companies and regional authorities.

A survey was conducted, early in the project, involving 500 people to identify gaps and opportunities.

**IOWater** proposed two priority actions aiming to:

- **Accelerate the use of research results,** their practical application in the partner regions,
- **Produce data on water and its uses** that are compatible with the INSPIRE and OGC (Open Geospatial Consortium) standards.

The **NOVIWAM** project partners are trying to involve other Mediterranean regions. Dissemination of the project conclusions at the regional and international levels has been achieved notably through an abstract presented during a conference in Brussels at the Committee of the Regions.

A presentation of the **NOVIWAM** results took place during the final conference in Seville from 21 to 23 January 2013.

**www.noviwam.eu** ✔

NOVIWAM
Novel Integrated Water Management Systems
Southern European Regions

## Strategic platform for appropriate waste management in the Mediterranean

The **"MED-3R Strategic Platform for appropriate waste management in the Mediterranean", presented by Nice-Côte d'Azur Metropolis (NCA)** in the context of a call for strategic projects of the neighborhood policy program of the European Union in the Mediterranean, has been selected by the Monitoring Committee last June.

**IOWater** and **EMWIS** are participating in this project in partnership with the city of Genoa, Local Authorities of Tunisia, Jordan and Lebanon and several other partners.

The project will start in early 2013 for a 3-year period and will include the development of integrated waste management plans, transfer of know-how and skill enhancement, as well as the implementation of several pilot actions on different waste flows, to achieve the objectives of MED-3R: "Extend life span, reduce production and recycling of waste in the Mediterranean". ✔

## Mediterranean Network of Water Training Centers

The launching of a **Mediterranean Network of Water Training Centers** is one of the commitments made at the 6th World Water Forum in Marseilles.

In this context, **IOWater, as Technical Secretariat of the International Network of Water Training Centers (INWTC), assists the Secretariat of the Union for the Mediterranean (UfM) in the development of a regional initiative to build the skills of professionals of the water sector.**

The project, which should start in 2013 after completing the **UfM certification** process, will include both a regional component on the exchange of experiences and development of common tools, and a support to the development of training centers in different countries.

A meeting of the main partners of this initiative was held in Barcelona on 22 November 2012 at the invitation of the Department of Environment and Water of the UfM Secretariat. ✔

# Algeria - Algerian Water Company (ADE)

## Selection and training of trainers of the Algerian Water Training Center in Cherarba

ADE trainers at practical work

To help improve the drinking water supply service on the Algerian territory, the **Algerian Water Company (Algérienne des Eaux - ADE)** has started a center for training on drinking water supply in Cherarba, located east of Algiers.

In 2011, along with the construction of the infrastructure of this center, the **"ADE"** has selected and trained the future trainers of the training center.

**IOWater has been entrusted with a mission to support the recruitment of "ADE's" future trainers.**

The steps of this support are:

- Definition of the team of trainers suited to start the training center;
- Support for the elaboration of references for the trainers' skills;
- Advice for the selection of trainers;
- Assistance in the design of the trainers' training plan;
- Training of the recruited trainers at **IOWater** National Water Training Center (NWTC in Limoges and La Souterraine).

The training of trainers will be conducted specifically on the use of educational units tailored for water training centers.

The training of these trainers was completed in July 2012.

✔

## Cycle of skills improvement in waste management

Since the beginning of 2010, **GIZ, German Cooperation Agency,** has been carrying out a project **"Capacity building for training in the environmental sector in Maghreb".**

As part of the **"Solid Waste"** component of this project, **GIZ** has decided to entrust **IOWater** with a six-week training program carried out in 2012 in France and Algeria on:

- Management of maintenance of waste utilities;
- Management and optimization of waste collection,
- Administrative and financial management of the waste utilities;
- Use of mapping, GIS and GPS in waste collection.

The Algerian beneficiaries of these training programs are professionals and trainers from the Ministry of Regional Planning and Environment, National Waste Agency, National Conservatory of Environmental Training and Annaba, Tlemcen and Ghardaia municipalities, etc.

Insofar as some of these participants aim to extend this knowledge in Algeria, it is also expected that **IOWater** carries out a 20-day coaching of the trainers during a knowledge dissemination phase.

✔


Visit of Algerian trainees of a waste treatment facility

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# Tunisia

## REACH Twinning agreement

### Management and control of chemicals

Opening seminar of the twinning held in Tunis in the presence of the Austrian, Swedish and French partners - March 2012

The European Twinning on "Institutional Support for management and control of chemicals in Tunisia" focuses on promoting an industry more respectful of the environment and health.

This especially includes preparing the Tunisian industry to managerial, organizational and technological changes related to the implementation of European REACH (registration, evaluation and authorization of chemicals) and CLP regulations (Classification and labeling of dangerous chemical substances and compounds).

**The International Office for Water is a member of the consortium of European partners in charge of this project with the Austrian Environment Agency (UBA), the National Institute for Industrial Environment and Risks (INERIS) and the Swedish Chemicals Agency (KEMI).**

It is particularly involved in the upgrading of the Tunisian legislation on chemicals use in industry, as well as in establishing a strong administrative and technical infrastructure and capacity building of the relevant institutions.

The project was launched during a seminar held on 6 June 2012 at the Technical Chemistry Center of Tunis, REACH National Focal Point.

This action funded by the European Union will be completed in March 2014.

✔

Midès Oasis - Southern Tunisia

## Support to CITET

As part of a twinning agreement, led by the French Ministry of the Environment, signed by the European Union and the Tunisian Ministry of the Environment and focusing on institutional support in environmental protection and sustainable development, **IOWater is supporting the strengthening of the International Center for Environmental Technologies of Tunis (CITET).**

In 2012 and 2013, **IOWater** experts are helping:

- Carry out a strategic analysis of CITET;
- Define its development areas;
- Establish an action plan;
- Support CITET in the implementation of these actions.

The twinning agreement plans a study tour in France to meet organizations involved in activities similar to those of CITET.

✔

# Turkey

## In 2012, IOWater got involved in three European twinning arrangements

### ➤ Capacity building on water quality monitoring:

This European twinning on the implementation of the Water Framework Directive has been carried out by the Netherlands, France and Spain since September 2011. It aims to support the Turkish Ministry of Forestry and Water in drafting monitoring plans for six pilot river basins and a national monitoring plan.

**On the French side, experts from the Ministry of Ecology, Sustainable Development and Energy, Seine-Normandy and Rhone-Mediterranean & Corsica Water Agencies, IRSTEA, IFREMER, coordinated by IOWater, are contributing to this work.**

During the first year of the project, the activities focused on assessing the institutional and methodological gaps that Turkey is still facing on monitoring. In addition, many training courses were carried out in spring/summer 2012 on the various biological quality elements that have to be followed in order to assess the ecological status of rivers and lakes.

### ➤ Implementation of the Floods Directive:

The European institutional twinning project on capacity building of **the new Water Directorate of the Turkish Ministry of Forestry and Water** for implementing the Floods Directive is carried out by France, in collaboration with Romania. Activities started in August 2012 for two years on the following issues:

- Transposition of the Floods Directive in Turkey and adaptation of the institutional organization;
- Methodological support to the practical implementation of the 3 steps of preparing a Flood Risk Management Plan in **the pilot "Bati Karadeniz"** river basin flowing into the Black Sea, including dialogue with users. Then, dissemination of the experience gained in this pilot basin to the 25 other Turkish river basins is planned;
- Preparation of the National Plan for Implementation of the Floods Directive integrating economic analysis.

Mr. Veysel Eroglu, Turkish Minister for Forestry and Water at the Kick-Off Meeting on Floods in Turkey on 2 October 2012 in Ankara

### ➤ Transposition of the Bathing Water Directive :

**The Turkish Ministry for Health and its new Public Health Agency are the contracting authorities of this European twinning agreement awarded to France associated with Italy.**

The activities that will start in January 2013 will be carried out in three pilot regions and results will be disseminated to all Turkish regions.

✔

# Morocco

## Design of the new educational units of LYDEC Training Center

To further enhance its training offer, to make its training modules more interactive and to better integrate its educational units in its curriculum, **the LYDEC Training Center (SUEZ Environment group)** is redesigning its educational units in Casablanca and updating its training modules on water and sanitation.

In this context, **SUEZ Environment** called **IOWater** for the design and upgrading of these educational units.

This assignment focuses on the establishment of a preliminary and detailed design, and financial estimates of several educational units related to drinking water supply and sanitation systems and hygiene and safety.

✔

Educational unit for "Drinking water supply" at LYDEC Training Center

Lydec ليدك

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# Morocco

## ONEE and IOWater, a lasting collaboration

**Started 6 years ago, collaboration between the National Office for Electricity and Drinking Water Supply (ONEE) in Morocco and IOWater's National Water Training Center (NWTC) continued in 2012.**

Year 2012 has enabled to continue the educational engineering project for the design and implementation of educational units for "Sanitation systems" to be built at the **Water and Sanitation Institute of ONEE** in Rabat.

As part of a project, led by **SGI Consulting,** for the drafting of ONEE's operating procedures for sanitation, **IOWater** was also entrusted with the implementation of training sessions on the application of these operation manuals relating to sewerage networks, pumping stations, wastewater treatment plants using lagooning and to the risks and instructions regarding hygiene and safety.

Training on the use of ONEE's operation manuals

**Moreover, IOWater, in partnership with the Moroccan consulting firm ADI undertook in 2012 a project to develop reference frames on the design and sizing of liquid waste treatment facilities.**

These manuals are intended to be used by ONEE as references for its projects related to sanitation systems, urban hydrology and wastewater treatment plants using activated sludge, lagoons and trickling filters.

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## 9th World General Assembly of the International Network of Basin Organizations - INBO
## Fortaleza - Brazil - 12 - 16 August 2013

| | | |
|---|---|---|
| ➤ Tuesday 13 August | 20:00 | OFFICIAL OPENING CEREMONY |
| ➤ Wednesday 14 August | | FIRST OFFICIAL DAY |
| | 09:30 | **Presentation of water issues and institutions in Brazil** |
| | 11:00 | **First statutory session of INBO General Assembly** |
| | 14:30 | **First topical round table:** Institutional frameworks for action of the Basin Organizations. |
| | 16:45 | **Second topical round table:** Adaptation to the effects of climate change and prevention of extreme phenomena of floods and droughts. |
| | 20:30 | **Official dinner** |
| ➤ Thursday 15 August | | SECOND OFFICIAL DAY |
| | 08:45 | **Third topical round table:** Participation of local authorities, water users and the public, role of the basin committees. |
| | 11:00 | **Fourth topical round table:** Management of transboundary rivers, lakes and aquifers. |
| | 14:30 | **Fifth topical round table:** Financing of water management and of basin organizations. |
| | 16:30 | **Forum of International Cooperation Organizations** |
| | 17:30 | **Second statutory session of INBO General Assembly** |
| | | ● **Fortaleza Declaration** ● **Final resolutions** |
| | 18:30 | **Closing of the General Assembly** |
| | 20:30 | **Evening of the Senegal River** |
| ➤ Friday 16 August | | THIRD OFFICIAL DAY |
| | 07:00 | Technical Visit |

**To participate, Please register!**

**www.inbo-news.org**

## MIDDLE EAST

# Iraqi Kurdistan

### Towards sustainable water management Establishment of a High Water Committee


First meeting of the High Water Committee

**Since August 2010, the French Ministry of Finance has supported the Kurdish Ministry of Water Resources by financing a pilot project in the Greater Zab River Basin entrusted to a group of companies led by the Canal de Provence Company, associating BRGM, IOWater and G2C IT.**

Following the proposals of the group and especially of **IOWater,** in charge of the part related to the institutional situation, **a High Water Committee ("Lejna Balla Aw" in Kurdish)** was created. It is chaired by the General Director of Water Resources and brings together the General Directors of the other Ministries involved in water resources management: Ministry of Electricity, Ministry of Natural Resources, Ministry of Local Authorities, Environmental Board and Ministry of Planning. It invites when needed representatives of the civil society and local authorities.

The first meeting of Lejna Balla Aw was held in October 2012.

The Directorate of River Basin Management, which is being officialized, is taking care of its Secretariat and keeps links with Local Authorities and the civil society.

On this occasion, the **"World Pact for better basin management",** initiated by **INBO,** has been signed by the General Director of Water Resources of Kurdistan.

✔


Canyon of Rawandur, main tributary of the Greater Zab

# Qatar

### Training of engineers of Degremont Middle East


Training course

In 2012, **IOWater** Training Center has achieved a training course in Doha (Qatar) for engineers of Degremont Middle East on technologies for drinking water production and wastewater treatment.

This training course helped provide an overview of the processes proposed by the Degremont Company.

✔



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