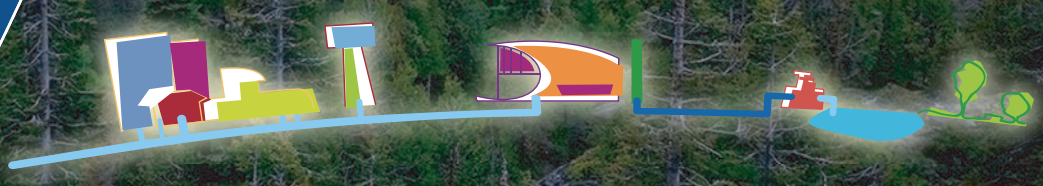
INTERNATIONAL NEWS

Capacity building for better water management

training
information
management
cooperation

International Office for Water



N° 17 - English version - February 2010

419 training courses on "Water" in 2010!

Capacity building for better water management

The French National Water Training Center (FNWTC) of the International Office for Water, with its two sites at Limoges in Haute-Vienne and at La Souterraine in the Creuse, attracts each year more and more water professionals, anxious to improve their knowledge and technical skills.

Should they be Elected Officials, Managers, Department Heads, Engineers, Technicians or Operators of drinking water supply and sanitation utilities, or wastewater treatment plants, employees of State services, Water Agencies, industry or consulting firms, or coming from the public sector or the private sector, **the training offer is designed, organized and provided to meet all their needs.**

In 2009, 6,000 trainees benefited from these courses, which will have direct use in their work!

The "FNWTC" is increasing its experts' team, including now 30 permanent trainers who, assisted by the best experts in the profession, take care of training based on a concept of putting the trainees in a real working situation on technical units unique in Europe.

Using its knowledge of the various water professions, **the FNWTC proposes modules allowing the trainees to acquire the knowledge and abilities necessary** to fulfill their task without any problem.

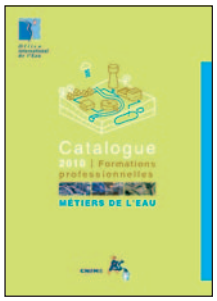
For a company, training activities are a real investment, for which it is legitimate to measure their feedback: **the FNWTC installed a powerful tool to evaluate the training benefits.**

The FNWTC can also advise a local authority or a private company on the choice of the training courses best adapted to its needs and offer, through **"Intra" training programs",** the possibility of customizing its training courses.

The FNWTC proposes training cycles or courses, ending with an evaluation day for validating the trainee's knowledge and their granting of a certificate. They can be "tailor-made". These graduating courses corresponds to 15 training days.

It is possible to **consult the whole training offer on the Internet.** ✔

The catalogue of training programs on "Water" 2010



The French National Water Training Center (FNWTC) is proposing to the water professionals its new catalogue of continuing training programs for 2010.

The catalogue **"Water 2010"** regroups 275 training programs divided into 419 training courses and 4 large topics:

- **Water in the city:** management, operation and maintenance of the drinking water supply and sanitation utilities - staff safety - water quality - construction and rehabilitation of the networks - storm water - sludge treatment - on-site sanitation - boreholes - automatisms, remote management and sensors - environmental management.
- **Water in nature:** groundwater - rivers - water bodies - GIS and mapping.

Laying of mains for drinking water supply

- **Water in agriculture:** irrigation - agricultural effluents - the reuse of sludge.
- **Water in industry:** process water - wastewater treatment - detoxification in surface treatment.

18 new training courses appeared in this catalogue.

These programs can be organized as a customized pathway for work-linked training in the form of curriculum.

Several programs are graduating: maintenance of backflow preventers, electrical welding of polyethylene tubes, butt welding, handling of chlorine in bottles and trapping of coypus…

The FNWTC is certified ISO 9001, Version 2000, and has the "AQUAPLUS" label.

The 2010 catalogue can be consulted on IOWater website.

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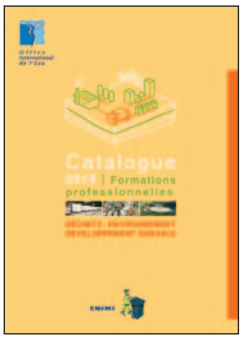
www.iowater.org/cnfme

Catalogue 2010 "Waste and Environment": 50 training programs



In addition to its traditional catalogue of training courses on Water, in 2010 the **FNWTC** is proposing to the professionals on waste and the environment a new catalogue of continuing training.

This catalogue "Waste and Environment 2010" presents 46 training programs organized in 50 training courses, all year round, on the topics:

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

All the training courses are regularly updated during the year to take into account the evolution of the needs of the trainees and their employers and, of course, the regulatory, economic and technical evolution.

The FNWTC training catalogue can be consulted on the website:

www.iowater.org/cnfme

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Extension of the installations at La Souterraine

Since its creation, the **FNWTC** has had a facility at La Souterraine especially dedicated to water chemistry, water supply and sewerage networks, drinking water production and wastewater and sludge treatment.


Extension work at La Souterraine

A large expansion project was worked out to increase the accommodation capacity by building three new lecture rooms, offices and a new laboratory unit. This laboratory will comply with the most recent standards and will be perfectly adapted to its teaching function.

This investment, amounting to M€ 1.3, is supported by the French Economic Recovery Plan (FNADT), the FEDER European Fund, the Limousin Regional Council, the Creuse Council General and the City of La Souterraine.

The building site started in October 2009 with a completion expected in September 2010.

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The FNWTC goes abroad

In 2009, the **FNWTC** had many training activities abroad.

- **Algeria:** the **FNWTC** worked for the Water and Sanitation Company of Algiers, consulting firms and for Degremont (wastewater treatment plants, sewerage systems, hygiene and safety).
- **Tunisia:** the **FNWTC** trained in industrial wastewater treatment the executives in charge of removing pollution from the Gulf of Tunis, "SONEDE" in the welding of polyethylene drains and "ONAS" in the rehabilitation of sewerage systems. It also studied a wastewater treatment plant using "Filters Planted with Reeds" within the decentralized cooperation of the Limousin Regional Council.
- **Morocco:** the **FNWTC** carried out the Training Plan of "ONEP" on automatism, remote management and instrumentation. 4 training courses were also carried out for Moroccan Public Companies (cost accounting and performance indicators). The **FNWTC** also conceived the "sanitation" training plan of "RADEEMA".
- **Saudi Arabia:** the **FNWTC** developed 40 training kits for Suez in Djeddah.
- **Yemen :**training in the maintenance of wastewater treatment plants in Balhaf.
- **Djibouti:** "ONEAD" entrusted the **FNWTC** with assistance to the commercial management of its customers.
- **Chad:** 2 training courses on the management of municipal waste were carried out in N'djamena.
- **Niger:** the City of Paris called upon the **FNWTC** for evaluating its Water and Sanitation cooperation program.
- **Burkina Faso:** the **FNWTC** is directing the hydraulic component of the decentralized cooperation program of the Limousin Regional Council.
- **Democratic Republic of the Congo:** the European Union entrusted the **FNWTC** with the development of a training plan for "REGIDESO". The **FNWTC** carried out, on behalf of the International Committee of the Red Cross, training courses on energy consumption in pumping stations.
- **China:** the **FNWTC** contributed to capacity building in the sludge treatment plant of Shanghai.

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Adapting to the effects of climate

International Network of Basin Organizations

INBO World General Assembly - Dakar - 20 - 23 January 2010

From 21 to 23 January 2010, 268 delegates coming from 41 Countries, representatives of Governmental Administrations in charge of water management, of Basin Organizations, of interested bi and multilateral cooperation agencies and associations, met in Dakar in Senegal, during the eighth World General Assembly of the International Network of Basin Organizations (INBO).

The five round tables organized on this occasion allowed defining field actions for adapting the integrated and participative management of basins of local, national and transboundary rivers, lakes and aquifers, as well as of related coastal waters, to the possible consequences of Climate Change on the hydrological cycles.

At the end of the meeting, the Delegates adopted the "Declaration of Dakar", whose main points are as follows:

Floods, shortages, pollution, wastage, water-related diseases, destruction of ecosystems: the seriousness of the situation in many countries requires that comprehensive, integrated and consistent management of water resources, respecting the aquatic ecosystems and territories is implemented to preserve the future and the human heritage.

It is thus necessary to especially take into account the situation of the 276 rivers or lakes and several hundreds of aquifers over the world, whose resources are shared by at least two riparian countries or sometimes much more: their joint management is thus strategic and a priority.

Adaptation of water management to the effects of climate change is urgently needed worldwide!

Global warming now seems to be unavoidable and one of the first consequences will be to increase the frequency and impact of extreme hydrological phenomena.

Should ambitious measures be globally taken by all the countries to appreciably reduce their emissions of greenhouse-effect gases, the effect on climate would only be perceptible at best at the end of the century.

During the past forty years, the number and intensity of floods and droughts have already increased, sometimes in a spectacular way.

It is necessary to react quickly, before it is too late and it is clear that the control of gas emissions alone is insufficient to change this evolution within the deadlines.

Freshwater resources will be directly affected in the coming years, with significant impacts depending on the regions and foreseen scenarios.

Indeed, these effects will cumulate with the significant pressures linked to demographic growth, urbanization and development.

The demographic, economic and ecological consequences are likely to be very significant.

"If the greenhouse-effect gases are responsible for global warming, freshwater is the first victim"!

Handing of INBO World Presidency from Mr. Kóthay to Mr. Ould Merzoug

Quick action will allow reducing costs and damage: INBO is worried about the "no-action cost"!

The basins of rivers, lakes and aquifers are the relevant territories for organizing participative management of water resources and aquatic environments, transboundary cooperation and indispensable adaptation policies to anticipate the hydrological and hydrogeological consequences of these changes.

Protection against floods must pass through a coordinated approach and it is first necessary to make the "upstream-downstream" common cause a main item of consistent management on the scale of basins and sub-basins. In the transboundary basins in particular, cooperation between riparian States should be promoted.

The availability of freshwater, in sufficient quantity and quality, may also become, in a generation from now, one of the main limiting factors of the economic and social development in many countries.

Climate change will also worsen the structural problems which already lead to water scarcity in many areas: on this subject it is useful to make a distinction between drought and scarcity, the latter being initially related to a permanent and structural imbalance between available resources and abstractions.

The prevention of recurring droughts can, no more, be done on a case-by-case basis, but must be planned in the long term, by solving the structural problems which occur.

It is essential to intensify efforts for better managing water demand and thus reducing the pressures on the resources especially in time of drought, by reducing, in particular, abstractions for irrigation, which are the most significant in many areas.

Mobilizing new resources and creating reserves should be planned, but after rationalizing water demands and only when it will be ecologically acceptable and economically reasonable.

The development of hydropower may contribute to the adaptation to climate change, while improving the living conditions of the poorest populations.

change in Basins: tools for action


268 Delegates from 41 countries

But building new dams will not be enough without the implementation of water saving and recycling programs, proactive water management together with constant incentive measures for more rational uses, facilitated by education, innovation and new technologies.

Water saving, leak detection, recycling, the reuse of treated water, groundwater recharge, the desalination of sea water and research on low-consumption uses must become priorities.

In a context of increased pressure on water resources, the significance of irrigation should be stressed, as continuing the "business as usual" scenario would be irresponsible.

Feeding the world population today and in the future implies using, in all the countries, agriculture which is less water-consuming and less sensitive to climate hazards.

The farmers will be among the first victims of the fluctuations of water supply due to the variations of the climate.

Since the 1990s, river basin management has experienced a quick development in many countries, which made it the basis of their national legislation on water or experimented it in national or transboundary pilot basins.

Participation in decision-making of the representatives of different categories of users and associations for environmental protection or of public interest at the side of the concerned Governmental Administrations and local Authorities should be organized in Basin Committees or Councils in particular.

Basin Management should also rely on integrated information systems, allowing knowledge on resources and their uses, polluting pressures, ecosystems and their functioning, risks assessment and the follow-up of their evolutions. These information systems will have to be used as an objective basis for dialogue, negotiation, decision-making and evaluation of undertaken actions, as well as coordination of financing from the various donors.

Systems for warning against floods, droughts and pollution should be improved and coordinated for better facing the natural disasters caused by water and for protecting human lives and properties.

It is necessary to promote the emergence of competences in this field and to support any work aiming at defining common standards and nomenclatures for data administration in order to allow exchanges, comparisons and syntheses of information between partners at all the relevant levels.

If climate change can no more be doubted, significant uncertainties remain regarding its local impact and the best way of facing it in each situation. It is clear that it is necessary to reinforce research on climate in each large basin or area.

Adaptation will be based on Basin Management Plans or Master Plans that define the medium and long-term objectives to be achieved.

The basin planning process is the best mechanism by which the demands could be adjusted to the available water resources in the long term, in order to avoid persistent shortage and to give a clear response to the necessity of also managing the increasing flood hazards in most areas of the world.

The investments necessary for sustainable management of water resources and ecosystems and for the operation, maintenance and renewal of public utilities require huge financial resources.

Adaptation to climate change will also require additional financial resources.

It is thus necessary to consider specific and additional financial resources by combining national or local administrative taxes, the pricing of community services, geographic and inter-sectoral equalization mechanisms and specific basin charges as incentives to limiting wastage and to removing pollution.

Cooperation between riparian Countries should be strengthened in particular for good management of transboundary rivers, lakes and aquifers. It is now essential that cooperation agreements, conventions or treaties be initiated or signed between the riparian countries of these shared river basins to achieve indispensable common cause at the basin level and develop a common vision of the future.

Mobilization is essential for humanity to win the "water battle" and prepare the future and organization on a basin scale is an effective solution, which deserves to be developed and supported.

INBO Member Organizations have experience and expertise which they intend to pool and put them at the disposal of all the countries and institutions which would like to follow them in an effective basin management approach.

At the end of the meeting, the Assembly congratulated the Hungarian Authorities, and in particular **Mr. László Kóthay,** Hungarian State Secretary in charge of Water, for the way they have fulfilled INBO World Presidency since the Debrecen General Assembly in June 2007.

The Assembly unanimously nominated **Mr. Mohamed Salem Ould Merzoug,** an academic, a former Minister and current High Commissioner of the Organization for the Development of the Senegal River (OMVS), **as the new INBO World President** until next General Assembly which will take place in 2013 in Brazil.

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"Basin Management and Tra

5th World Water Forum
Official Sessions
Istanbul – 20 – 21 March 2009

5th WORLD WATER FORUM
ISTANBUL 2009


More than 450 participants attended session 3.1

Analysis of the tangible progress made in basin management and transboundary cooperation.

The topic of basin management and transboundary cooperation was widely discussed during the recent World Water Forum of Istanbul.

The International Network of Basin Organizations (INBO) and UNESCO were entrusted with the task of coordinating the five official sessions of Topic 3.1 entirely devoted to this issue and which has been the subject of a broad preparatory mobilization for more than one year:

- Several regional meetings were organized in 2008 with our partners, in Solo-Surakarta (Indonesia), Venice (Italy), Moscow (Russia), Saragossa (Spain), Sibiu (Romania), Rio (Brazil), etc…, as well as a side event during CSD 16 in New York,
- More than 200 papers were received on the Forum website or directly by the coordinators.

These five sessions, which took place on 20 and 21 March 2009, allowed hearing 63 speeches of very diverse organizations, representing the main streams of opinion and the various parts of the World, including a high proportion of basin organizations presenting their field experience.

The sessions, which were held in a packed room where more than 450 participants stayed during almost the 12 hours planned in the official program of the Forum, left a broad place to debate and rich and lively discussions, sometimes heated, impassioned even!

Such questions as the "international" statute or not of transboundary waters, the methods for financing and implementing common infrastructures, the ratification of the United Nations Convention of 1997 or the management of transboundary aquifers saw divergent positions clashing, sometimes vehemently expressed, especially from our numerous Turkish colleagues, showing that it is still difficult to achieve real consensus.

But a vast majority of the participants converged on the advantage of national and transboundary basin approaches to face the great global challenges of water resources management.

Taking account of these many contributions and apart from the most radical positions, **the findings and recommendations can be summarized as follows:**

- Strong political will and long-term commitment are prerequisites for basin management and transboundary cooperation in the face of future changes,
- Significant progress has already been made since the 1990s with reforms undertaken in many regions and countries around the world. **The gained experience allows now saying that integrated water resources management at the level of river and aquifer basins is a real advantage.** These experiences allow proposing guidance to countries which want to implement efficient basin management and reinforce their transboundary cooperation.

The progress made so far is however insufficient to meet the requirements of a globally changing world.

Adaptive strategies, focused on maintaining the integrity of river basins and aquifer systems, should become the norm in national and international policy.

This will require:

1. **Surface water to be managed in river and lake basin units and groundwater to be managed in aquifer systems units -** where the two resources are used together, they should be used conjunctively;
2. **Essential quantitative and qualitative information on resources, their uses, polluting pressures, ecosystems and their functions, the follow-up of their evolution, risk assessment and financial challenges of the sector should be obtained and made available.** This information should be used as the objective basis for dialogue, negotiation, decision-making and evaluation of undertaken actions, as well as coordination of financing from the various donors;
3. The participation in decision-making of the concerned Governmental Administrations and local Authorities, the representatives of different categories of users and associations for environmental protection or of public interest. **This participation would be better organized in Basin Committees or Councils;**
4. **Basin management plans or master plans clearly stating the long-term objectives to be achieved to guarantee water resource integrity;**
5. **Significant increase in training and educational programs for responding to the adaptation needs in cooperation building and basin management;**

nsboundary Cooperation”


Large and enthusiast audience

6 Mobilization of financial resources to meet the needs of countries in this field, taking account of their socioeconomic, cultural, and geopolitical specificity. **It is necessary to set up everywhere complementary funding systems that are based on the participation and common cause of the users.** Water charges mechanisms established for basin management can enable the use of the polluter-pays and user-pays principles and may have an interactive effect on consumption reduction and pollution control.

As global inventories of transboundary basins and aquifer systems and their technical and socioeconomic peculiarities are now completed, through the global programs supported by PCCP, World Water Assessment Program, ISARM, EU-WFD, EUWI, INBO-AP, the GEF and others, **appropriate conventions and agreements should be ratified by the riparian States concerned.**

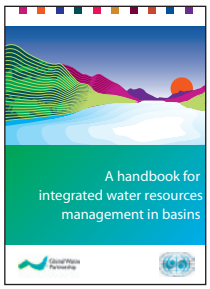
Furthermore cooperation agreements need to be crafted at global, regional and at basin and aquifer levels to achieve necessary and sound cooperation.

In the same manner, institutions such as basin organizations should be created to nurture transboundary cooperation and strengthen communication and dialogue among partners.

Existing or developing legal instruments as well as adapted technical tools and gained experiences should be further disseminated through efforts of agencies and networks of basin organizations to promote transboundary water resources management.

In parallel to the official sessions of the Forum, several side events, associating INBO, whose Permanent Technical Secretariat is taken care of by the International Office for Water, allowed presenting a broad range of field experiments and direct exchanges between managers of basin organizations in particular: the meeting organized between Chinese and European managers and experts within **the "China - European Union Program for Basin Management"** and the meeting between the people in charge of the Po Basin Authority in Italy and their counterparts of several large rivers in other continents.

The regional "Europe" session allowed presenting the implementation of the European Water Framework Directive and the UNECE Convention of 1992, called Helsinki Convention.



During the Forum, the joint publication by the Global Water Partnership - GWP and the International Network of Basin Organizations - INBO of the "Handbook on integrated water resources management in basins", which presents 84 examples of practical actions, allows confirming the realism of the recommendations made:

The ministerial declaration of the Forum supports "the implementation of Integrated Water Resources Management (IWRM) at the level of river basins and groundwater systems, within each country, and, where appropriate, through international cooperation, to equitably meet economic, social and environmental demands and, inter alia, to address the impact of global change, taking into account the interests of all the partners, using participatory process in decision-making and planning, while creating links between relevant sectors to achieve solutions that benefit all parties".

The ministers also declared that they will "strengthen the prevention of pollution from all sectors in surface and ground water, appropriately applying the "polluter-pays principle"… that they resolve to develop, implement and further strengthen transnational, national or/and local plans and programs to anticipate and address the possible impacts of global changes,… that they will strive to improve water related monitoring systems and ensure that useful information is made freely available to all concerned populations, including neighboring countries".

Finally, they also declared "that they will take, as appropriate, tangible and concrete steps to improve and promote cooperation on sustainable use and protection of transboundary water resources through coordinated actions of riparian States, in conformity with existing agreements and/or other relevant arrangements, taking into account the interests of all riparian countries concerned.

They will work to strengthen existing institutions and develop new ones, as appropriate and if needed, and implement instruments for improved management of transboundary waters".

Of course, some people will point out that these formulations can be subject to interpretation and obviously all the problems will not be miraculously solved, as some positions still remain too different, but **unmistakably basin management and transboundary cooperation have scored during the World Water Forum of Istanbul!**

All the papers and photographs of these events, organized during the last World Water Forum held in Istanbul from 15 to 22 March 2009, may be consulted and downloaded on INBO website.

www.inbo-news.org
www.unesco.org
www.worldwaterforum5.org

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The final synthesis session

5th World Water Forum

European Regional Session


The session on WFD organized by INBO

The European Regional Session, coordinated by the European Water Partnership (EWP), took place on 17 March 2009 at the World Water Forum of Istanbul.

The second part of this European Regional Session was devoted to the role of Europe in the world and **INBO** was entrusted with the organization of **a round table on Basin Management and Transboundary Cooperation.**

INBO also drafted the chapter on integrated management at basin level and **the European Water Framework Directive (WFD)** of the European Regional Document.

The aim of this round table was to show how the experience gained in Europe could benefit to other regions in the world.

The discussions highlighted the structuring nature of the European Water Framework Directive (WFD) of 23 October 2000, which gives operational tools for basin management, as recalled in the speech of Jean-François Donzier, **INBO** Permanent Technical Secretary and Director General of **IOWater.**

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"EU-China Cooperation on Basin Management"

During the World Water Forum of Istanbul, the Yellow River Commission, INBO and the EU - China Cooperation Program for Basin Management organized, on 18 March 2009, one day of exchanges between the Basin Authorities of China and Europe.


Day of exchanges between the Basin Authorities of China and Europe

The European session, in which Messrs. Van Alphen, Jacky Cottet, Jose Smitz, Pierre Roussel, New President of **IOWater,** presented the situation in the Netherlands, in France and Wallonia, was jointly chaired by Messrs. Jean-François Donzier, Director General of **IOWater,** and Yang Xiaoliu, Professor at the University of Beijing.

The round table, chaired by Mr. Laszlo Kothay, **INBO** World President, gathered 10 great witnesses around two topics: climate change and benchmarking of integrated management policies in river basins, with, in particular, the presentation of **the project on Performance Indicators (KPI) for the African Transboundary Basins.**

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5th WORLD WATER FORUM
ISTANBUL 2009

Washington USA

International Forum: "Climate Change Impacts on Water" 28 - 29 January 2010

The Association of Metropolitan Water Agencies (AMWA), the Water Research Foundation (WaterRF), the Water Utility Climate Alliance (WUCA), the International Water Association (IWA) and the American Water Works Association (AWWA) organized an International Forum on "Climate Change Impacts on Water" in Washington on 28 - 29 January 2010.

This forum aimed to encourage American Water Utility Managers to network with their international colleagues for raising the policymakers' awareness on climate change impacts on the water cycle and on the need for adaptation of the water utilities.

Mrs. Jacqueline McGlade, Executive Director of the European Environment Agency, presented the situation in Europe and **Mrs. Jane Lubchenco,** Administrator of the National Oceanic and Atmospheric Administration, unveiled the priorities of the US Federal Government.

Mr. Jean-François Donzier, Director General of the **International Office for Water,** was invited to present, as an introduction, the recommendations of INBO World General Assembly, which had just been held in Dakar the previous week, on the **"Adaptation to the effects of climate change in Basins".**

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www.waterclimateforum.org

A guidebook on transboundary aquifer management

Groundwater accounts for 98 to 99% of the total volume of freshwater on Earth. It runs in aquifer systems which can extend over tens, hundreds or even thousands of kilometers.

More than half of the population in the world currently depends on groundwater.

On a worldwide scale, 65% of the abstracted groundwater is used to meet the needs for agriculture, 25% for domestic uses, and 10% for industry, mining and energy activities. However, this distribution varies from one area to another: in many developed countries, groundwater represents a significant resource used for drinking water, as in Europe where it covers 70% of the needs. In arid areas, it also represents the main drinking water resource, as in Saudi Arabia and Libya, in Yemen, Pakistan and Chad, in India or in Algeria and in Niger.

This strategic resource, necessary for socio-economic development, must require special attention and its sustainable management must be a target to aim for.

This is even more the case when the aquifers are transboundary.

The management of transboundary water resources shared by various sovereign States remains indeed a delicate problem.

Nowadays, many efforts have already been made with regard to the management of transboundary surface water, which allowed, on the one hand, the establishment of Transboundary River Basin Organizations and, on the other hand, launching thoughts and experience sharing, as carried out within INBO.

On the contrary, relatively few actions related to transboundary aquifers have been yet carried out, except for those implemented in a restricted number of projects for some large aquifers.

And yet, to date more than 270 transboundary aquifers worldwide have been assessed by the ISARM program of UNESCO/IHP.

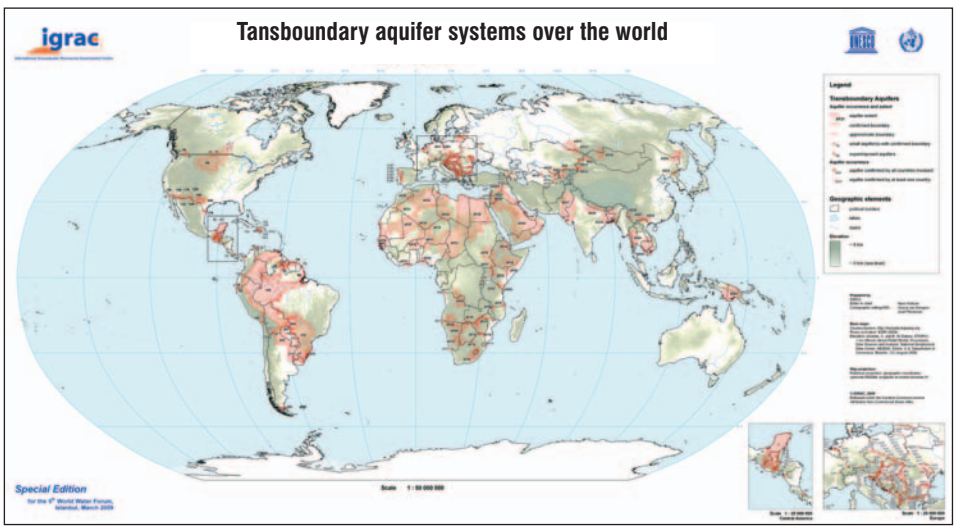
These aquifer systems undergo increasing pressures, linked to the development of human activities, agriculture in particular, and to climate change.

In most arid and semi-arid zones, these groundwater resources are "fossil", i.e. non-renewable or hardly renewable.

Their rational use is indeed crucial.

To avoid the degradation of these aquifers and not to deprive future generations of an heritage to which they have the right to claim, and also to prevent conflicts between States over the shared exploitation of these resources, **it is of great importance to establish lasting dialogue and collaboration between all interested parties.**

This requires the definition of common objectives and adapted strategies, but also, more specifically, the establishment of management bodies with transboundary responsibilities. Good knowledge of the characteristics and functioning of the aquifer systems is also imperative, without it, no sound decision can be made.



This was acknowledged in the United Nations General Assembly Resolution of December 2008.

In order to contribute to the suitable management of transboundary aquifers, the French Development Agency with its partners, BRGM, UNESCO, IOWater and the Water Academy, launched a methodological study which aims at drafting an operational guide book for the management of shared groundwater, intended for the political and administrative authorities concerned.

This guidebook will especially highlight the problems linked to the management of these resources, will give a progress report on the state of the art and ongoing practices, will present examples of transboundary aquifers on several continents and the stakes they represent, and will suggest recommendations to set effective management of transboundary groundwater. The draft guidebook was presented at the INBO General Assembly which took place in Dakar from 20 to 23 January 2010.

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International Network of Water Training Centers

Training in the water sector is a profitable investment!

The States, water utilities and water companies are making significant investments every year in drinking water supply, sanitation and irrigation infrastructures in the World, but to make sure that the infrastructures will last and are operating well and to improve service quality, abilities in management, operation and maintenance are required from the executives, team leaders or employees and workmen in the water sector and are still insufficient.

The main involved parties are becoming more and more aware of the stakes for water utilities to have better human resources management and they assess the significant needs for vocational training. **These needs are huge;** there are tens of thousands of agents at all levels, but mainly at low hierarchical level, who must work in water management in the World and for whom training is necessary.

Efficiency of drinking water supply and sanitation utilities and of community irrigation facilities cannot be achieved without a significant professional capacity building of the staffs.

The donors' efforts, which aim at integrating a vocational training component into their project approach, surely allow improving the situation, but are not enough to guarantee sustainability and correct operation of the infrastructures.

In each country, this practice even induces a bursting in training activities and a lack of cross vision of professional education to meet the needs of the water sector.

The upgrading of skills requires coordinated and lasting action at the national level to organize the activities to be carried out:

- identifying the training needs,
- drafting an effective training offer;
- mobilizing resources for carrying out these training activities,
- evaluating and following up the effects of the training activities,
- creating financial resources that can sustainably support training.

Many training centers in the World cannot reach a sufficient professional level to propose a lasting training offer, which is worsened by case-by-case commitments from the donors. The training activities thus lack support and progressiveness. They are not supported enough by political will in most countries.

Professional training in the water sector is thus essential, profitable and a trade.

Meeting of the Bureau Members in Rabat

During the 15th Congress of the African Water Association in Kampala in Uganda, the **INTWC** will organize on Wednesday 17 March 2010 a session on vocational training in the water sector entitled:

"Technical vocational training on water and sanitation".

The objectives of the proposed session are as follows:

- Identifying the stakes of vocational training in the African water sector;
- Drafting an action plan for its development;
- Identifying the methods and resources for achieving sustainability in the African water utilities.

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On the basis of these findings, the water training centers, which exist in various regions throughout the world, organized themselves by creating in December 2008 the International Network of Water Training Centers (INWTC).

A meeting of the Network Bureau was held on 7 and 8 December 2009 in Rabat to define priority actions:

- Organization of a seminar on vocational training at the Congress of the African Water Association (AWA) in Kampala on 17 March 2010;
- Opening of the **"ricfme.org"** website and regular publication of the electronic newsletter of the Network;
- Organization of a seminar at the end of 2010, which could be held in Ouagadougou on the topic of the regional offer of vocational training in Africa and assessment of its impact on the sustainability of the investments.

The Bureau adopted **the "Declaration of Rabat"** which lays down the **INTWC** doctrine to reinforce vocational training in the water sector worldwide.

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www.ricfme.org

Water Information Systems

Only what is well known can be managed!

Access to reliable information on the status and evolution of water resources and uses is a major stake for formulating and following up any consistent and effective policy in this sector: should they be for actions related to regulations, planning, utility and risk management or public information, the managers of water resources, the international, regional and transboundary organizations, communities and operators,… regularly need updated and relevant information.

Since 1992, IOWater has especially developed the "National Data Reference Center for Water" (SANDRE) in France, within the French Water Information System (WIS).

For 20 years, the **International Office for Water** has been at the frontline of technical evolution and makes its expertise on water data and information management available to the national, regional and basin authorities to allow them creating and developing their own tools and procedures for data administration and enhancement:

1. **Creation of regional, national or Basin Water Information Systems (WIS).**
2. **Development of data bases and Geographic Information Systems** (indicators on IWRM, water accounts, management of licenses for uses….).
3. **Creation of catalogues of the sources of water information,** as the multiplicity of data producers and sources often involves considerable waste of time to identify useful information and to specify the conditions of accessibility. The development of catalogues on the Web facilitates the inventory and identification of available data within a participative process with the information producers / managers.
4. **Development of Web portals on Water.** These Web portals, developed at the regional, national or basin level, allow the dissemination of general information to the public and facilitate the sharing between partners of specific information (data, documents and calendar). They also give access to tools for data updating and processing (databases and metadata, tables, diagrams, mapping information, Web mapping/cartographic interfaces on line), and to documentary information (networks of documentary centers, bibliometry, etc.).

Within international cooperation, the International Office for Water also takes part in many projects in the World, such as for example:

- AWIS: African Water Information and Documentation System;
- EMWIS: Euro-Mediterranean Water Information System.
- ACODIA: database of the international actions of the French Water Agencies;
- Regional Water Information System of West Africa;
- Web portal of the Volta Basin Authority;
- Water Observation Mechanism in the Mediterranean;
- Management of the Nile water quality in Egypt;
- Development of Web mapping applications for water management in the Palmas and Manuel Alves River Basins, Tocantins State, Brazil;
- Data bases for managing licenses for water resources exploitation in Kosovo;
- Information system on the economic aspects of water management (authorizations, water taxes, etc.) in Bulgaria;
- Project on "capacity building in data administration for the evaluation and follow-up of transboundary water resources" in the countries of Eastern Europe, Caucasus and Central Asia within UNECE;
- Support to the organization of a Euro-Mediterranean metadata catalogue, compatible with the Water Information System for Europe (WISE) and the Inspire Directive, etc.

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"SANDRE" and WIS

In France:

The French national Water Information System (WIS) is directed by the National Agency for Water and Aquatic Environments (ONEMA) and is in line with the National Water Data Scheme, which was designed for producing the data needed for the follow-up of water policies and public information.

The French National Data Reference Center for Water (SANDRE), developed by **IOWater,** produces specifications allowing the pooling and exchange of data related to knowledge of water and aquatic environments, which guarantee the technical interoperability of the WIS.

Exchange of health control data: The French Ministry for Health uses its Health-Environment Information System on Water to manage water quality control analyses. It signed an agreement protocol with the water suppliers to automatize their data exchanges, by using **"SANDRE"** specifications. **IOWater** provides support to the implementation of this protocol.

In Europe:

"SANDRE" and the INSPIRE Directive

The purpose of the INSPIRE Directive is to create a European infrastructure of spatial information in several fields, including the environment. Its implementation implies the definition of metadata for all the concerned sets of data themes.

IOWater was selected by **JRC,** following an invitation to tender on the "development and prototyping of technical specifications for the environmental follow-up of air, water, waste and biodiversity" and it mainly intervenes on the water theme and contributes to the development of harmonized data and metadata profiles and corresponding data-processing tools.

This project is also in line with the SEIS (Shared Environmental Information System) and thus participates in the European reporting system.

http://sandre.eaufrance.fr

✔

Sandre

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AFRICA

AWIS

Access to the information, a challenge for the development of the African water sector

SADIEau AfricanWIS — Système Africain d'Information sur l'Eau / African Water Information System

AWIS is a project financed by the Water Facility of the European Union and the French Ministry for Foreign and European Affairs. It is managed by a consortium of partners from Northern and Southern Africa: the **African Network of Basin Organizations (ANBO)** and its secretariat, the Organization for the Development of the Senegal River (OMVS), the Regional Center for Drinking Water Supply and Sanitation (CREPA), the **International Office for Water (IOWater),** the "Solidarité-Eau" program (PS-Eau) and the Water Engineering Development Centre (WEDC).

The first meetings of **AWIS** Steering Committee were held in Paris at **IOWater** in April 2007 and in October 2007 in Dakar at **OMVS** head office.

The consortium, which manages **AWIS,** carried out, from the start, a survey involving about twenty bodies distributed throughout the African continent to identify the interest of the African stakeholders in this project, their needs and their expectations, their technical potential to collaborate.

AWIS principle relies on two large components:

- **A network of partners** located on the entire African continent, made up of information management organizations, public or private documentation centers, basin managers, NGOs, engineering firms, etc.
- **An information system,** in the form of a website, **"AWIS portal",** including articles, bibliographical notes, tools for integrated water resources management, links to other websites, etc. Its update is carried out by the partners' network.

RAOB - ANBO · OMVS · International Office for Water · CREPA · WEDC · pS-Eau

Meeting of AWIS Steering Committee Dakar - January 2010

AWIS activities aim at facilitating:

- the sharing of experience and access to the information on know-how in the African water sector;
- the translation of key documents coming from the French, Portuguese and English-speaking countries;
- the dissemination of research results to the end-users, for better dialogue between stakeholders and researchers, as well as a better integration of research results to meet the needs and requests coming from people in the field.

The **AWIS** process does not aim at replacing the existing information centers, but, on the contrary, at developing them and facilitating access to the information they manage, at referencing high quality information on the Africa water sector, and at proposing free access to this information via an Internet portal.

A partners' network

AWIS steering committee identified 12 partners, called Focal Points - FPs, distributed over French and English-speaking Africa.

A Focal Point is a body with its network specialized in the field of water (drinking water supply, sanitation, irrigation, IWRM, basin management, etc.). It contributes to feeding **AWIS portal** and participates in the development of products of common interest on topics predefined by **AWIS** community: topical newsletters, guidance documents, topical or geographical summaries, conferences, etc.

The project is training the people in charge of these Focal Points on the practical methods for information management and on all the skills required for feeding **AWIS portal.**

Sub-networks may be created to develop **AWIS products.**

The information system

"AWIS portal", operational since January 2009, is a window of Pan-African information; it does not create information but directs towards information. It identifies and indexes the information available with its partners having the information (FPs) and sends the visitor towards their website.

A knowledge base is at the core of the system. It consists of documentary notes filled up by the Focal Points.

This portal proposes:

- a search engine which identifies the information available at the various partners,
- electronic conferences and forums of exchanges,
- a directory of the main African water stakeholders,
- **AWIS products:** current events of the sector, news bulletin, bibliographical syntheses, technical sheets…

Today, the portal has entered about 60 current events, 174 referenced documents, 93 websites indexed by **AWIS Focal Points.**

www.sadieau.org

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AFRICA

Performance Indicators for the African Basin Organizations

Performance indicators are now regularly used in the management of drinking water supply and sanitation utilities. For a few years, experiments have been made for their use by Basin Organizations to define criteria for the evaluation of Integrated Water Resources Management.

In order to propose an approach to the adaptation and integration of African specificities in this field, **the African Network of Basin Organizations (ANBO), with the support of the International Office for Water and Ecologic,** launched a project aiming at developing, testing and comparing Performance Indicators for the African Transboundary Basin Organizations.

This project, financed by the European ACP Water Facility and the French Ministry for Foreign Affairs, is lasting 3 years and involving ten African river basins during 2 test phases.

The first testing phase was launched in November 2007.

After a seminar organized in Ouagadougou in November 2007, a first list of indicators was proposed.

These indicators belong to two categories and aim at describing:

- **the governance and operation of the organizations in charge of integrated management on a transboundary basin scale,**
- **the status, pressures and evolution of transboundary river basins.**

The testing of this first list of indicators in the Niger, Congo, Senegal, Lake Victoria and Orange basins allowed analyzing their relevance and usefulness.

A seminar for the presentation and analysis of the first results was organized in Kinshasa in October 2008, then in Istanbul in March 2009.

The last testing phase has been carried out at the end of 2009 and at the beginning of 2010 in the **10 transboundary basins of the Congo, Gambia, Lake Chad, Lake Victoria, Nile, Niger, Okavango, Orange-Senqu, Senegal and the Volta,** to refine the results and to lead to a final list of performance indicators.

It will then be advisable to make this experiment and this tool known in other African basins and worldwide.

More information on:

http://aquacoope.org/PITB

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The VBA Web Portal

On 18 January 2007, the Heads of State of the six countries sharing the Volta River Basin (Benin, Burkina Faso, Ivory Coast, Ghana, Mali and Togo) adopted a convention creating the **Volta Basin Authority (VBA).**

This organization is in charge of managing the Volta River Basin, strengthening cooperation between the riparian states, coordinating effectively development actions, ensuring the increase in the basin resources and authorizing the works planned by the signatory States.

The **VBA** committed itself in April 2007 to create an information system in order to guarantee communication within the cooperation framework of the technical and financial partners.

For this purpose, the VBA entrusted in 2009 IOWater with the development and design of the VBA multilingual French/English Web portal and the catalogue of the data sources of the basin.

The portal allows disseminating information to the public and sharing working papers between the various **VBA** partners, each partner being able to consult and/or feed and update the various headings of the portal according to the rights of access.

The catalogue of the information sources, accessible via the portal facilitates the identification of the existing data while allowing each data producer/manager of the basin to present the data available at his level.

Following this first phase, it is now planned to install the portal on a server directly managed by the **VBA** staffs, and to provide them training on the administration and maintenance of these tools.

More information on:

www.abv-volta.org

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AFRICA

Economic Community of West African States - ECOWAS

West African Dialogue on Infrastructures

West Africa is characterized by very great hydrological systems which originate from the wet tropical areas and bring significant water volumes to arid or semi-arid areas.

The transboundary water resources account for 80% of surface water. This results in a very high sub-regional interdependence.

The Transboundary Basin Organizations provide a framework for water resources management beyond the national borders.

The projects for building dams and irrigation infrastructures often involve several countries and can be sources of conflicts, but they can contribute to regional integration if they are carried out with dialogue.

The Economic Community of West African States (ECOWAS) has a permanent system for coordination and follow-up of Integrated Water Resources Management (IWRM).

A Center for Water Resources Coordination was created in 2004 for:

- providing support to transboundary basins,
- accompanying the IWRM processes in the basins,
- advancing regional integration of the water sector.

A project currently developed with **IOWater** aims at providing tools for discussion to basin organizations to accompany the development of their investment programs within a dialogue.

The **IOWater** experts especially contribute in:

- identifying the main existing and planned infrastructures on ECOWAS territory;
- examining the mechanisms for dialogue set up at the level of the basin organizations;
- analyzing the decision-making processes on a sample of infrastructures, selected with the basin organizations and Member States: Bui (Ghana) in the Volta River Basin, Kandadji (Niger) in the Niger River Basin and Manantali (Mali) in the Senegal River Basin;
- making recommendations on the mechanisms for dialogue which integrate the work of a Panel of Experts.

This service providing will lead in 2010 to a second phase for accompanying dialogue workshops which will be organized in each basin.

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Support to the creation of the Regional Water Information System

Within the implementation of a water resources management policy in the West African countries (Declaration of Ouagadougou of 1998), the fifteen countries of the **Economic Community of West African States (ECOWAS)** decided to develop a **Regional Water Information System.**

After having carried out a feasibility study and an inventory of the existing information systems, the Center for Water Resources Coordination of ECOWAS (CWRC) entrusted **IOWater** with the task of creating:

- the Web portal of the Regional Water Information System for sharing general information;
- a catalogue of data sources for the inventory and characterization of the information sources;
- a database of IWRM indicators allowing processing on line the collected data.

The Web portal allows the dissemination of multilingual information (French/English) to the public and the sharing of working papers between the various partner countries. The authorities responsible for each country can consult and/or feed the various headings of the portal according to their rights of access and updating.

The catalogue of the information sources, accessible via the portal, facilitates the identification of the existing data while allowing each data producer/manager to present the data available at his level by allotting possible rights of access.

The database allows the management of IWRM indicators, with an interface for feeding, consulting and developing on line this database via the portal of the Information System.

In a first step, this base will be fed by the data found in the tables of the "inventory of water resources in West Africa" and in the tables of the presentation leaflet "Progress report on IWRM in West Africa".

www.aquacoope.org/CEDEAO

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AFRICA

Regional Association for Irrigation and Drainage in West Africa - ARID

An evaluation assignment for IOWater

Irrigation and drainage are the essential keys for sustainable development of agriculture in sub-Saharan Africa. It is one of the reasons which led the professionals of 23 countries of Central Africa and West Africa to create, more than ten years ago, the **Regional Association for Irrigation and Drainage (ARID)** with the aim of promoting sustainable development and balanced management of lands and waters to increase agricultural production and to ensure food security in the countries concerned.

"ARID" supports National Irrigation and Drainage Committees in building and managing rural hydraulic works, in facilitating the dissemination of results and sharing experience in this field.

"ARID" organized the African Exhibition on Irrigation and Drainage (SAFID) in 2005 and 2008.

After more than ten years of operation, **"ARID"** wished to develop strategic brain storming to face the new challenges in this sector and obtained financial support from the French Ministry for Foreign and European Affairs to start this assessment, which was carried out by **IOWater.**

The assessment allowed highlighting a set of strategic actions, dealing with communication, the statute of public utility of the National Committees on Irrigation and Drainage, with the visibility of **"ARID"** activities for the donors (the World Bank, FAO, ECOWAS, UEMOA, CILSS).

Vegetable garden in Guinea

The development of a reference frame of advanced and low-cost technologies, adapted to small-scale farming, is also a strong axis for development.

National associations also have an essential role to play so that the national irrigation and drainage strategies can be supported by practical actions at local level.

The assessment also underlined a need for capacity building covering a broad range of training fields.

More information on:

www.arid-afrique.org

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Mayotte Island

Assistance to the reorganization of the sanitation utility

The Inter-Municipal Syndicate for Water and Sanitation of Mayotte is in charge of sanitation on the whole territory of Mayotte (17 municipalities and 180,000 inhabitants).

Intervention in the sewer network in Mayotte

The Syndicate is implementing an important Investment Plan (2008-2014) related to drainage systems and wastewater treatment units, which will lead to a strong increase in its financial and operating expenses.

Optimization of the utility resources is a priority. The Syndicate entrusted **IOWater** to carry out a study on the reorganization of the sanitation utility and on the definition of a financial strategy for the next 6 years.

In a first phase, the technical and organizational analysis (organization, methods, technical and human resources, operational practices) and the financial audit of the current service allowed defining lines for improvement and recommendations for the optimization of operation and costs.

A training plan was proposed to help the staffs preparing themselves to the inevitable changes and to improve their skills required by these evolutions.

In a second phase, **IOWater** will draw up several scenarios of a pricing strategy for the 2010-2016 period.

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Organization for the Development of the Senegal River

An institutional reform to face the future challenges

The Organization for the Development of the Senegal River (OMVS) is an outstanding tool for cooperation, having a tested and stable legal and institutional framework, with practical results, benefiting from a strong political commitment. It especially developed two common infrastructures:

- **The anti-salt Diama Dam** to allow the development of irrigated crops in the valley;
- **The Manantali Dam** for flood management, flow regulation downstream, allowing water availability for energy production, irrigated crops and waterway navigation.

OMVS has proven its capacity to mobilize its partners to design and carry out projects on a great scale that no State could have implemented alone.

But it has also a potential to do more and must face new challenges such as the integration of Guinea, the implementation of the Declaration of Nouakchott, of the Water Charter and of true Integrated Water Resources Management (IWRM), as well as the development of navigation and new hydropower projects of second generation.

With financing from the World Bank and on OMVS's request, the International Office for Water (IOWater) is making recommendations for an institutional reform.

Starting from a complete functional analysis, the proposal focuses on:

- increasing the governance of the OMVS System, at the level of the High Commission and of the Dam Management Companies;
- the search for a better institutional, organizational and economic coherence;
- improving human resources management.

The proposed reform allows:

- better adequacy between resources and the tasks to be carried out;
- reducing the costs for decreasing the pressure on the Public Treasuries of the States;
- self-capacity building for investment in the priority sectors defined by the States;
- transparent and coherent management of the financial resources of the Organization.

In addition, the reform complies with the constitutive texts of the Organization and can be quickly and easily applicable and potentially implemented in 12 months with an entirely acceptable economic and social cost evolving according to the technical, economic and institutional developments of the coming years.

www.omvs.org

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Navigation lock on Diama Dam

OMVS
ORGANISATION POUR LA MISE EN VALEUR DU FLEUVE SÉNÉGAL

CICOS

Institutional Audit

The International Commission of the Congo-Ubangui-Sangha Basin (CICOS) requested the International Office for Water (IOWater) to prepare the Terms of Reference of an institutional audit, which is a priority for both the **CICOS** Secretariat General and the Member States.

The study will propose improvements so that the institutional framework and the institution bodies are operational and long-term performing, with an orientation towards the sustainable development of the basin for the wellbeing of the riparian populations.

The Terms of Reference, which were validated at the session of the Ministers' Committee in November 2009, define the framework of the study and the specific objectives:

- Analyzing the primary causes of the institutional difficulties encountered by **CICOS** during its last two fiscal years;
- Identifying the links with the Economic and Monetary Community of Central Africa (CEMAC), of which **CICOS** is a specialized agency;
- Proposing a sustainable financial mechanism for the entry into force of the new reform of the "CEMAC" in 2013;
- Examining the possibilities of linking **CICOS** to the Economic Community of the Central African States (CEEAC) due to the presence of the Democratic Republic of Congo and possible accession of new countries;
- Allowing the operational implementation of the Additive to **CICOS** mandate extending its responsibilities to Integrated Water Resources Management, including institutional development and capacity building;
- Identifying the appropriateness and place of a Basin Information System;
- Proposing an increasing and responsible involvement of all the basin stakeholders (public authorities, private operators and socio-professional organizations, users, NGOs, organizations of the civil society).

The results of this study are expected in the first half of 2010.

www.cicos.info

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AFRICA
Burkina Faso

ONEA Water Training Center

The National Water and Sanitation Office (ONEA) is transforming its Vocational Training Center (CFP) - created in 1990 - into a full Water Training Center (CEMEAU), in order to provide its expertise to the field stakeholders involved in the implementation of the National Drinking Water Supply and Sanitation Program (PN-AEPA) in Burkina Faso.

Indeed, the implementation of the PN-AEPA by 2015 is supported by new decrees on the transfer of competences and resources from the Burkina State towards the Municipalities and leads to the emergence of new stakeholders:

- Decentralized administrations,
- Local Authorities,
- Users' Associations,
- Private Operators in charge of the delegated management of water supply services,
- Craftsmen, repairmen, roads and services enterprises, consulting firms, etc,
- The civil society and NGOs.

The field reality shows that these stakeholders are not sufficiently prepared to fully play their parts in the ongoing reforms.

"ONEA", through its Strategic Development Plan and its experience in leasing contracts with many middle-sized towns, ambitions to become a driving force in the partnership to increase work control by the local authorities regarding WSS in particular.

In addition, **"ONEA"** is implementing a quality approach which culminated with its recent ISO 9001 certification for its customer management.

The official launching of the **"CEMEAU"** project took place on 27 March 2009.

The goals of **"CEMEAU"** creation meet a twofold concern:

- On the one hand, developing the professional skills of the staffs in the water sector on the operation and maintenance of hydraulic infrastructures.
- On the other, raising awareness and training the water stakeholders on the main topics of public water and sanitation services, on the regulation and legislation on this matter, as well as on pricing and the contractualization of these services.

"CEMEAU" should be a Training Center open to all the stakeholders and staffs of the Burkina water sector, but also should receive personnel from the sub-region.

"CEMEAU" will have to be self-financed.

"ONEA" initiated a viability study of **"CEMEAU"** as the former "CFP" had only been designed to be an internal training center.

The conclusions of this study, implemented by the **International Office for Water** with financial support from the German Cooperation Agency **GTZ,** were presented to **"ONEA"** Board of Directors in December 2009.

www.oneabf.com

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Decentralized cooperation

IOWater contributed to the hydraulic component of the three-year decentralized cooperation program (2006-2008) between the Oubritenga Province and the French Limousin Region.

This cooperation especially deals with the construction of small water supplies in some main towns, the extension of sanitation coverage, the reinforcement of the Management Committees, awareness, etc.

The French Loire-Brittany and Adour-Garonne Water Agencies finance about 50% of the water and sanitation activities and infrastructures of the project.

In 2009, **IOWater** work, combined with that of "pSEau", allowed the launching of new water and sanitation activities within the new three-year program (2010-2012) extended to the Central Plateau Region of Burkina Faso.

This is a lot of work for the engineers of the South and North, including those of **IOWater,** who work in total symbiosis in this project.

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The management board of Zinguedeghin borehole

Djibouti

Assistance to commercial management

The World Bank is financing a project, which aims to reorganize the water sector in Djibouti in order to lastingly solve the problems of water shortages that the city has been encountering for a long time

Thus the **National Water and Sanitation Office of Djibouti (ONEAD),** which has about 26,300 prospective customers of whom only a part is billed, wishes to reorganize its commercial management tools.

There are delays in the updating of the "customers" database, the invoicing/recovery software is unstable, the number of meters is not known...

This leads to a low recovery rate and the number of unpaid invoices is alarming.

Djibouti investigators participating in the study

The study, entrusted to **IOWater,** thus aims at changing the organization of commercial management in order to sustainably improve the operational results of the company.

It includes two components:

- on the one hand, establishing an effective methodology to update the "customers" database and testing it to evaluate its efficiency;
- on the other, proposing a new organization to the commercial department, defining the means to be implemented and developing the agents' abilities in order to ensure a regular updating of the database and guarantee its reliability and sustainability.

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Mali

Reorganization of electricity and water sectors

Within its contract regarding an institutional study for **choosing the best delegation of the public electricity and drinking water supply services in Mali,** Deloitte Consultants called upon **IOWater** as associate expert.

The report on the 1st phase "identification and analyses of the various options" was presented to the Malian Authorities in July 2009.

Laying out of mains for drinking water supply at Kalaban Koura

In 1999, the Government of Mali started reorganizing the electricity and water sectors. A great number of legislative texts, legal regulations and planning documents have been published and applied since this date. Achievements have been obvious: increase in the coverage in rural areas and in towns and improvement of the service.

The national operator **"Electricity of Mali" (EDM-Ltd)** is responsible for energy and water production, transport and distribution in the main towns. There are other public and private operators on the remainder of the territory.

The Government provides national assistance to the management of the smallest communities.

Reforms seem still necessary, for example: clarification of the assets, precise description of responsibilities, urban extensions of Bamako agglomeration and other towns. In addition, these reforms are extremely well identified in the National Strategy adopted by the Government of Mali in 2007.

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Development of sanitation

The Government of Mali asked for an extension of **IOWater's** assignment to estimate the reforms needed for sanitation.

In Mali, this sector involves the removal of household refuse, storm water drainage and wastewater collection and treatment. The State and municipalities play the main part.

Wastewater collection, for example, is today taken care of by municipalities which developed approved micro-companies for sewage disposal.

Priority is given to the opening of accessible and controlled sites for deposit.

In Bamako, there is only a treatment unit for industrial wastewater, operating since summer 2009 under the responsibility of the very new **"ANGESEM"** (National Agency for the Management and Operation of Wastewater Treatment Plants of Mali).

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A sewer in Bamako

NORTH AMERICA

Canada

"International Meeting on Integrated Water Management" Sherbrooke, Canada - 1 - 3 June 2009

550 participants attended the **"International Meeting on Integrated Water Management"** which took place from 1 to 3 June 2009.

The event was jointly organized by the Council of Water Governance of the St-François River Basins (COGESAF) and the Environmental Training Center of the University of Sherbrooke (CUFE).

Plenary session on IWRM over the world

30 workshops gathered 95 lecturers on topics related to planning and governance tools, the great stakes of water management, action in agriculture, tools for characterization and diagnosis and information and dialogue.

18 voluntary facilitators took care of the good organization of the workshops.

Mr. Riccardo Petrella presented a conference on the importance of access to water everywhere on the Earth. Mr. Jean-François Donzier, Permanent Secretary of the International Network of Basin Organizations and Director General of **IOWater,** presented at a plenary session an introduction to Integrated Basin Management over the world and participated in a round table on the management of the world transboundary rivers in the closing session, with Mr. Oscar Cordeiro, Secretary of the Latin-American Network of Basin Organizations and Director of the National Water Agency (ANA) of Brazil and Mr. Normand Cazelais, prefigurator of the North-American Network of Basin Organizations (NANBO).

www.cogesaf.qc.ca

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Birth of the North-American Network of Basin Organizations - NANBO

Within the "International Conference on Water Governance in the Americas" in Quebec (Canada), the Constitutive Assembly of the North-American Network of Basin Organizations (NANBO) was held on 15 October 2009 with representatives of Canada, the United States and Mexico.

Affiliated to INBO, **NANBO** intends to promote basin management by gathering the greatest possible number of organizations which work in this part of the world, from Panama to Alaska and Greenland, including the Antilles.

In Debrecen (Hungary), during the last General Assembly of **INBO** in June 2007, representatives of the Committee for Dialogue and Development of the Richelieu River Basin (COVABAR), Messrs. Normand Cazelais and Hubert Chamberland, had received the mandate to carry out this extremely important operation in the life of **INBO,** since, hitherto, North America had no regional network.


NANBO Constitutive Assembly

NANBO officially adopted its statutes and elected its administrators.

Mr. Hubert Chamberland became the first President of NANBO.

Operating with three official languages, English, Spanish and French, **NANBO** is also called "Réseau Nord-Américain des Organisations de Bassin" (ROBAN) and "Red de Organizaciones de Cuenca de America del Norte" (ROCAN).

Its secretariat is located in the city of Quebec with the support of the Municipality.

An official presentation of **NANBO** was made during the last General Assembly of **INBO** in Dakar (Senegal) on 21 January 2010.

More information on:

www.monroban.org

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NANBO ROBAN ROCAN
North American Network of Basin Organizations
Réseau des organisations de bassin d'Amérique du Nord
Red de organizaciones de cuenca de America del Norte

LATIN AMERICA

Latin American Network of Basin Organizations - LANBO

"Meeting of Basin Organizations from Latin America and the Caribbean" Foz do Iguaçu - Paraná - Brazil - 18-21 November 2009


2,500 Delegates participated in the opening ceremony!

The Latin American Network of Basin Organizations (LANBO) was created in August 1998 in Bogotá, Colombia. It is one of the regional networks of the International Network of Basin Organizations **(INBO).** It gathers 67 Administrations and Organizations from 21 Latin-American countries, in charge of water resources management in river basins, and multilateral cooperation agencies involved in water resource management.

A Meeting of Basin Organizations from Latin America and the Caribbean, organized by LANBO, took place in Foz do Iguaçu (Paraná - Brazil), on November 18-21, 2009.

It was supported by Itaipu Binacional, the State Government of Paraná, the State Secretariat for Environment and Water Resources (SEMARH), COPEL, SANEPAR, the National Water Agency (ANA), the International Network of Basin Organizations **(INBO),** the Brazilian Network of Basin Organizations **(REBOB),** the National Forum of River Basin Committees (FNCBH) and IUCN, as well as **IOWater** as **INBO** Permanent Technical Secretariat.

This Meeting was held at the same time than the 6th "Cultivating Good Water / Cultivando Agua Buena" and the 7th Iberoamerican Meeting on Sustainable Development (EIMA).

This event contributed to strengthening Integrated Water Resources Management in Latin America and the Caribbean through the knowledge and exchange of national and international experiences of River Basin Organizations.

The 1st Meeting of the Governing Board of **LANBO** also took place on this occasion to draft a proposed work program of the Network for the coming years.

www.ana.gov.br/relob

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RELOB

Brazil

The Rio das Balsas and Rio São Valério Basins

IOWater is strengthening its cooperation with the Secretariat of State in charge of water resources and environmental management of Tocantins, by participating in the development of the Master Plans for the Rio das Balsas and Rio São Valério Basins.

The study is undertaken in partnership between **IOWater** and the Japanese consulting firm NIPPON KOEI LAC CO., LTD and is financed by the World Bank.

IOWater is in charge of organizing the participation of the local stakeholders in the planning process, through meetings in each basin county in order to inform the population and identify the stakeholders who will be able to help in the process.

The stake is important, because the local stakeholders often feel as not being involved in the important decisions concerning the area.

The Serra Geral do Jalapão Ecological Reserve, one of the largest in the country with a surface area of 716,306 hectares, was created by presidential decree in 2001. Access is entirely forbidden to human beings, except for scientific research programs authorized by the Federal Government, which considers this area as a priority for safeguarding Brazilian biodiversity.

But, there are thirteen projects for building hydropower stations in the Rio das Balsas Basin, located in the Natural Reserve.

The population of the area, very little informed but aware of the problems linked to this kind of projects, is very concerned. At the initiative of the Center for Support to Family Agriculture and Solidarity Economy of the Jalapão territory, a petition was written against any construction of hydropower station in the area.

The motto of this campaign **"energy in Jalapão is different"** refers to the dynamism of the population to seek new development methods which are respectful of the environment: craft industry, ecological agriculture, bee-keeping, ecological tourism, etc. According to some people, hydropower is part of it. According to others, the building of power stations on the Rio das Balsas and its tributaries is entirely incompatible with ecological tourism.

IOWater will have to promote exchanges between all the parties involved in this conflict in order to define the priorities of the Basin Master Plan. Indeed, this Master Plan will be submitted to the population for approval before being transmitted to the Secretariat of State in charge of Water Resources and Environmental Management of Tocantins.

www.recursoshidricos.to.gov.br

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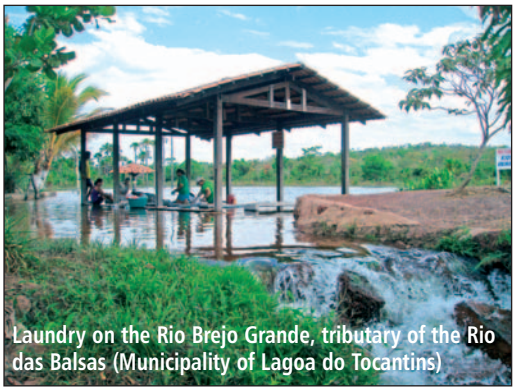

Laundry on the Rio Brejo Grande, tributary of the Rio das Balsas (Municipality of Lagoa do Tocantins)

ASIA

Vietnam

Launching of the pilot project of Dong Nai River Basin

With the cooperation memorandum, signed in June 2007 by the French and Vietnamese Ministers in charge of Sustainable Development, **year 2009 allowed the materialization of an ambitious bilateral cooperation project on Integrated Water Resources Management (IWRM), which deals with the Dong Nai pilot Basin.**

It aims at providing:

1. **An institutional assistance** to the National Authorities in charge of IWRM coordination, financed by the French Loire-Brittany and Seine-Normandy Water Agencies (€ 400,000) according to the French "Oudin-Santini" Law on decentralized cooperation. This part is implemented by **IOWater** and will largely rely on the expertise of the French Water Agencies.
2. **A technical assistance** financed by the French Ministry of Economy, Finance and Employment for the development of surface water monitoring in the Dong Nai pilot Basin (€ 800,000). It will be implemented by SCE consulting firm and ASCONIT Consultants at the beginning of 2010.

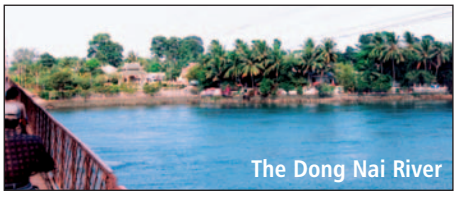
The project implementation is planned over two years.

The concepts of the European Water Framework Directive are used as reference for the analysis of Decree 120, new Vietnamese legislation directing IWRM since its publication in December 2008.

Kick-off seminar
Hanoi, 20-21 October 2009

The Vietnamese Ministry of Natural Resources and the Environment (MONRE), the French Loire-Brittany and Seine-Normandy Water Agencies and the **International Office for Water** held on 20 and 21 October 2009 in Hanoi a 2-day seminar for the official launching of the Pilot Dong Nai Project, in the presence of Mr. Lai, Vietnamese Vice Minister for Water, and Mr. Bolot, French Ambassador.

About sixty participants exchanged information on the Vietnamese and French experiments, on integrated planning at the level of river basins in particular:


The Dong Nai River


Opening session of the seminar

- Presentation of the Vietnamese decree n° 120 and of the European Water Framework Directive;
- Speeches of the managers of IWRM projects in Vietnam;
- Introduction to the cooperation project on the pilot Dong Nai Basin.

During the second day, the discussions dealt with the practical understanding of the cooperation project, its timetable and the implementation methods of the agreement signed by the Ministry (MONRE) and the French Group led by **IOWater.**

The two French Loire-Brittany and Seine-Normandy Water Agencies were represented by Messrs. Oudin, Stein and Wulf who presented their experiments and thus orientated the implementation of the project. ✔

Indonesia

In 2009, the French Embassy in Indonesia organized two Seminars:

- on May 27, on **"Water Resources Management".** Opened by the Minister for Public Works, Mr. Djoko Kirmanto, and Mr. Philippe Zeller, French Ambassador, this seminar dealt with legislation on water resources management, river basin management policy, water utility management, public-private partnerships and access to clean water.
- from 13 to 16 October with the Ministry for Justice and Human Rights, on the **"Right of access to clean water".** This seminar analyzed the difficulties encountered in developing access to safe water, provided in sufficient quantity without disruptions of supply and under conditions which are economically affordable for all the populations.


Water seminar in Jakarta

The French Ministry for Health and the International Office for Water participated in these two events.

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Information: Fax: +33 (0) 4 93 65 44 02 - E-mail: aquacoope@oieau.fr

Mekong River Commission

Forum of the MRC partners - Chiang Rai 15-16 October 2009

For the second time, this initiative of the **Mekong River Commission (MRC)** gathered, in Chiang Rai, Thailand, about a hundred participants coming from the four Member States: Cambodia, Laos, Thailand and Vietnam.

A very reactive Chinese delegation also participated.

IOWater, invited on behalf of **INBO-PTS,** was represented by its Director of International Cooperation, Mr. Jean-Louis Millo.

The objectives of this meeting were to ensure transparency on the preparation of the 2011-2015 development programs.

Three topics were dealt with:

- impact of hydropower,
- development of irrigation,
- climate change.

The exchanges alternated between technical presentations and participative workshops, including:

- **MRC** presentations of its comprehensive and structured planning methods,
- many very relevant addresses of local groups, in particular on environmental and social issues and about fishing,
- a request for increased collaboration, presented by the Chinese delegation.

Some figures give the extent of the challenges: in Laos, 70 dams are planned to produce electricity and in Thailand projects are planned to transfer water towards the North-Eastern areas.

The current water storage capacity upstream (China) is 25 km^3; downstream in the 4 **MRC** Countries, the projects concern 23 km^3 in new reservoirs.

It is planned to increase irrigated lands by 500.000ha, i.e. 36% of the current surface area.

Fishing accounts for 15% of the world production out of fresh waters, i.e. 2,6 million tons each year.

The Commission insisted on two of its current concerns: necessary inter-State coordination and impact of climate change, on the Mekong delta in particular.

www.mrcmekong.org

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China

Starting up the sludge treatment process in the Bailonggang plant of Shanghai

Three years ago, the Bailonggang wastewater treatment plant of Shanghai (1.6 million m^3/d, equivalent to the plant of Achères, France) underwent deep changes with the introduction of powerful biological treatments by activated sludge.

These improvements led to a significant increase in the volume of sludge to be treated.

The Passavant-Rödiger and Andritz Group is implementing a process with anaerobic digestion, biogas recovery, dehydration by centrifugation and finally thermal drying of sludge.

In parallel, technical assistance was entrusted to SOGREAH China.

In partnership with French sludge specialists, **IOWater** was chosen to participate in the analysis of this anaerobic digestion project.

IOWater, through targeted training activities, was in charge of preparing the teams of the SMSC (Shanghai Municipal Sewerage Company Ldt) for the start-up of 8 digesters, 44 m high and a useful volume of 12,400 m^3 each.

The first component of this assignment was carried out in October 2009 and will continue in 2010, thus allowing a step-by-step accompaniment to the commissioning of this unique facility worldwide.

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Digesters under construction

ASIA

China

EU-Yangtze Dialogue on River Basin Management in Shanghai


Participants in the EU - CWRC Dialogue

Organized by Changjiang (Yangtze) Water Resources Commission (CWRC), EU-China River Basin Management Program (RMBP) and WWF, a high-level dialogue on river basin management was held in Shanghai, China, on April 19, 2009, the day before the **Third Yangtze Forum,** which has been an important step in promoting integrated river basin management (IRBM) in the Yangtze River Basin and in China.

High-level experts and officials from EU and China attended the conference, coming from CWRC, Yellow River Conservancy Commission (YRCC), Pearl River Water Resources Commission, Taihu Lake Authority, International Commission for the Protection of the Danube River and Rhine River Commission.

During this Conference, **INBO** Secretary, Mr. Jean-Francois Donzier, Director General of **IOWater,** was invited to present a report on public participation within the implementation process of the European Water Framework Directive.

This Dialogue meeting emphasized the sharing of experience and lessons learned in promoting basin management both in the European Union and China.

A consensus was reached to declare that Integrated River Basin Management is a vital approach to ensure water security, ecosystem conservation and the sustainable economic and social development in the world, and that its implementation requires political will, high-level commitment, cooperation between economic sectors, participation from all stakeholders and support with a legal framework.

All the participants of the conference also appealed to strengthen international cooperation to promote River Basin Management and to address climate change.

www.euchinarivers.org

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4th International Yellow River Forum (IYRF)

The 4th International Yellow River Forum took place in Zhengzhou, China, from 20 to 23 October 2009, on the theme: "Ecological Civilization and River Ethics".

The Forum was organized around technical sessions on the following topics:

- Social and environmental impact of Climate Change; sustainable water resources management;
- Watershed rehabilitation;
- Scientific meanings of ecological civilization; Modern river basin management and restoration;
- River ethics and sanitation;
- Application of experiences and new technologies of Water Resources Management;
- Sediment management of high silt-laden rivers and reservoirs;
- Water right transfer, water safety, water environment, water market and water saving.

The International Network of Basin Organizations (INBO) was invited to organize an official "special session" on IWRM implementation in the River Basins of the world, with two topics:

- role of Regions/Provinces, Local Authorities and users in basin management;
- financing of the Basin Management Plans, of their Investment Plans and Programs of Measures.

At the closing ceremony of the Forum, **a partnership agreement was signed by Mr. Laszlo Kothay, World President of INBO, and Mr. Li Guoying, Commissioner of the Yellow River Conservancy Commission (YRCC) in the presence of Mr. Donzier, Director General of IOWater.**

The papers of the **"special INBO session"** and the photographs of the Forum are available on the website:

www.riob.org

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Huge participation in the 4th IYRF


Signing of the INBO / YRCC partnership agreement

EUROPE

7th "EUROPE-INBO 2009" Group Conference

19 - 21 AUGUST 2009 – STOCKHOLM - SWEDEN

EUROPE-INBO

The "EUROPE-INBO 2009" conference took place within the World Water Week of Stockholm and was part of the official events of the Swedish Presidency of the European Union.

Jointly organized by **INBO** and the Swedish District Authorities, it gathered 131 participants from 24 countries during 3 days, with the presence of the European Commission.

The conference was opened by Mr. Björn Sjöberg (Sweden), Director of the "Skagerrak and Kattegat" District Authority, and by Mr. Ovidiu Gabor (Romania), President of "EUROPE-INBO 2008".

The conference dealt with three topics: Management Plans, Climate Change and Programs of Measures.

The District Authorities are indeed currently facing the same stakes in all the European countries: implementing the very first cycle of the Management Plans and Programs of Measures which must be adopted before the end of the year and integrating climate change into water resources management.

In addition to the introductory speeches, a significant part of the program was dedicated to exchanges in round tables.

Management Plans and public consultation

Mr. Patrick Weingertner (Rhine-Meuse Water Agency, France) introduced the topic and presented the French participative approach and more particularly that used in his Basin, with the sending of one questionnaire to all the French families, accompanied by a communication campaign (local TV, radio, newspapers), local information meetings and a Website dedicated to the consultation.

The rate of reply however still remains relatively low and it is thus still necessary to increase awareness. The public consultation led however to modify the draft Management Plans and the results were communicated to the public.

Messrs. Kálmán Papp (Hungary), Håvard Hornnæs (Norway) and Anthony Mc Nally (Ireland) then presented the approach used in their basins.

131 participants coming from 24 countries

Work in round tables, reported by Mr. Bo Sundström, Sweden, underlined that public participation requires time and resources which should not be underestimated.

The French approach was often quoted as a very good practice but also as too expensive for some countries. Some limit themselves to the use of Internet to inform and consult the public, but the participants agreed to saying that this is not enough: it is necessary to use the local newspapers and to organize public debates.

For Transboundary International Districts, the added value of International Commissions was underlined. But it is still necessary to increase the coordination of the measures by the riparian countries and to agree on the same economic model (disproportionate costs, exemptions).

Climate change : challenges for water management

After a scientific introduction by Professor Sten Bergström (Swedish Meteorological and Hydrological Institute), three basin experiments were presented: Mrs. Wanda Zevenboom (Netherlands), Mr. Juan Jose Moragues (Spain) and Mr. Jean-Marie Wauthier (Wallonia, Belgium).

The round tables led to the following conclusions, reported by Mrs. Daniela Radulescu, Romania: the costs of the adaptation to climate change will be lower than those of a non-adaptation and it is important to act as soon as the Program of Measures 2009-2015; the marine Strategy, the Floods Directive and the Framework Directive would gain from better coordination especially between the responsible administrations and at the European level (CIS); expertise is lacking for taking into account climate change in planning; it is necessary to develop meteorological modeling, specify orientations and carry out case studies. Europe should be a leader in this approach.

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


Mrs. Ann-Louise Månsson,
Swedish Water Director,
new President of EUROPE-INBO 2009

Economic aspects of the Programs of Measures

Mrs. Maria Brättemark of the European Commission estimated that the economic analyses presented by the Member States remain rather disappointing: many draft management plans do not refer to the cost-effectiveness analysis and only 60% of them tackle the subject of pricing.

Three district experiments were presented by Mr. Peter Pollard (Scotland), Mr. Hans Christian Karsten (Denmark) and Mrs. Geraldine Aubert (France).

The discussions, reported by Mr. Mario Cerutti (Maas International Commission) underlined the difficulty in finding the best combination of measures, for non-point pollution in particular.

Exemptions are often needed and not only when there is disproportionate cost. The polluter-pays principle should be better applied in agriculture and hydropower. Measures should be initiated at governmental level.

Many Basin Organizations estimate that their financing instruments are not suitable and that it would be necessary to develop case studies on this matter on the European scale.

They fear that there is not sufficient stakeholders' appropriation at local level, that the effects of the measures are insufficient, that there are interferences with other European programs (renewable energies): it is necessary to find a good balance with the other environmental objectives and to put the Programs of Measures on the political agenda in order to solve controversies.

On the whole, 17 papers were presented.

The exchanges continued in a more informal way during a dinner-cruise in Stockholm archipelago, offered by the Swedish District Authorities.

During the closing ceremony, Romania transmitted the Presidency of "EUROPE-INBO" Group to Sweden for the year to come.

Mrs. Ann-Louise Månsson, Water Director of the Swedish Ministry of the Environment was handed the EUROPE-INBO symbol by Mr. Vasile Pintilie and Mr. Ovidiu Gabor, respectively Director General and Deputy Director General of Apele Romane (National Water Administration of Romania).

During the official conclusion of work, Mr. Jean-François Donzier, **INBO** Permanent Technical Secretary and Director General of **IOWater,** underlined the stakes of an effective implementation of the Directive for the European Basin Organizations. He reminded that huge work has been done since 2000, but important challenges are remaining to achieve the objectives of the Framework Directive.

110 River Basin Districts have being established across the European Union, Switzerland and Norway. 40 are Transboundary River Basin Districts which cover more than 60% of the territory of the EU, making international coordination one of the most significant issue and challenge for the WFD implementation.

To conclude his speech, he declared: "The gained experience shows that this new basin approach has real advantages! From now on, it is possible to progress towards better basin management in the European Union: we will to do it!

Mrs. Maria Brättemark reminded the expectations of the European Commission and Mrs. Ann-Louise Månsson, Swedish Water Director, presented the priorities of the Swedish Presidency of the European Union (climate, marine environment, biodiversity, eco-efficient economy, Strategy for the Baltic Sea).

The conclusions of the conference will be reported to the Strategic Coordination Group and to the European Water Directors.

The participants thanked our Swedish partners for their very good organization and their warm welcome.

This conference took place at a key moment of the development of Management Plans by the European Basin Organizations.

You can find all the documents on INBO website:

www.inbo-news.org

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Mrs. Maria Brättemark
of the European Commission

EUROPE

The European network of managers of Integrated Water Resources Management research programs

IWRM-Net is an ERA-Net (European Research Area) project aiming at undertaking joint transnational research programs related to Integrated Water Resources Management.

IWRM-Net is financed by the European Commission for a 5-year period (2006-2010).

Coordinated by the International Office for Water, IWRM-Net is now made up of 20 research program managers from 14 European Union Member States.

The ambition of this project is to set up new research programs, financed by the network members and meeting the national and regional challenges resulting from the evolution of the European context after the adoption of the Water Framework Directive.

The promotion of research, as a scientific support to the implementation of public water policies, requires:

- **The involvement of the various stakeholders** (decision-makers, managers, researchers, users, etc.) throughout the process, for identifying the scientific contents of the research activities initiated by the network;
- **Access to the information** on ongoing or recently completed programs.

This is why, during the first 18 months, the **IWRM-Net** partners started:

- **assessing the needs for water-related research,** with a short-term prospect, based on a scientific review and workshops inviting the various stakeholders to express their needs;
- **facilitating access to the information and analyzing existing programs;**
- **drafting procedures for financing,** launching and following-up the research activities of the network.

2008: launching of the first IWRM-Net program

The Network members participated in a meeting, held in Vienna on 8 and 9 October 2007, on the financing of the first **IWRM-Net** research program, divided in two parts:

- **Pressures/hydrological and morphological impacts,**
- **Water governance.**

The objectives of this meeting were to validate the scientific contents of the program as well as the procedures for its financing, the selection and follow-up of the research projects.

The program was launched in January 2008.

The donors of the first joint program met in Berlin in May 2008 to select research projects among the submitted seventeen.

Two projects called **FORECASTER** (Facilitating the application of the Case STudies on Ecological Responses to hydro-morphological Output from Research degradation and rehabilitation) and **RIPFLOW** (Riparian vegetation modeling for the assessment of environmental flow regimes and climate change impacts within the WFD) were retained for the topic "Hydro-morphological pressures/impacts on good ecological status" and a project named **I-FIVE** (Innovative Instruments and Institutions in Implementing the Water Framework Directive) was adopted for the topic "Water Governance". Research began during the last quarter of 2008.

IWRM-Net: a network which sees far…

Using this first experiment, **IWRM-Net** prepared its second call for projects for 2009.

Again, the method of identifying research needs was based on a series of regional workshops through Europe. The workshops aimed at drawing up the list of research priorities for each regional area considered:

- Valencia, Spain in June 2008, for the Mediterranean area;
- Sibiu, Romania, in October 2008. This workshop joined the General Assembly of the **EUROPE-INBO** Group of European Basin Organizations for WFD implementation;
- Stockholm, Sweden on 18 and 19 November 2008, for the Baltic countries;

Within **IWRM-Net,** the French Ministry of Ecology also organized a conference in May 2008 on the prospective stakes related to water in Europe.

The progress report of **IWRM-Net** activities and the program of the second call for projects were presented at **the international conference, which took place on 10 - 11 February 2009 in Brussels.**

A work for convergence of short and long-term topics for drawing up the 2nd joint research program was finalized in a meeting of the donors in May 2009.

The second call for project was launched in Autumn 2009

Simultaneously to these activities, **IOWater initiated a cycle of meetings with the other ERA-Nets dealing with water** (CRUE, SPLASH, SNOWMAN, CIRCLE) in order to plan a common strategy for the sustainability of the various networks after 2010.

Please join the IWRM-Net community!

A knowledge and information management tool for water-related research programs has been available since October 2007.

It is possible to join the **IWRM-Net** community by making yourself known on our website:

www.iwrm-net.eu

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EUROPE

"ISONITRATE"

Characterization of the pollution sources: towards isotopes

In the specific context where pollution by nitrates is considered as one of the main reasons for not achieving the objectives of Good Status before 2015 in many European regions, how to help the water managers in the implementation of effective measures at reasonable cost?

The international workshop, organized by the **International Office for Water** and the partners of the **LIFE ISONITRATE** project, gave tangible answers to this question on 10 and 11 December 2009 at the UNESCO in Paris.

The ISONITRATE workshop at the UNESCO

The **ISONITRATE** Project, coordinated by BRGM aimed to prove the added value of the isotopic method for the characterization of the sources of pollution by nitrates: four case studies were carried out, each presenting different characteristics to offer a representative panel of the possible uses of the method.

During the workshop, the scientific state-of-the-art of the usual and innovative approaches to the nitrates follow-up was drawn up, a round table on the alternative methods of management of pollution by nitrates was facilitated by Jeroen Casear of the European Commission.

More than a mere information feedback on a nth European project, the workshop was conceived and arranged so that the participants could take part in the discussions, exchange their viewpoints and experiments.

Further to the topic of pollution by nitrates and the prospects for alternative management proposed by the isotopes, the conference contributed in the removal of barriers between the water stakeholders and in the development of an interface between science and policy.

More information on the conference:
conf_isonitrate@oieau.fr
Tel.: +33 (0) 5 55 11 47 47)

isonitrate.brgm.fr

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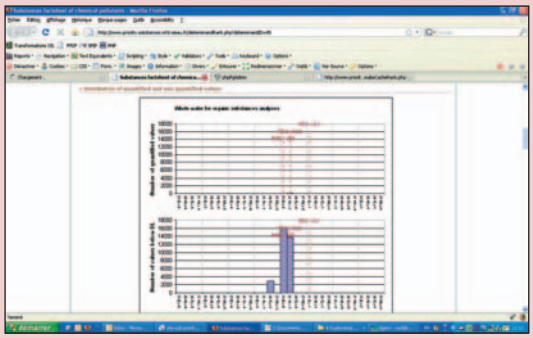
Chemical pollution of European waters

Data for more than 1,100 substances

IOWater, associated with **INERIS,** has been retained by the DG Environment of the **European Commission** for a 4-year technical assistance to the application of the Water Framework Directive (WFD) to chemical pollutants. This assignment must lead to a revision of the list of the WFD **"priority substances"** and set the concentrations to be complied with in the rivers.



In order to define the revised list of substances, the choice was made of a combined approach using the data of the environmental follow-up, and a modeling led by the Joint Research Center (JRC).

To be able to use the follow-up data, it was necessary to collect the results available in each country.

IOWater was in charge of the whole collection chain, from the definition of what must be collected up to the creation of the central base which gathers the data and makes the calculations necessary for defining a revised list.

Only the recent data on concentrations in surface water of all the potentially dangerous chemical substances available in the 27 Member States of the European Union and associated countries were retained, with information such as the localization of the station or the determination limit of the analysis.

Until now, European collection had gathered data describing the measurement networks or summary reports, never any individual result of analysis.

For the first time in Europe, 15 million analyses on 1,100 substances sought in surface water of 28 European countries were gathered: a database, unique in its kind, was thus created!

These data allowed defining a first list of substances to be priority treated or eliminated to protect water and users. So that each country can check the relevance of the list of the selected substances, a website was created for the national Authorities. It includes a synthetic sheet for each substance with statistical elements on the number of analyses and their spatial and temporal distribution and a map with the localization of the measuring stations.

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Bulgaria

An institutional twinning in Bulgaria: Programs of Measures and economic instruments of the WFD

The twinning agreement signed by the Bulgarian Ministry of Water and the Environment and the French Ministry of Ecology (MEEDDM) started in March 2009.

Seconded for 18 months by the **Artois-Picardy French Water Agency,** Arnaud Courtecuisse took his position of resident adviser of the twinning in Sofia, at the Bulgarian Water Directorate.

This project is led by **IOWater,** mandated by the **"MEEDDM"** for following up the twinning arrangements in the field of water.

A launching phase to adapt the work plan to the local context

The beginning of the project was marked by exchanges to take into account the work started by the Bulgarian Basin Directorates on the development of Programs of Measures; indeed to be in conformity with the WFD timetable, a first version of these documents had been presented for public consultation at the end of 2008.

A kick-off seminar for the project was held on 7 April 2009; it was opened by Mrs. Lubka Katchakova, Bulgarian Vice-Minister in charge of water, Mr. Etienne de Poncins, French Ambassador, and Mr. Jean-Paul Rivaud representing the French Water and Biodiversity Directorate.

Mrs. Mongellaz, project leader, as well as experts of the **Rhone-Mediterranean and Corsica, Rhine-Meuse French Water Agencies and of IOWater** also participated in this seminar.

The kick-off seminar of the project

Assistance to the Bulgarian Basin Directorates for the preparation of the Programs of Measures and Management Plans

Mrs. Lubka Katchakova and Messr. Poncins and Rivaud

The important capacity building program for the Bulgarian Water Management Authorities began with the creation of the Technical Coordination Group. Composed of experts from the Ministry and each Bulgarian Basin Directorate, this group participates in all the training activities; it is in charge of coordinating the project activities with work for drafting the Basin Management Plans.

A delegation of 12 Bulgarian executives of the Ministry and of the 4 Basin Directorates was received in Lyons in July 2009.

The Rhone-Mediterranean & Corsica French Water Agency organized meetings for experience sharing on the preparation of the Programs of Measures and water tax systems, as well as visits in the field. The Bulgarian delegation also particularly appreciated being invited to a session of the Rhone Basin Committee on 2 July 2009.

Several assignments were carried out by French experts of the Water Agencies (Artois-Picardy, Rhone-Mediterranean & Corsica, Rhine-Meuse and Seine-Normandy), BRGM and IOWater for:

- jointly analyzing with the Bulgarian experts the progress report on the Programs of Measures of the 4 basins and identifying additional needs;
- reminding the expectations of the European Commission as regards reporting;
- presenting the methods that can be used for estimating the effectiveness of measures, identifying and justifying exemptions, mitigating the lack of data;
- refocusing the work to be carried out on the priorities.

Development of economic instruments

The second objective of the project aims at helping with the revision of the water tax calculation system, to make it coherent with the recent modifications of the Bulgarian Water Law.

The interventions of French experts (François Guerber of the Rhone-Mediterranean and Corsica Agency, Delphine Passé of the Artois-Picardy Agency and Paul Haener of IOWater) dealt with the definition of the taxes (pollution parameters, rate.), and with the improvement of the information system linked to the recovery of theses taxes.

Today these taxes are recovered by the Basin Directorates and transferred to the National Environment Fund; the use of the product of these taxes for financing the Programs of Measures of the European Water Framework Directive (WFD) is also at the core of the discussions.

Mrs. Lubka Katchakova, who left her functions after ministerial reorganization, played an important part throughout the implementation of this French-Bulgarian twinning.

The Bulgarian Project Leader is now the Director of the Water Management Department, Mrs. Zvetanka Dimitrova.

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UNECE:
United Nations Convention of 1992

Management of data on transboundary water resources

With more than 50% of their territory covered by transboundary basins, the countries of Eastern Europe, Caucasus and Central Asia strongly depend on shared water resources: it is thus of prime importance to develop effective policies in these basins for managing these resources while respecting natural water balances, more especially as regards climate change.

The implementation of these policies implies above all having a complete and detailed assessment of the water resources, based on homogeneous and consistent information.

However, apart from some specific cases, access to the information necessary for water resources management remains often problematic in the region as in many other areas of the World.

In such a context, **the Secretariat of the "UN Convention on Protection and Use of Transboundary Rivers and International Lakes",** which carries out water resources assessments in this area, **IWAC** (International Water Assessment Center) which is a resource center for the Secretariat) and **IOWater** drafted a project identification sheet which was validated on 3rd July 2009 by the Steering Committee of the "FFEM" (French Fund for Global Environment).

The actions proposed in this project aim at building the capacities for the identification of existing data and at developing the production and sharing of homogeneous and consistent information necessary for water resources management at the national and local level and for regional assessments.

A pilot project could be implemented in 2010 in 2 pilot transboundary basins. It will include:

- A component aiming at building the data administration and sharing capacities of the national and local Authorities involved in each of the 2 basins, by using methodologies that can be replicated in other transboundary basins of the region.
- Regional actions aiming at using the results obtained in these 2 pilot basins and at disseminating the defined methodologies in the other transboundary basins and countries of the region.

For each pilot basin, the project proposes:

- Characterization of the existing data sources with joint production of catalogues;
- Development of "Water Data Master Plans" at basin level;
- Recommendations on rules for sharing data among the competent authorities;
- Specification of the needs for strengthening the data producers and managers' abilities;
- Capacity building for the production of synthetic information (maps, indicators) on priority topics.

www.unece.org

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UNECE

Localization of the basins pre-selected in Countries of Eastern Europe, Caucasus and Central Asia

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MIDDLE EAST

Saudi Arabia

Creation of a Training Center in Jeddah


Architectural project of the JCBU Training Center

Owing to its quick economic development and high demographic growth, the Kingdom of Saudi Arabia is facing major challenges as regards the mobilization of water resources and meeting of needs.

The Ministry of Water and Electricity (MoWE) thus formulated a new strategy for the water sector which mainly resulted in:

- The creation of the National Water Company (NWC) in charge of managing and regulating the water sector;
- The development of public-private partnerships (PPP) in the form of a Management Contract, by calling upon specialized operators to deal with the water supply and sanitation of the big cities of the Kingdom.

In such a new situation, the management of the water supply and sanitation utility of the city of Jeddah, economic capital of the Kingdom, was entrusted to the SUEZ Environment Group and to its local partner ACWA Power Development within the creation of the Jeddah City Business Unit (JCBU-Water Services).

The aim of this 7-year contract is to quickly improve drinking water supply and wastewater collection and treatment for the 3 million inhabitants of the city.

This particularly means:

- Building the current production capacities with sea water desalination plants;
- Developing the drinking water supply systems, by improving the effectiveness of their operation;
- Increasing the capacities of the wastewater collection and conveyance systems;
- Improving the quality of the water supply for achieving a 24 hours a day service.

Two major objectives were further assigned to the operator of this contract:

- Significant improvement of the financial balance of this public water supply and sanitation utility, by better management of the clients' accounts in particular;
- The implementation of a strategy for improving the quality of the service provided to the customers, thanks, in particular, to the creation of reception points and the development of call centers.

For achieving these objectives, the contract also plans professional capacity building of the personnel, based on the creation of a Water Training Center.

In such a context, the Suez-Environment/ACWA Power Development Group called upon the International Office for Water for:

- Analyzing the needs for staff training;
- Formulating a priority training plan for 2009-2010;
- Designing and developing 40 "ready-to-use" training kits specifically adapted to the local situation,
- Defining the project for the creation of the Training Center in Jeddah:
  - assistance to the design and development of the architectural project,
  - definition of the training units and practical workshops,
  - estimate of the budgets required for investment and project planning.

Handbooks and educational tools are written in Arabic. ✔

Iraq

Conference of Suleymaniye

At the initiative of the Iraqi Central Minister for Water Resources, a "scientific Conference on water resources and their management" took place, from 19 to 21 April 2009, in Suleymaniye in the Autonomous Province of Kurdistan.

It was the occasion to gather, for the first time in Iraq, all the water stakeholders and to discuss about the multiple difficulties which affect this field. Iraq must face a severe water deficit, in a complex regional context.

About 200 participants attended, including the Minister for Water Resources, Dr. Abdul Latif Rashid, and the Minister for Science and Technology, Mr. Raid Jahid Fahmi.

The Ministers for the Environment and Agriculture of Kurdistan were also present, as well as the Directors General of the water-related technical Ministries from the Central Government and the Autonomous Province.

France was represented by Mrs. Brigitte Bouvet from the French Embassy in Iraq, by Mr. Pierre Chantrel, Deputy to the Director General of the **International Office for Water** and by Mr. Patrice Berly, Director of International Development at the Canal de Provence Company.

All the experts agreed that the country had to adopt a strategy based on integrated water management at the level of river basins.

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Lebanon

2nd Beirut Water Week 4-7 February 2009

The 2nd Beirut Water Week was organized by the Directorate General of Hydraulic and Electric Resources in cooperation with the Global Water Partnership-Mediterranean (GWP-Med).

This 2nd Beirut Water Week was the opportunity for:

- discussions on priority themes of the Mediterranean water agenda, including water governance, climate change adaptation, water demand management, water financing, education and transboundary water resources management;
- elaboration of the '"Mediterranean Message to the 5th World Water Forum", which was presented in Istanbul, on 19 March 2009.
- presentation of the outcomes of the ongoing MED EUWI activities in Lebanon (Phase I).

The Water Week 2009 gathered 200 participants, including Mr. Walter Mazzitti, EMWIS President, who chaired a round table on the financing of water management in the Mediterranean area, and Mr. Jean-François Donzier, Director General of **IOWater,** who presented a progress report on transboundary river and aquifer management over the world. ✔

Audience of the President of the Lebanese Republic to the participants of the 2nd Beirut Water Week

Malta

Twinning on the Water Framework Directive

Malta has to provide, like the other Member States of the European Union, its first Management Plan under the Water Framework Directive at the beginning of 2010.

Under the aegis of the French Ministry of Ecology, the International Office for Water and the French Rhone-Mediterranean Corsica, Rhine-Meuse, Loire-Brittany and Adour-Garonne Water Agencies and also the French Water Agencies Bureau in Brussels, have conducted, with European financing, a 6-month Twinning to prepare the documents necessary for the Management Plan of Malta.

This twinning benefited to the two competent Maltese Authorities: the Malta Resources Authority (MRA) for groundwater and the Malta Environment and Planning Authority (MEPA) for surface water.

Close work with these two institutions has been carried out to produce a common Management Plan which is dealing with all issues of the Directive, the drafting of a strategy for the participation of the public and partners, and the creation of a website.

Two study visits of Maltese experts in France were organized with the French Rhone-Mediterranean&Corsica Water Agency to illustrate the proposed solutions in the management of groundwater and coastal waters. All the Maltese personnel have been trained in using the tools and instruments produced during the twinning.

The implementation of the Directive seems thus well started in Malta.

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Yemen

Two training courses

A group of trainees

The French National Water Training Center ("FNWTC") carried out two training courses in Yemen on the building site of a gas terminal.

They were ordered by the Nantes Water Company for the personnel of YLNG (Yemen Liquefied Natural Gas) following the supply of a small wastewater treatment plant with rotating biological contactor.

The courses in English aimed at training the future operators on the operation and maintenance of this small treatment unit (400 population equivalents) which will treat domestic wastewater before its discharge into the sea.

The industrial effluents will be treated by several physico-chemical plants.

Each group was composed of about fifteen agents, most of them Yemenites technicians or engineers in various fields and pertaining to YLNG, future operator of the complex.

Balhaf, a very small fishermen's village, is located on the southern coast at about 150km west of Al Mukalla on the Gulf of Aden.

A pipeline of 320km long will convey methane gas to the terminal where it will be liquefied and stored before loading on LNG tankers.

The first ship loadings are planned for the beginning of 2010.

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River Basin Management and Coopera

7th General Assembly of the Mediterranean Network of Basin Organizations (MENBO)

Beirut - Lebanon – 6 - 9 October 2009

110 delegates coming from 26 countries met in Beirut (Lebanon), on the occasion of the **International Seminar on River Basin Management and Cooperation in the Euro-Mediterranean Region and the 7th General Assembly of the Mediterranean Network of Basin Organizations (MENBO),** to define the most suitable actions needed for achieving the objectives of integrated and participatory management of inland surface and ground water resources and of related coastal zones in the Mediterranean area.

This event took place at the invitation of the Lebanese Ministry of Energy and Water (Directorate General for Hydraulic and Electric Resources) and of the Litani River Authority (LRA).

Mr. Fadi Comair, General Director for Water, Energy and Electric Resources (Lebanon), was elected new President of **MENBO.** The General Assembly expressed its high gratitude to Mr. Walter Mazzitti (Italy), **MENBO** President 2007-2009, for his very successful Presidency of the network.

Mr. Laszlo Kothay, World President of **INBO,** concluded the work with Mr. Selim Catafago, President of LRA.

MENBO has now 34 members from 17 different Mediterranean countries.

The Seminar was structured around three main thematic round tables: Water and Agriculture in the Management Plans of the Mediterranean Basin, Adaptation to Climate Change and Water Saving and Usefulness of the Tools of the WFD in Mediterranean non-EU Countries.

The Presidents Comair and Mazzitti with MENBO Secretariat

During this Seminar, the conclusions of the Euro-Mediterranean Ministerial Conference on Water (December 2008, Dead Sea, Jordan) were recalled as well as the undergoing process of preparation of a Long Term Strategy for Water in the Mediterranean, that should be approved on the occasion of the next Euro-Mediterranean Ministerial Conference on Water (April 2010 in Barcelona, Spain).

The delegates of the General Assembly requested the former Italian President and the new Lebanese President of **MENBO,** with the support of the Spanish Permanent Technical Secretariat, to report **"the Declaration of Beirut"** to the Water Experts Group of the Union for the Mediterranean, in charge of elaborating the Strategy for Water in the Mediterranean.

DECLARATION OF BEIRUT

The delegates reaffirmed that freshwater resources are limited and threatened all over the Mediterranean and that their better governance is one of the main keys to sustainable development.

The Millennium Goals for drinking water supply and sanitation can only be achieved with significant and simultaneous progress made to introduce Integrated Water Resources Management (IWRM), organized on the relevant scale of river basins.

In particular, more cooperation agreements have to be initiated, signed or reinforced between the riparian countries of transboundary river basins.

When they are in place, International Commissions or similar organizations allow better dialogue, the exchange of useful information, the solving of conflicts and the sharing of benefits from better joint management and the strengthening of transboundary cooperation.

Water and agriculture in the Management Plans of the Mediterranean basins

Mediterranean agriculture is subject to strong constraints which are not limited to the arid and semi-arid areas of the Southern and Eastern Countries. Low availability of water resources, arable land loss and decrease in soil fertility compromise the capacities of this agriculture to meet the stakes of food security and quick demographic growth.

The Mediterranean basin is also one of the areas most vulnerable to the announced impacts of climate change.

Agriculture will be one of the most affected economic sectors. It is thus imperative to integrate rain-fed and irrigated agriculture in the Management Plans of the Mediterranean basins. It is necessary to produce better and more while using less water.

Saving water

It is necessary to identify less water consuming solutions: water demand management, better efficiency, mobilization of non-conventional water and wastewater reuse are priorities.

Synergies between water and energy are to be promoted.

INBO recommends creating a system for modernizing agricultural practices allowing water saving by sound dissemination of innovations, thanks to education, training, research and development.

Improving water governance and financing

Transfer of the management of irrigated lands to irrigators' Groups allows improving irrigation and drainage facilities mainly their operation & maintenance functions, as well as adapting the allocated water to the real needs.

It is necessary to support the development of participative methods for dialogue and multiple uses of water, the reinforcement of the management bodies for collective irrigation systems and the organization of farmers in users association.

tion in the Euro-Mediterranean Region


MENBO Presidency handing over from Italy to Lebanon

It is imperative to create national and local financing and equalization mechanisms recognizing the principle of common cause between the water users in each basin. It is also as important to facilitate the farmers' access to micro-financing.

Protecting natural resources: water, lands and ecosystems

INBO recommends that agricultural practices be adapted to limit pollution hazards in fertilizing and in using phytosanitary products. In the Mediterranean area, arable lands are limited and have to be maintained.

Adapting water management to climate change

It is now clear that climate change will have effects such as increase in the frequency and intensity of extreme hydrological phenomena (floods, drought, …), with strong consequences in the Mediterranean.


110 participants coming from 26 countries

As the Mediterranean region is one of the areas most vulnerable, it is essential to adapt water resources management policies and to quickly assess the hydrological and agronomic consequences of this change, according to various scenarios.

Flood/drought risk Management Plans have to be elaborated in the basins, to anticipate climate change and integrate coordinated measures in River Basin Management Plans.

Thinking at all levels about risk management should be launched.

Usefulness of the tools of the WFD in Mediterranean Non EU-Countries

For the first time in history, 29 countries in Europe were committed to jointly manage their water resources at the level of national or transboundary basins.

The Water Framework Directive (WFD) can inspire other areas in the world as it introduces the principles of good governance that can be applied everywhere.

It cannot be exported as it is, but its approach, principles and tools are transferable: characterization of initial status and development of monitoring, formulation of management and action plans at basin level, definition of indicators and common reference frames for data management, introduction of the cost recovery principle, participation of the interested parties and of the public…

In the Mediterranean Region, additional human and financial resources will be necessary for implementing the WFD principles in the pilot basins.

Knowledge of the resource and investments: two priorities

The initiative of a group of Mediterranean Countries to **strengthen their National Water Information Systems,** harmonized at regional level for supporting the implementation of the Strategy for Water in the Mediterranean, meets an overall need of the decision makers.

The investment needs of the water sector are significant.

Financing of the sector will require the right mix of taxes, tariffs and transfers, and a persistent effort for sustainable financing strategies.

Realistic cost recovery is to be looked for. Tariffs should be differentiated reflecting local conditions and affordability considerations.

Economic, fiscal as well as legal issues related to non-conventional water resources should be addressed in a systematic and forward looking way.

Increasing action and supporting the creation of Basin Organizations in the Mediterranean area!

The delegates requested that Official bi or multilateral Development Aid and the water-related programs of International Cooperation Organizations should be refocused to support projects aiming at implementing real concerted actions, which meet the above principles, in each basin, and experimentations, evaluations and exchanges of know-how in these areas.

They also underlined the advantages of twinning agreements between Mediterranean and European Basin Organizations as an effective means for disseminating gained field experience.

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MENBO

INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS

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EMWIS

SEMIDE
EMWIS

The Mediterranean countries organize access to water information

Thanks to the support reiterated in 2009 by the DG Environment of the European Commission, two series of actions were carried out by **EMWIS - Euro-Mediterranean Water Information System -** to help the Mediterranean Partner Countries organize their water data to facilitate their access and to acquire the knowledge necessary for good management.

This project is based on the good practices resulting from the Water Information System for Europe (WISE).

First of all a generic model at three levels (entity, variables, attributes) was defined to represent and manage information on water. This model supplements the technical recommendations of the **WISE** system to guarantee communication possibilities with the **National Information Systems** and the comparison of data.

A drafted technical guidebook based on this model was presented to **EMWIS National Focal Points** and is available for the countries to build their own system.

A prototype catalogue of the sources of water information in the Mediterranean area was then implemented after analysis of the existing experiments, of the tools available in open source software, of the requirements of the European **INSPIRE** Directive on spatial information and of the **WISE** system.

This catalogue is a kind of inventory which allows easy search by key words or on a map and gives access to descriptive sheets of the data sources (maps, data bases, reports, online services), and even direct access to the data when the owner allows it.

The use of international standards and common rules by all the interested parties will allow an automatic collection of these sheets.

More recently, a pilot project for harmonizing data for the implementation of the Tunisian National Water Information System (SINEAU) began in June 2009. It is based on the System of Economic and Environmental Accounting for Water **-SEEAW-** defined by the United Nations, and on the work undertaken in this field in the **MEDTSAT II** project with the Statistic Institutes of each country.

This action led in particular to an agreement between the Tunisian stakeholders for data sharing which is one of the conditions of the € 1.973 million grant from the African Water Facility for the system in 2010.

Workshop in Beirut in October 2009

A second pilot project should start in Jordan in the 1st half of 2010. National workshops on the progress of the **Water Information Systems** will be organized in six Mediterranean countries, they will allow presenting achievements and the tools developed at the regional level.

Two working groups, led by **EMWIS** within the **EU Water Initiative in the Mediterranean and Water Framework Directive joint process (MED-EUWI),** are sharing experience and gathering information on:

- **Water monitoring networks and programs,** for which a survey-based inventory was prepared and discussed during a workshop organized as a side event of **MENBO** General Assembly in Beirut in October 2009. This inventory contributes to the work of the monitoring sub-group of Horizon 2020 Initiative aiming at removing pollution in the Mediterranean Sea and of the experts' group on water of the **Union for the Mediterranean;**
- **Drought and water scarcity,** for which a workshop is organized in February 2010 in Spain to evaluate the indicators used by the Partner Countries and those proposed at the European level and to analyze case studies on the mitigation measures planned by the countries. This work will result in a regional synthesis in 2010.

These actions will be supplemented in 2010 by the **updating of the Water Thesaurus accessible on line in 7 languages (English, Arabic, Spanish, French, Italian, Greek and Turkish) on EMWIS website** in order to take into consideration the vocabulary specific to water accounts, the Horizon 2020 Initiative and some concepts suitable for water management in Arab countries.

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www.emwis.net

THE MEDITERRANEAN

MELIA

Synthesis of the Mediterranean water policies

MELIA (Mediterranean Dialogue on Integrated Water Management) is a program supported by the European Union within its 6th FPRD.

Started in 2006 for 4 years, it gathers 45 partners (Public Authorities, International Organizations, NGOs, Universities, etc.) from 16 Member and non-Member States of the European Union.

The project aims at evaluating the methods for Integrated Water Resources Management (IWRM) in the Mediterranean countries, using the regulations of the European Water Framework Directive as working framework.

Within "the Mediterranean Water Policies" topic, led by **IOWater,** the project allowed identifying the main problems in the region: pricing policies, groundwater management, water scarcity or development of non-conventional water resources…

IOWater then identified good practices and exemplary experiments. They were summarized in the document: "conceptual analysis of the water policies in the Mediterranean area".

MELIA will lead to the formulation of recommendations to support the application of the principles of the Water Framework Directive in the Mediterranean area.

www.meliaproject.eu

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Egypt

Twinning on water quality: Management Plan for Lake Nasser

The European twinning on water quality management in Egypt, led by Italy and developed with the Egyptian Ministry of Water Resources and Irrigation, started in 2009.

France is responsible for the IWRM component of this 2-year project.

This action includes the implementation by **IOWater** of a test for the formulation of a management plan for Lake Nasser and an institutional assistance for the control of accidental pollution carried out by **CEDRE.**

Lake Nasser, created by the construction of Aswan Dam between 1958 and 1970, is a fragile environment and an increasingly strategic water resource for Egypt due to its fast population growth that now exceeds 81 million inhabitants.


The French-Egyptian project team in front of Lake Nasser

From a qualitative view point, the lake water remains today of good quality because the development of activities was strictly limited on its banks. However, a question is increasingly arising, that of development and regional planning in the surroundings of the lake with tourism as a promising line of activity.

The stakes of integrated management are thus focused on the future with an underlying question: what activities can be compatible with lake quality conservation and with which supporting and control measures?

The twinning thus helps the Egyptian Authorities in their efforts and thinking related to knowledge of water quality in the lake (monitoring), the organization of the planning process and its corollaries related to data management and the organization of a dialogue between the public services.

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INECO

Analyses and proposals for better water management

The INECO Project (INstitutional and ECOnomic Instruments for Sustainable Water Management in the Mediterranean Region) was completed by a feedback conference in June 2009 in Nicosia (Cyprus).

IOWater carried out an inventory of the best practices and institutional and economic instruments, then sought to see how to adapt them to the Southern Mediterranean countries. It then organized national workshops to analyze the water-related problems and summarized their results.

INECO allowed developing very thorough case studies on the problems of water resources management in different situations:

- Tunisia: groundwater and salinization;
- Cyprus: depletion of an aquifer and sea water intrusion;
- Egypt: water quality in the area of the Bahr Basandeila canal;
- Lebanon: the Damour River Basin;
- Syria: pollution in the Barada River Basin (Greater Damascus Area);
- Morocco: the Oum er Rbia River Basin;
- Algeria: the Seybouse River Basin.

In each case, a detailed analysis was made of the problems. Various solutions were conceived and studied in order to determine their feasibility or adaptability to the local situation.

A toolbox was developed so that the methodology used in the **INECO** project (Web Tool, details of the methodology used…) can be transferred to stakeholders in areas facing similar problems. Various publications are now planned for this work to be used.

http://environ.chemeng.ntua.gr/ineco

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INECO

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Algeria

Training needs of the staff of the water sector


Training course on the operation of wastewater treatment plants

For better facing the major challenges as regards the mobilization of water resources to meet an increasing demand resulting from the demographic growth and economic and social development of the country, the **Algerian Ministry of Water Resources (MRE)** developed an ambitious strategy for the modernization of the water sector, including, in particular, a significant component for building the staff's professional abilities in the sector.

In order to improve the effectiveness of its training system, the **"MRE"** launched a study in 2008 on the 3 following components:

- Assessment of the staff's training needs in the water sector,
- Analysis of the current offer of the national training system,
- Drafting of the terms of reference for a multi-year training plan.

This study, entrusted to the International Office for Water, was supported by the French Development Agency (AFD).

In May 2009, a feedback Workshop allowed presenting a set of recommendations for revising and modernizing the strategy on its human resources management.

Six large actions were identified:

❶ Drafting of a "Professional Training Charter", specifying the new orientations for staff training in the water sector and specifying the means for its recognition (qualification, certification or enabling).

❷ Reorganization of the **National Institute for Infrastructure Development (INPE),** with the modification of its statutes and the creation of an office in Algiers. It was proposed that "INPE" takes charge of a **"Professional Water Information System"** focusing its training offer on Management and Work Control. This reorganization would be consolidated by the creation of partnerships for excellence with higher education institutes.

❸ Increasing the means in educational engineering to better structure and build the capacities of the sector in human resources management.

❹ Implementation of a large training of trainers program, to create a "pool" of permanent trainers in the various fields required by the strategy for modernization of the sector (work control, project management, management of services, etc).

❺ Formulation of a multi-year program of technical assistance to the "INPE" in order to support its new assignments.

❻ Modernization of HRD communication and of continuing training in the Ministry: creation of websites on the training activities of the sector, development of new training methods (e-learning - e-training), electronic catalogue, etc.

On the basis of these proposals, the **"MRE"** launched a survey, during the summer of 2009, on the measures needed for creating a School on the Management of Public Water and Sanitation Utilities.

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Training course on water analysis

Tunisia

Decentralized cooperation of the Limousin Region in Nabeul

To support decentralized cooperation projects between the Limousin Region and the Nabeul Governorate, the **International Office for Water** carried out a feasibility study of a pilot wastewater treatment plant using "Filters Planted with Reeds".

This study aimed at:

- identifying a suited site,
- assessing the necessary human resources (building companies, engineering assessment practices…),
- identifying and assessing the available and necessary technical resources (equipment, choice of perennial materials, local and adapted plants…),
- quantifying the financial needs,
- making sure of long-term operation.

The project was launched during the visit of a delegation of elected officials led by Mr. Jean-Paul Denanot, President of the Limousin Regional Council, in October 2008 and the study was submitted in June 2009.

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Meeting for launching the study

Seminar of the African Water Facility

Transboundary Water Management - Tunis - 26 – 30 October 2009

From 26 to 30 October 2009 in Tunis, Mr. Daniel Valensuela, Deputy to the Director of the **International Office for Water,** facilitated a seminar addressed to African and Mediterranean executives of Basin Organizations and Ministries for Water and organized by the Multilateral Institute of Africa, the African Water Facility and the African Development Bank (AfDB).

It aimed to build the capacities of the executives of the national and regional Administrations and Basin Organizations as regards Transboundary Water Resources Management (TWRM).

The participants were received by the Directors of the AWI, AWF and AfDB

Africa, from the Mediterranean to the Cape of Good Hope, is indeed characterized by a great number of transboundary basins of aquifers and surface water; almost all the countries are sharing part of their water resources with at least a nearby country. Most countries share transboundary river basins or aquifers: the aquifers of the Sahara and Nubia involve all the North African Countries, the Nile or Congo River Basin, for example, involves ten countries, while Guinea shares twelve rivers basins with its neighbors.

Transboundary Water Resources Management seems one of the keys to improve governance of water resources on the continent and the conditions for the populations to have access to water for meeting both human needs and sustainable economic development.

Gathering about twenty countries and regional organizations such as the Economic Commission for the Central African States or the Sahara and Sahel Observatory, and several representatives of Basin Organizations (OMVS, OMVG, NBA, VBA, CICOS, LCBC, NBI), the seminar allowed broad experience sharing on topics such as: harmonization and coordination of national, regional and basin policies; sharing of information on a transboundary scale; role of the civil society and water stakeholders in TWRM; joint management of surface and ground water; impact of climate change on water resources and adaptations to be considered.

Many speeches led to discussions and group work during the five days of the seminar, which was closed by the speeches of Jean-François Donzier, **INBO** Secretary and Director General of **IOWater,** on the management of transboundary water throughout the world, and of Jean-Michel Ossete of the African Water Facility on the opportunities for financing TWRM.

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Morocco

ONEP: Training in automatism and remote management

IOWater gained the tender for carrying out the Training Plan on "Automatism, Remote Management and Instrumentation" of the **National Office for Drinking Water Supply (ONEP)** in Morocco with KFW financing. It was associated with the Moroccan SOHIME company.

Owing to many ongoing investments in the sector of automatism, remote management and instrumentation, there are significant needs for upgrading abilities within this development in Morocco.

For meeting them, the training of the 60 executives and high-level technicians of **"ONEP"** in charge of these activities aims at:

- mastering these technologies,
- drafting specifications for the investments to be planned on automatism, instrumentation and remote management,
- operating these various devices.

Workshop for practical work at ONEP

In 2009 and 2010, **IOWater** will carry out 30 training courses and 150 training days on this topic both in Morocco and in France.

IOWater will participate in the selection of the 10 future trainers of "ONEP" Training Center on these topics.

In order to reinforce the practical aspect of these training courses and professional practices, **IOWater** developed educational units in Morocco to put the trainees in real working conditions.

Training courses are planned in France for the operators in the form of technical visits, at the big water companies, and public water supply and production enterprises and of complementary technical sessions for the 10 future "ONEP" trainers.

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Training for the Moroccan public water companies

In partnership with the accounting firm CHH of Casablanca, **IOWater** facilitated four seminars in Oujda, Fes, Agadir and Marrakech on the use of cost accounting and performance indicators in water and sanitation utilities.

These two topics are essential components for improving the governance of utilities.

After having reviewed the advantage of adopting cost accounting practices, the various usable methods were presented to initiate and illustrate the debates on their implementation in water and sanitation utilities. One day was reserved for the advantages, limits and conditions for application of performance indicator systems.

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Group work (Seminar in Agadir)

Pierre Roussel, new President of the International Office for Water

Mr. Pierre ROUSSEL, 62 years old, General in the French Corps of Engineers for Bridges, Water and Forestry, was elected President of the International Office for Water **(IOWater)** at the last General Assembly on 1st July 2009.

He succeeds to Mr. Jean Renard, former Vice-President of the French General Council of Agricultural Engineering, Water and Forestry, who did not want his mandate renewed for personal reasons, after his Presidency of **IOWater** since 1994.

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Turkey

European twinning on the implementation of the Nitrates Directive

Concerned with the mitigation of the impact of agricultural pollution on water resources, Turkey signed with the European Union a twinning agreement on the implementation of the Nitrates Directive.

This twinning associates Austria, the Netherlands, Great Britain and France, through the **International Office for Water.**

In Turkey, the main recipient is the Ministry of Agriculture and Rural Affairs, the Ministry for the Environment being also associated to the work.

Started in April 2009, this twinning was completed at the end of 2009.

Each of the four Member Countries of the European Union was led to present the way used for dealing with this Directive during the Nineties, regarding the delimitation of vulnerable zones and the development of successive Action Plans.

France acts differently by delimiting the areas with proven pollution problems or with the risk of eutrophication and by organizing at the same time Action Plans in the basins, with strong implication of the Water Agencies, and in the Departments to respond to specific local problems.

It is clear that the implementation of the Nitrates Directive in Turkey requires better knowledge of the farmers' practices and a broad awareness campaign for the farmers on the problem of agricultural pollution.

To meet the requests of Turkey, **IOWater** translated into English **the Code of agricultural practices** as well as a sample of departmental action plan.

Beyond the many elements provided during six successive workshops, these documents are a practical working basis for Turkey, the idea being to take the overall framework as a starting point.

The Turkish civil servants also showed a keen interest on the French institutional water organization and on the institutions involved in the implementation of the Nitrates Directive such as the National Agency for Water and Aquatic Environments - "ONEMA", the Water Agencies, the inspectorates of classified installations and water policing or the role of the French Committee for Agricultural Pollution Control - "CORPEN".

The following problems were also approached:

- The link with the WFD, the Drinking Water Directive and Urban Waste Water;
- Irrigation management using the French example.

Working meeting for the twinning in Turkey

One of the first problems which the authorities will have to face is the uncontrolled dumping of manure at the roadside or in ditches.

This is a widespread practice in Turkey, manure being seldom used as fertilizer by the farmers.

A great effort will have to be made so that the stock breeding farms of very small size invest in installations for the storage of manure and liquid effluents.

The development of a water quality monitoring network should also be tackled with.

This Twinning should be followed by a technical assistance program - not decided to date - for the practical implementation of the Directive.

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Seminar on the governance of water and sanitation utilities

The seminar in Ankara

A seminar on the governance of water and sanitation utilities took place on 7 and 8 July in Ankara. It was jointly organized by the Union of the Turkish Municipalities, the Turkish Ministry of the Environment and Forestry (MoEF) and the **International Office for Water,** with the support of the cultural service of the French Embassy in Turkey.

This 2-day seminar gathered about 150 Turkish participants, executives of the Ministry of the Environment, of its municipal and provincial offices and managers of water and sanitation utilities, etc.

The French delegation, including experts from **IOWater, "ONEMA"** and **"SEM",** presented the methods used for water governance in France and in Morocco. Their speeches alternated with those of Turkish representatives presenting the national strategy for water management, the legislation on Public/-Private Partnerships and on pricing.

On the first day, the **IOWater** experts presented the principles of basin management and municipal management of water and sanitation utilities, used in France.

The Public/Private Partnerships and the pricing of water and sanitation services were presented on the second day.

The main lines of future collaboration relate to vocational training, which interests the Turkish municipalities, on the detection of leaks in drinking water supply systems in particular.

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