



INBO

Newsletter

6th World Water Forum: Come and sign "the World Pact for better basin management"!



MARSEILLE, FRANCE '12



The 6th World Water Forum will take place in Marseilles from 12 to 17 March 2012 at the invitation of the French Government and the World Water Council.

It is a major meeting not to be missed!

The International Network of Basin Organizations - INBO calls its Members and Observers to get mobilized and come to Marseilles to present their solutions, to exchange and discuss in order to develop and improve basin management and transboundary cooperation in the world.

Since the 1990s, management at the level of basins of rivers, lakes or aquifers has experienced a quick development in many countries, which made it the basis of their national legislation or tested it in pilot river basins.

The European Water Framework Directive of 2000 imposes, for example, good management of the national or international River Basin Districts to the 27 Member States and the candidate Countries of the European Union.

The management of the transboundary basins of the 276 rivers and hundreds of aquifers is taken more and more into account within Commissions, Authorities or International Basin Organizations, which are being created or strengthened on all the continents.

Significant progress has been made: basin management works when there is strong willingness of all the stakeholders!

The Forum of Marseilles will be the opportunity of reporting on these progresses and presenting our solutions to face the difficulties which remain and to sign "the World Pact for better Basin Management".

The International Forum Committee entrusted INBO, UNESCO, OECD, UNECE and the European Commission with the coordination of the targets which aim to **"contribute to cooperation and peace"**, to **"improve Good Governance"** and to **"Develop Basin Management in Europe"**, in partnership with all other interested Organizations.

**Our ideas are progressing, let's get mobilized
to make our solutions known in Marseilles in March 2012!**

www.inbo-news.org

www.worldwaterforum6.org

The 6th World Water Forum

"Time for Solutions"

Marseilles - France - 12 - 17 March 2012



The international water community is invited to participate in the 6th World Water Forum - Time for solutions.

Here is how to join the "change makers" in Marseilles, March 12 to 17, 2012:

- Send your solution for addressing the global water challenges to the Platform:

www.solutionsforwater.org

- **Join one of the working groups** in charge of identifying solutions and generating commitments.

For this purpose, follow a 3-step process:

- 1 consult the list of priorities and targets on:

worldwaterforum6.org;

- 2 select the target(s) related to your solution(s);

- 3 contact the coordinator by e-mail with your proposal of solution(s).

- **Participate to the Forum sessions** in March. Registration is open.

- But also ... you may propose a project and **get the Forum label** by the Grassroots and Citizenship Commission, organize a side event or participate in the water exhibition.

	DAY 1 Monday March 12	DAY 2 Tuesday March 13	DAY 3 Wednesday March 14	DAY 4 Thursday March 15	DAY 5 Friday March 16	DAY 6 Saturday March 17
8.30 am / 10.30 pm		Thematic and regional sessions			Commitment day	Final synthesis closing session
		High level roundtables	Local and regional authorities conference	Local and regional authorities conference Parliamentarian conference		
11.00 am / 13.00 pm	Opening ceremony	Thematic and regional sessions			Commitment day	Closing ceremony
		High level roundtables	Local and regional authorities conference	Local and regional authorities conference Parliamentarian conference		
Lunch	Side events					
2.30 am / 4.30 pm	Inspiring speeches	Thematic and regional sessions			Commitment day	"Grassroots & Citizenship" major events
		Ministerial conference	Regional interpolitical dialogues	Local and regional authorities conference Parliamentarian conference		
	Multi-stakeholder sessions and High Level Panels					
5.00 pm / 7.00 pm		Ministerial conference	Regional interpolitical dialogues	Local and regional authorities conference Parliamentarian conference		
7.30 pm / 9.30 pm	"Grassroots & Citizenship" major events					

Since 1997, the World Water Forums have gathered all the stakeholders concerned – at local, regional and global level – around today's water issues that cannot be undertaken without all stakeholders gathered into a common framework and with shared goals.

Next March, 20 to 25,000 participants, 800 speakers, more 140 countries are awaited for more than 400 hours of sessions of exchange and over 300 conferences.

The 6th Forum innovations include:

- a platform of solutions to last beyond 2012,
- a roadmap for concrete commitments, involving experts and decision makers from different background from all regions of the world,
- a new commission, "Grassroots and Citizenship", to involve the civil society,

- the strengthening of the political process, through significant commitments from parliamentarians and local and regional Authorities worldwide.

The daily progresses will be summarized in the evening multi-stakeholders synthesis sessions and the commitments and declarations will be made at the end of the week.

With UNESCO, OECD, UNECE and the European Commission, the International Network of Basin Organizations is co-coordinator of the Priority for Action: **"Contribute to Co-**

operation and Peace" focusing on Transboundary Management, of the Condition for Success: **"improving good Governance"**, and of the European sessions on the Water Convention and the implementation of **the European Water Framework Directive.**



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6th World Water Forum

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UNESCO and INBO co-coordinators of Priority 1.5: "Contribute to Cooperation and Peace" for better Transboundary Basin Management Marseilles – 13-15 March 2012

The International Committee of the Sixth World Water Forum to be held in Marseilles from 12 to 17 March 2012, appointed UNESCO and INBO as co-coordinators of Priority for Action 1.5.: **"Contribute to Cooperation and Peace through water", which mainly deals with Transboundary Basin Management.**

During the Forum, 100 thematic sessions, involving all stakeholders, should propose practical solutions, allowing free discussion of all issues to reach a consensus.

For this Priority 1.5, the partners decided at their second meeting (Paris, January 2011) to focus their proposals on the following **nine targets**, each of them will be dealt with in a official thematic session from Tuesday 13 to Thursday 15 March 2012, at the Conference Center of Marseilles - Parc Chanot:

- ❶ **Increase the political acceptance and implementation of the principles of existing international, regional and local water law in the international community;**
- ❷ **Increase the number of new agreements and enhance the quality of existing agreements related to transboundary surface and/or groundwater;**
- ❸ **Develop or improve cooperation mechanisms for joint management of transboundary aquifers within the framework adopted by the United Nations General Assembly;**

- ❹ **Increase the number of transboundary basins organizations or aquifer systems capable of ensuring sustainable water resources management;**
- ❺ **In local and international conflict situation, develop pragmatic solutions to water related issues through cooperation and dialogue involving the principal actors;**
- ❻ **Create sustainable financial mechanisms to finance transboundary organizations;**
- ❼ **Develop mechanisms to share and validate information and data at transboundary basin level;**
- ❽ **Increase training in transboundary water management and conflict resolution of decision makers, senior and high-level professionals, junior water professionals, journalists and the public at large;**
- ❾ **Establish and support twinning programs between basin organizations to foster knowledge and exchange.**

A synthesis session will conclude work on 16 March 2012.

The proposed organization of Priority 1.5 sessions on Transboundary Basin Management has been widely disseminated and submitted for discussion to the partners who sent new proposals for solutions.



INBO organized or participated in several international meetings with all interested parties to work as part of an open and fruitful dialogue:

- National Forum of Brazilian Basin Committees, Rio de Janeiro, August 2011;
- Ministerial Conference of UNECE countries, Astana, Kazakhstan, from 21 to 23 September 2011;
- "EUROPE-INBO 2011", on the Implementation of the Water Framework Directive, Oporto, Portugal, from 27 to 30 September 2011;
- UN Water Conference on Water Management, Dushanbe, Tajikistan, 19-20 October 2011.
- General Assembly of the Latin American Network of Basin Organizations, Panama, 24 - 25 November 2011;

TENTATIVE CONCLUSIONS:

River basin management it works!

- Tangible results can be obtained when there is a strong political willingness;
- Significant progress has been made since the 1990s;
- Integrated Water Resources Management should be organized at the level of local, national and transboundary basins of rivers, lakes and aquifers;
- Transboundary rivers, lakes and aquifers should be given special attention and be managed in cooperation between riparian countries;

- Clear legal frameworks should allow the continued application of these principles, which will be facilitated by the creation of Basin Organizations or Agencies;
- The creation and strengthening of International Commissions or Transboundary Basin Authorities facilitate dialogue, information exchange and joint implementation of the actions needed for better management, anticipating the future and allowing the solving of potential conflicts between the countries concerned.
- Partners must agree on a "shared vision" of the basin, resulting in a medium and long term Management Plan and Programs of Measures and of priority investments;
- Appropriate financial mechanisms should be established and based, inter alia, on the application of the "user-polluter pays" principles;
- Basin Information Systems should allow monitoring the implementation of policies and measuring their results;
- This management must be based on a strong participation of all basin's stakeholders and on the involvement of their representatives in Basin Committees;

Where there is willingness, anything is possible!



www.inbo-news.org

www.unesco.org

www.worldwaterforum6.org

Brazil: National Forum of Basin Committees 29 to 31 August 2011, Rio de Janeiro



In Brazil this year, the **REBOB** (Brazilian Network of Basin Organizations) and the **National Forum of Basin Committees** (COB) organized, from 29 to 31 August 2011 in Rio de Janeiro, a preparatory event for their National General Assembly 2011, the topic of which was water management in metropolitan areas.

Each year, the National Meeting of the Basin Committees (ENCOB) gathers, on the average, 1,500 participants from all sectors of Brazilian water resources management.

The various lecturers in the Rio meeting spoke about their local experiences, as so many solutions that can be reproduced while taking into account the diversity of the Brazilian basins.

Mr. Jean-François Donzier, INBO Secretary, presented the organization of Water Management in the Paris region in France.

www.encob.org

www.inbo-news.org

7th Ministerial Conference on "Environment for Europe" 21-23 September 2011 - Astana - Kazakhstan

From 21 to 23 September 2011, the 7th Ministerial Conference on "Environment for Europe" gathered in Astana (Kazakhstan) delegations of 53 countries from the whole Pan-European region.

The Conference focused on the challenges of the protection of water and water ecosystems and on the transition to a green economy.

It was organized by the United Nations Economic Commission for Europe (UNECE) and the Government of Kazakhstan.

The main agreements obtained dealt with:

- Improvement of environmental protection and promotion of sustainable development in the UNECE region;
- Importance of the participation of the civil society, women and non governmental organizations in decision making to improve the environment;

- Cross-sectoral cooperation within dialogues at the national level;
- Additional financial resources needed to improve the water sector;
- The ongoing environmental assessment process and the Shared Environmental Information System (SEIS);
- Energy efficiency as one of the most effective ways to address climate change and the transition to a green economy;
- Contribution of Regional Centers for the Environment in promoting the green economy and better environmental governance.

Countries are encouraged to ratify, if not already done, the Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

The preparatory process of the 6th World Water Forum for Europe region was presented on this occasion.



"ASTANA WATER ACTION" (AWA)

Governments and other stakeholders are invited to commit on a voluntary basis to implement some specific actions, taking into account the different situations in countries of the region and rely on analyses provided by the UNECE on the "Sustainable management of water and water-related ecosystems".

The presented actions include measures for a more effective valuation and protection of water-related ecosystems; for addressing human health issues related to water quality and quantity; for adapting water management to extreme

weather events and to climate change; for improving transboundary water management and for increasing water efficiency by different users. The Initiative encourages investments to reduce the impacts on water quantity and water quality, improve water and energy efficiency and to take account of the vulnerable populations.

www.unece.org/env/efe/Astana/welcome.html





The "SIAEAG" Water Days 2-7 October 2011 - Guadeloupe - the Caribbean

As part of the "SIAEAG" Water Days (Syndicate of Intermunicipal Water Supply and Sanitation of Guadeloupe), Guadeloupe hosted from 2 to 7 October 2011 two preparatory workshops for the World Water Forum in Marseille:

- **"Local water management and policies"** chaired by Messrs. André Flajolet, French Deputy, Commissioner of the World Water Forum and Patrick Lavarde, Vice President of the Thematic Process Commission;

- **"Water management in the Outermost Regions of the European Union and cooperation with non-European neighboring countries"**, chaired by Mr. Daniel Chomet, President of the Basin Committee of the Martinique, and facilitated by Messrs. Jean-François Donzier, Coordinator of the European Regional Process and Pierre Roussel, representative of the French Ministry of Ecology in the European regional process of the Forum.



Mrs. Jeanne Defoie, Director of the Regional Water Office of the Martinique,

presented the project for the creation of a new "Islands Basin Network" within INBO.

Preparatory Conference for RIO+20 19-20 October 2011 - Dushanbe - Tajikistan

The Conference on "Towards the UN Conference on Sustainable Development (Rio+20): Cooperation for Water" was held in Dushanbe (Tajikistan) on past 19 and 20 October, at the initiative of the Government of the Republic of Tajikistan and UN-Water.

Nearly 140 participants, water specialists and representatives of governments and international institutions took part in this conference.

Work focused on three points:

- **Strengthening cooperation and dialogue to achieve the Millennium Development Goals;**

- **Presentation of best practices from all over the world**, in terms of cooperation at local, national and regional levels, to improve access to safe water and sanitation, and effective use of water resources for development and environmental protection;
- **Making recommendations** on approaches and mechanisms to be implemented for a joint use of water resources in the basins of transboundary rivers, aquifers and lakes.



The recommendations and guidance document adopted at the end of the Conference will be presented in the program of the Rio+20 Conference to be held in Rio de Janeiro from 20 to 22 June 2012.

A high-level meeting will be organized within the 6th World Water Forum in Marseille to detail this program.

2013 was declared "International Year of Cooperation for Water" by the United Nations.

WWF6 Regional Preparatory Meeting for Caucasus 14-15 November 2011 - Tbilisi - Georgia

The WWF6 Regional Preparatory Meeting for Caucasus, organized by the **Regional Environmental Center for Caucasus**, was held in Tbilisi (Georgia) on 14 and 15 November 2011.

Coordinator of the European Regional Process and Manager of the International Office for Water, Mr. Jean-François Donzier addressed the participants, reminding in his welcoming speech the importance of regional

cooperation for the success of transboundary river management.

Participants came from three Caucasian countries - Armenia, Azerbaijan and Georgia. The discussions led to the emergence and refinement of priority targets for the Caucasus region in terms of water management.

The parties thought the meeting very productive and very informative and agreed to advance regional cooperation and dialogue, related to the consump-

tion increase and effects of climate change on the hydrological cycles, for facing future challenges.



The 3rd International "Water and Film" Events Shooting for water!



The International Water and Film Events (IWFE) first appeared in Mexico in 2006.

They prompt meetings among the general public, people from the world of movies and media around water management.

The next IWFE edition will take place in Marseilles during the 6th World Water Forum.

At this occasion, the International Secretariat for Water (ISW) invites all movie directors, producers, water stakeholders, youths and all citizens who wish to express their views on water issues to participate in this competition.

The leitmotif of this World Water Forum is "The Time for Solutions". What better than images to show all the wonderful solutions that do exist, the local and regional solidarity actions led throughout the world, the simple idea of a man, woman or child that made all the difference or even a funny story that portrays that water is an essential issue for all human beings and their environment?

The inscription is open to all and there are no admission fees. 5 categories are open to the competition:

- **The "Soft Spot" category** for short films (10 minutes) produced by young people aged between 11-16 in collaboration with film professionals;
- **A "VidéEau" category** for clips of less than 60 seconds made by 17-30 year-olds;
- **Personal stories-type documentaries** (max. 26 minutes) made by civil society organizations, local stakeholders, etc.;

➤ **Scientific or educational films** (max. 26 minutes);

➤ **Documentaries made by film professionals** for screening in cinemas or on television.

An International Jury will give out 16 awards during a special ceremony at the opening of the 6th World Water Forum on 11 March 2012.

A public vote on the Internet is opened on Daylimotion for the VidéEau category.

www.dailymotion.com/contest/vidéeau2012.

The films will be shown at the "House of the Citizen and Water" within the Forum and public screenings will be organized in Marseilles and its region (Aix en Provence, Barjols, La Ciotat, ...), and in other regions in France and internationally before, during and after the Forum.

A partnership with Dailymotion, TheWaterChannel and pS-Eau, through its Pédag'Eau data base, will enable an online access to the movie catalog and to some IWFE films.

The International Secretariat for Water (ISW) is an international non-governmental organization created in 1990. Based in Montreal, it undertakes field projects on access to drinking water and sanitation. ISW works in close partnership with networks worldwide, especially the International Network of Basin Organizations.

Maggie White

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INVITATION

River Basin Management and Transboundary Cooperation at the 6th World Water Forum in Marseilles 12 Sessions organized on 13, 14 and 15 March 2012

- **1.5.1** Increase the political acceptance and implementation of the principles of existing international, regional and local water law in the international community.
- **1.5.2** Increase the number of new agreements and enhance the quality of existing agreements related to transboundary surface and/or groundwater.
- **1.5.3** Develop or improve cooperation mechanisms for joint management of transboundary aquifers within the framework adopted by the United Nations General Assembly.
- **1.5.4** Increase the number of transboundary basins or aquifer Organizations capable of ensuring sustainable water resources management.
- **1.5.5** In local and international conflict situation, develop pragmatic solutions to water related issues through cooperation and dialogue involving the principal actors.
- **1.5.6** Create sustainable financial mechanisms for transboundary organizations.
- **1.5.7** Develop mechanisms to share and validate information and data at transboundary basin level.
- **1.5.8** Increase training in transboundary water management and conflict resolution of decision makers, senior and high-level water professionals, junior water professionals, journalists and the public at large.
- **1.5.9** Establish and support twinning programs between Basin Organizations to foster knowledge and exchange.
- **CS1.3** By 2021, increase by 30% the number of River Basin Management Plans.
- **SERPT/Eu1** Improve transboundary cooperation in Europe.
- **SERPT/Eu2** Achieve good ecological status of European Water Bodies by 2015.



UN Economic Commission for Europe

The new Assessment encourages transboundary cooperation and improvement of the status of pan-European shared waters

The Second Assessment of Transboundary Rivers, Lakes and Groundwaters was launched at the Seventh "Environment for Europe Ministerial Conference" in Astana, Kazakhstan on 21 September 2011.

This publication is the most comprehensive overview of the status of transboundary waters in the region of the United Nations Economic Commission for Europe (UNECE).

It has been carried out under the auspices of the Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE Water Convention, Helsinki 1992), in close cooperation with water and/or environment administrations of some 50 countries and with involvement of more than 250 experts.

The preparation process which involved data collection using data-sheets and organization of five sub-regional workshops, supported exchange and cooperation between the riparian countries. River Basin Commissions also played a key role in the process by contributing information.

This Second Assessment covers more than 140 transboundary rivers, 25 transboundary lakes, about 200 transboundary groundwaters, and 25 Ramsar Sites and other wetlands of transboundary importance.

It presents a broad analysis of transboundary water resources, pressure factors, quantity and quality status, and transboundary impacts, as well as management responses and future trends.



Lake Peipsi in Estonia

The findings indicate that the status of transboundary waters is improving in many parts of the pan-European region thanks to the efforts to protect waters and the environment.

However, transboundary water resources are still under great stress from a variety of causes including: poor management practices, pollution (agriculture, wastewater discharges etc.), overexploitation, unsustainable production and consumption patterns, hydromorphological changes, inadequate investment in infrastructure and low efficiency in water use.

Competition - and in some cases even conflicts - between different water uses in different riparian countries is a challenge. Climate change impacts are expected to further aggravate the problems.

Through the region, the Assessment shows that stronger water and environmental governance, sound land management policies and, above all, **integration of sectoral policies are needed more than ever so that improvement in water management is not compromised by policies in other sectors.**

This Second Assessment provides relevant information and stimulus for Governments, river basin organiza-

tions, international and non-governmental organizations to take action to improve the status of transboundary waters and related ecosystems.

The full report and the executive summary are available in English and in Russian at:

www.unece.org/index.php?id=26343&L=0

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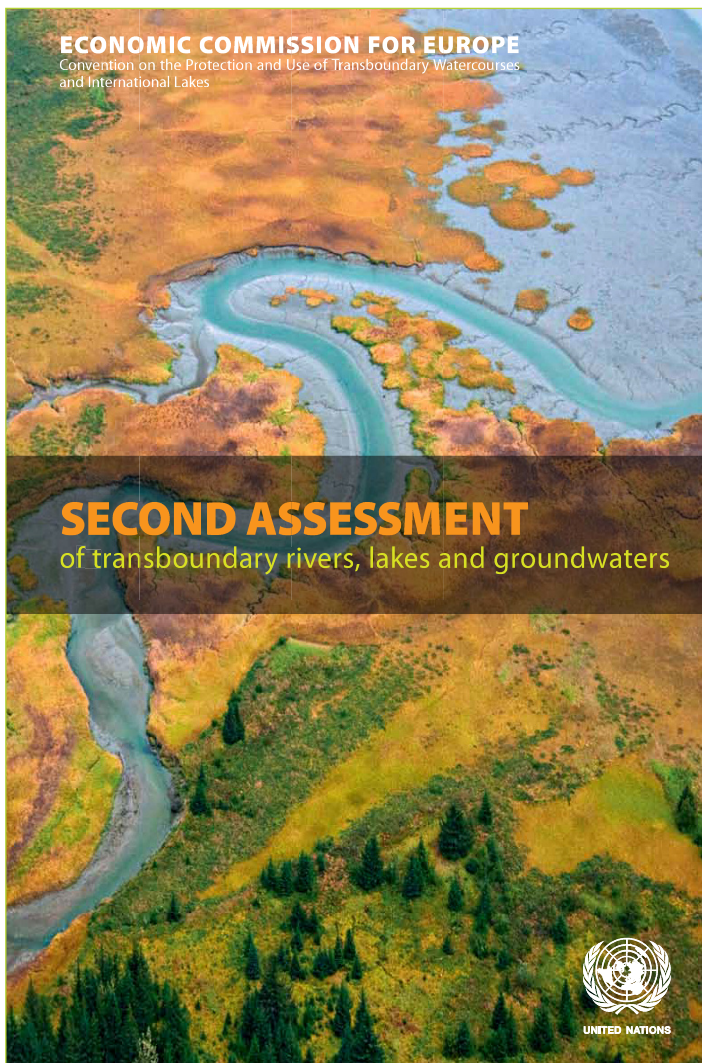
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SECOND ASSESSMENT
of transboundary rivers, lakes and groundwaters

A training program on River Restoration



It is sought to give to river restoration technicians the keys to understand how to use an ecological approach for reaching the Good Ecological Status of their river ecosystems and their water bodies, and to fight against floods.

The program is made up of 9 courses of 4-5 sessions each that will take place on Fridays from 16:00 to 18:00 hours (Central European Time).

All courses will end up on a wrap up session and round table with all lecturers to develop the discussion on most interesting matters, and answer to participant's questions. At the end of each course, a certificate will be issued.

Online training is an excellent way to make learning easier at a lower cost, since time and money usually spent in traveling and accommodation is saved, with no decline in the quality offered.

To attend the courses, students only need a computer connected to the Internet and a microphone.

The software used in the courses is easy to use and will be explained in the first session of each course.

CIREF
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www.cirefluvial.com



INBO-Academy (International Network of Basin Organizations) and "CIREF" (Iberian Center for River Restoration), in coordination with ECRR (European Center for River Restoration), join their forces to propose to Basin Organizations management staff, consultants, and university students a distance training program on river restoration in Spanish.

For ECRR and "CIREF", there is a common view on River Restoration, which should target the in-depth restoration of entire ecosystems. Knowledge of river dynamics is a key feature to understand the self-sustaining capacity of river and stream ecosystems, and their ability to respond to environmental changes (e.g. climate change).

River dynamics can be used as the central process of restoration for the self-maintained recovery of ecosystems.

Between 1998 and 2005, Europe suffered from over 100 major floods.

Flood alleviation measures must be based on integrated implementation, on correct land planning which contribute to the recovery of the natural development of river ecosystems and floodplain restoration and which will allow for better protection against floods.

Linkages and feedbacks between hydrology, geomorphology and ecology along river corridors have provided knowledge that has influenced the way the rivers are managed today.

River restoration is an effective tool to implement the EU Directives, and chiefly the Water Framework Directive, which can be used in Europe but also all over the world and restore the rivers to a more natural status after years of environmental degradation.

The existing legislation gives good opportunities to implement river restoration measures.

The general training program is made up of short courses in which all aspects related to river restoration will be targeted, with the objective of offering the students the possibility of obtaining the necessary knowledge to develop a good quality work in their jobs related to river restoration.

ICWRE:

International Conference for Water Resources & Environment

The Global Institute for Water, Environment and Health (GIWEH) and the International Center for Remote Sensing and GIS organized an International Conference "ICWRE", which was held on 20 - 24 November 2011 in Marrakech, Morocco.

The themes of the Conference were:

- ◆ Water and Environment Technology;
- ◆ Water and Environment Security and Diplomacy;
- ◆ Environmental and Water Management (Multidisciplinary aspects);
- ◆ Geomatics, remote sensing and GIS Technology in Water and Environmental Management;
- ◆ Climate Change and Global Warming.



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International Conference on Integrated Water Resources Management

Management of Water in a Changing World: Lessons learnt and Innovative Perspectives - 12-13 October 2011 - Dresden - Germany

Sustainable water management is a key issue in future societal development. However, current practices are far from fulfilling this objective.

The concept of Integrated Water Resources Management (IWRM) has gained wide acceptance as a successful way to tackle these challenges.

The German Federal Ministry of Education and Research (BMBF) is financing research projects that aim at developing adaptive and transferable tools.

The focus of the conference, organized by the Helmholtz Center for Environmental Research - UFZ, Magdeburg, Germany, was to present the scientific results and real-world experiences of

IWRM implementation in order to discuss lessons learnt and to explore innovative perspectives.

The conference topics were:

- Water resources in changing environments;
- Technologies and implementation
- Indicators and advanced monitoring;
- Information and decision support systems for improved knowledge management;
- Capacity building;
- Water governance: actors and institutions;
- Groundwater Management;
- Economic aspects of IWRM.

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French Development Agency

Capitalizing on the experience of Transboundary Basin Organizations

Integrated Transboundary Water Resources Management (IWRM), by appropriate governance and investment planned in the basin, is the key to sustainable use and conservation of natural resources. With fair sharing of resources and benefits, it helps prevent conflicts between uses and between States.

Transboundary Basin Organizations are the main framework for water resources management beyond national borders.

Such organizations were created decades ago in the basins of the Senegal River (OMVS) or Niger (NBA) and more recently of the Mekong (MRC), Congo (CICOS) and Volta (VBA).

A Water Resources Coordination Center (WRCC), of which one of the tasks is to promote basin's water management, was created within the Economic Community of West African States (ECOWAS) in 2004.

French Cooperation supports these institutions through various projects, and by the presence of technical assistants specialized in IWRM.

Over the period 2011-2013, the French Development Agency has asked the International Office for Water, INBO Secretariat, to drive a project aiming to, through sharing of experience and capacity building, improve the functioning and effectiveness of the activities of the beneficiary institutions (ABN,

VBA, WRCC, CICOS, OMVS, MRC) for IWRM in basins, in support of the technical assistance provided to them.

The specific objectives are:

- ◆ Capitalization of each relevant experience and appropriation of best practices by the other institutions;
- ◆ Support to and coordination of the French technical assistants working in the institutions;
- ◆ Improving the strategic vision of their activities by the beneficiary institutions;

- ◆ Organization of benchmarking, particularly on the following topics:
 - Governance;
 - Looking for autonomous and sustainable financing;
 - Strategic planning and implementation of actions;
 - Optimization of monitoring.

www.afd.fr



The Mekong River

Selection of priority projects of major hydraulic infrastructures

In West Africa, there is a need to develop large hydraulic infrastructure projects that enable the development of irrigation and energy and the improvement of the overall standard of living of the populations.

Such projects often involve several countries and contribute to regional integration if they are carried out with dialogue through the transboundary basin organizations, according to internationally recognized environmental and social standards.

The Water Resources Coordination Center (WRCC) of the Economic Community of West African States (ECOWAS) has organized a dialogue on major infrastructure projects in the water sector.

The aim is to contribute to a harmonious development of West Africa and regional integration.

In this context, WRCC had in 2009 entrusted IOWater, INBO Secretariat, with the evaluation of the mechanisms implemented by the water resources management bodies, with an analysis of three existing dams or under construction: Bui (Volta Basin), Manantali (Senegal) and Kandadji (Niger).

Meanwhile, a panel of experts produced recommendations for best practices for the development of sustainable hydraulic infrastructures in West Africa.

On the request of WRCC, IOWater established a list of large priority hydraulic projects, having a significant impact on regional integration, during a second phase completed in 2011. The selection was made using a multi-criteria analysis tool designed by IOWater.

Five criteria related to transboundary projects, economic integration, food security, hydropower production and environmental and social impacts were used in the analysis.

Eight infrastructures were selected: Adjarala (Mono Basin), Bureya (Senegal), Digan (Gambia), Fomi (Niger), Kaleta (Konkouré) Noumbiel (Volta), Saltinho (Koliba-Corubal) and Sambangalou (Gambia).

The choice of priority infrastructures and the Expert Panel's recommendations were validated during a regional workshop in July 2011 by the fifteen ECOWAS countries and the West African transboundary river basin organizations.

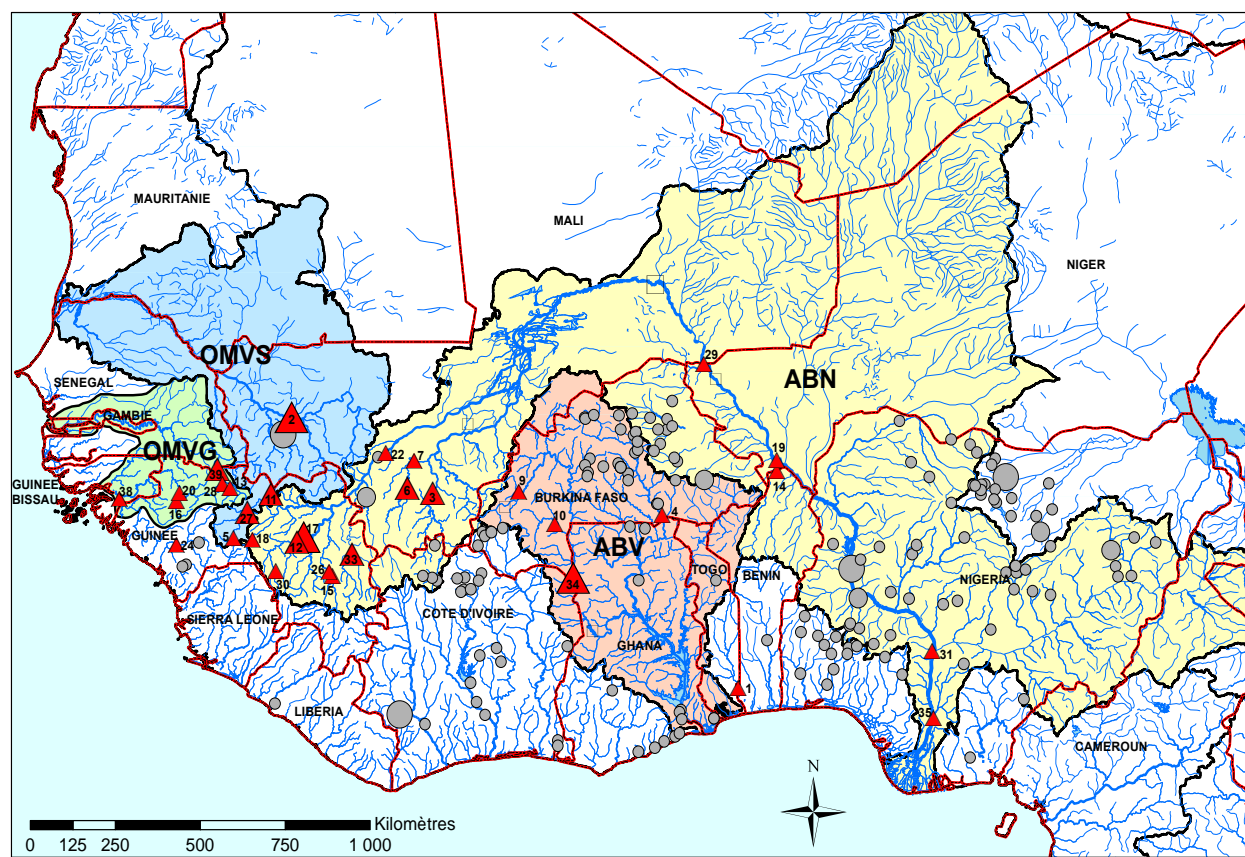
The workshop recommended the implementation for each of the selected infrastructures of specific institutional and financial mechanisms for sharing costs and benefits between the countries concerned.

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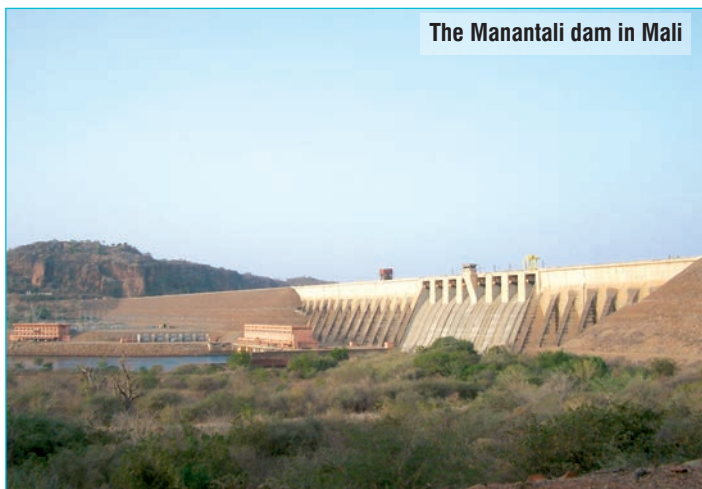


Large dams in West Africa





Dialogue on large dams in West Africa: IUCN supports the civil society in the ECOWAS process



The Manantali dam in Mali

Large dams have brought significant advantages in West Africa and are likely to provide more in the future, especially for electricity, water supply for urban and rural populations and agriculture. But this should not be done at the expense of ecosystems and the people who depend on them.

The process of implementing large hydraulic infrastructures requires dialogue with the interested parties.

The dialogue on major water infrastructure projects in West Africa, initiated by the Water Resources Coordination Center (WRCC) of the Economic Community of West African States (ECOWAS), has drawn best practices and recommendations that were shared and adjusted with the States, Basin Organizations and the civil society, and that will develop a framework directive on the scale of the region.

The role of the International Union for Conservation of Nature (IUCN) in this project falls in with the vision of the World Commission on Dams (WCD).

It opens discussions with the civil society stakeholders, especially representatives of local communities and resource users, often forgotten in dialogue. With its action, IUCN seeks to promote environmentally sustainable and socially equitable water resources management in West Africa in the context of climate change specific to the region.

There have been several achieved actions:

- A widely consulted website with online documents and experiences: www.dialoguebarrages.org;
- Coordination of an electronic forum on four topics on the issue of large dams in West Africa;

- A study on policies, decision making mechanisms and dialogue to feed international discussions;
- Recommendations of the civil society of the five major West African river basins (Senegal, Niger, Volta, Gambia, Mano River) made in order to actively participate in the dialogue and defend their interests in multi-stakeholder spaces open to them;
- A documentary film to illustrate this dialogue and disseminate the main topics of the recommendations as widely as possible.

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PIDA and transboundary waters

Towards dams with shared benefits in Africa

The Program for Infrastructure Development in Africa (PIDA) is a joint initiative of the Commission of the African Union, NEPAD Secretariat and the African Development Bank.

Its purpose is to promote regional integration in Africa through the development of infrastructures at regional and continental levels.

PIDA concerns future infrastructures, a Priority Action Plan was drafted for 2020.

It covers four sectors: energy, transportation, information and communication technology and transboundary waters.

The African Water Facility (AWF) is financing the transboundary water component. The definition of PIDA's Strategic Framework and Development Program has been entrusted to a consortium led by SOFRECO, which involved an expert from IOWater, INBO Secretariat, for the Phase on prioritization of major hydraulic infrastructure projects at transboundary level.

The selection of these projects is made on the scale of large transboundary river basins (Lake Chad, Congo, Gambia, Niger, Nile, Okavango, Orange-Senqu, Senegal, Volta, Zambezi) and groundwater systems (Nubian Aquifer

System, North Western Sahara Aquifer System, Lullemeden Aquifer System).

Various economic, environmental and social, technical and institutional criteria are used for prioritization.

The Regional Economic Commissions, as ECOWAS, and Transboundary Basin Organizations will play an important role in the implementation of the projects to be selected.

This implementation will be accompanied by a progressive institutional capacity building of the organizations.

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Congo-Ubangi-Sangha

A 100-year low water in the Congo River

The lowering of the Congo River water has reached an unusual level this year which can be compared to that observed in July 1905. In July 2011, sandbanks and rocks were visible for several kilometers along the river between Kinshasa and Brazzaville. On the Brazzaville side, water left its bed, crippling the second docking point for boats. On the Kinshasa side, the reduced hydropower productivity of Inga dam would be caused by this lowering of the river water flows.

This fact was confirmed by the results of two measurement campaigns carried out by "CICOS" in 29 July 2011.

On board a boat equipped with an "Acoustic Doppler Current Profiler (ADCP)", the Waterways Authority (RVF) of Kinshasa and the Common Service for Maintenance of Waterways

(SCEVN) of Brazzaville carried out several gauging operations between the two riversides of the Brazzaville / Kinshasa section and at Maluku section located 45 km upstream.

This situation is caused by a prolonged deficit of precipitation over the entire Congo sub-basins. The analysis of climate parameters at the regional level will require the experts to prove or disprove the theory that the recorded deficit of rainfall is due to the Niña phenomenon.

This problem of low water in the Congo River reinforces "CICOS" in its commitment to strengthen cooperation between the technical services of both Basin countries for better monitoring of water resources.

Cooperation between two large African River Basins (CICOS- LCBC)



The International Commission of Congo-Ubangi-Sangha Basin (CICOS) and the Lake Chad Basin Commission (LCBC) are belonging to the same geographical region of Central Africa. Mr. Simon SAKIBEDE, Secretary General of "CICOS", received his counterpart Mr. Sanusi Imran Abdoulaye, Executive Secretary of LCBC, in Kinshasa on Tuesday, July 12, 2011, to reactivate the cooperation between their two institutions.

For over three decades, Lake Chad has suffered from severe drying up. Its surface area decreased from 25,000 km² in 1970 to 2,500 km² in 2000. The Congo Basin, considered the second freshwater reservoir in the world with a surface area of 3,822,000 Km² is not spared by climate change with as result recurrent low flows that threaten the inter-state waterways transport in the sub-region. The Ubangi, one of its main tributaries, saw its navigability decrease from 12 months to 6 months in less than 20 years.

To address the environmental consequences and threats posed by the drying up of Lake Chad on the survival of the populations of the sub-region, the LCBC countries thought, several

years ago, to transfer part of the Ubangi water to Lake Chad.

With studies which have been initiated for several years, this project is a common obstacle between the two sister Commissions, who since 2006 have decided to join forces through a Memorandum of Understanding to jointly follow up this difficult issue.

Aware of the challenges, the executives of "CICOS" and LCBC, having exchanged and reviewed the progress made in these studies, renewed their cooperation commitment.

The main innovation is the establishment of a Joint Steering Committee between both institutions to monitor the project.

Before leaving, they reiterated their commitment to maintain and strengthen the exchange of experiences by organizing actions of common interest on hydrological, ecological, environmental, socioeconomic and institutional aspects.

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Lowering of the water level in Brazzaville river port

Hydrological monitoring and "SDAGE" of the Congo Basin

The International Commission of the Congo-Ubangi-Sangha Basin (CICOS), IOWater, the hydrological services of the four "CICOS" Member States, the french Rhine-Maas Water Agency and Solidarity Water Europe (SEE) have obtained funds from **the Water Facility of the European Union** to allow capacity building for hydrological monitoring and **the drafting of the Master Plan for Water Development and Management (SDAGE) of the Congo Basin.**

IOWater, INBO Secretariat, will carry out training courses with the Rhine-Maas Water Agency and SEE.

Hydrological monitoring activities will be carried out under the Congo-

HYCOS project, in collaboration with the World Meteorological Organization, the Hydrological Research Center in Cameroon, the Directorate of National Meteorology in Central Africa, the Group for Research in Natural Sciences in Congo and the Waterways Authority in the Democratic Republic of the Congo.

Regarding the "SDAGE", the French experience will be based on that of the Rhine-Maas Basin and public participation will be dealt with by SEE and "Eau Vive". The project is jointly financed by the French (FFEM) and German (GIZ) Cooperation.

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Volta Basin Authority

Strategic Plan for 2010-2014

The Volta Basin Authority (VBA) was established in 2007 with the mandate to promote permanent consultation and sustainable development of water and related resources in the Volta Basin, which is shared by six West African countries - Benin, Burkina Faso, Ivory Coast, Ghana, Mali and Togo.

Recognizing the important role that various partners in the basin play towards sustainable management of water resources, as well as the need for the new Authority to build capacity and operate effectively, a **Strategic Plan, for 2010 to 2014, was approved by the Council of Ministers in December 2009.**

It aims at facilitating the VBA and its partners to focus their efforts on the development priorities of the Volta Basin while optimizing the use of available resources.

The Strategic Plan has five Strategic Objectives:

- ❶ **Strengthening policies, legislation and institutional framework:**
 - Establishing legislation for water governance in the Volta Basin;
- ❷ **Knowledge base of the Volta Basin:**
 - The status of water and environmental resources is better known;
 - Data management and sharing mechanisms are in place;

- ❸ **Coordination, planning and management:**

- Knowledge and coordination of projects;
- A Basin Management Plan is launched;

- ❹ **Communication and capacity building for all stakeholders:**

- Through communication and dissemination of information, ensure a common understanding of the functioning of the Volta Basin

- ❺ **Effective and sustainable operations:**

- Implementation of the Strategic Plan;
- Financial resources and partnerships mobilized in support of VBA mandate;
- Human resources and administrative procedures developed to support implementation of VBA activities.

The EU Water Facility has approved a € 350,000 grant for the project "Strengthening VBA capacity building" for the implementation of priority actions of the 2010 - 2014 Strategic Plan.

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The Volta River



The Volta River Basin



Strengthening of the Volta Basin Authority

At the end of 2011, the Volta Basin Authority, the International Office for Water and the International Network of Basin Organizations will start a 3-year project with experts from the Seine-Normandie and Adour-Garonne French Water Agencies.

This 40-month project is financed by the European Water Facility, the Seine-Normandie Water Agency and the French Development Agency for a total budget of €518,000.

Its objectives are to improve water governance, regional management of water resources and sustainable development in the Volta River Basin. The activities will allow building the capacities:

- of the **Stakeholders Forum for the development of the basin**, an advisory body of the Volta Basin Authority (VBA); this Forum is made up of members representing different categories of water users, the civil society and the decentralized local

authorities of each national section of the basin as well as representatives of national focal points and government bodies of the six Member States;

- of the **Experts' Committee**, the VBA executive body consisting of representatives of the Authority's Member States,
- of the **Executive Directorate**, the first executive body of VBA created in September 2006.

These activities also falls within the specific framework for the process of development and approval of two key tools:

- **The Water Charter**: it will be the political and legal backbone of VBA for improved water governance;
- **The Master Plan for Development and Sustainable Management of Water Resources of the Volta Basin**: a tool for regional planning and definition of actions.

Organization for the Development of the Senegal River (OMVS)

The Master Plan for Water Development and Management (SDAGE) of the Senegal River



Guinea, Mali, Mauritania and Senegal, meeting within the Organization for the Development of the Senegal River (OMVS), decided to initiate, with funding from the European Union, AFD and the World Bank, a Master Plan for Water Development and Management of the river (SDAGE), to establish basic guidelines and a precise action plan to give a coherent framework for development activities, while protecting the water resources and environments. The deadline for thought was set at 2025.

The aim of the "OMVS" is to create a **comprehensive vision of the Senegal River Basin development**, including, for the first time so significantly, the various sectoral targets - sometimes conflicting - such as hydropower, navigation, development of drinking water and sanitation, transport, rural development, mining and

industry, based on a detailed analysis of the basin water resources and ecosystems that depend on them.

It is necessary to avoid over-exploitation of natural resources and environments, allowing their effective, equitable and sustainable management, while permitting the development of human activities in the Basin.

The "SDAGE" is based on a basin characterization validated in 2009, a true knowledge base shared by all stakeholders, partly relying on a rich bibliography of studies commissioned by "OMVS", governments or institutional partners, and secondly on meetings held in each country with water stakeholders and the study consortium led by the Canal de Provence Company (SCP).

The Senegal River in Saint-Louis



The Bakoye, a tributary of the Senegal River



Seven sectoral programs, illustrating the land use policies of "OMVS" Member States, were prepared and validated in 2010: they helped establish the minimal conditions for water management to be respected from a quantitative and qualitative viewpoint.

To adopt an optimal scenario for 2025, "OMVS" has implemented a tool for modeling the impact on water resources of the hydraulic works planned in the basin.

The outputs of this model have allowed defining trends and assessing the positive and negative impacts of basin management options and choices of management procedures.

This optimal scenario is accompanied by an action plan articulated around 6 basic guidelines, with a cost of 280 billion CFA francs for the 2011-2025 period.

This development scenario and the Program of Measures have been validated by the various stakeholders concerned in a regional workshop held in February 2011.

"OMVS" will adopt the "SDAGE" and share it on the regulatory front with the four Member States. "OMVS" plans to develop the "SDAGE" in the various territories included in the river basin, through Master Plans in sub-basins.

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Sanitary situation of the Senegal River Basin

As part of the initial phase of the "SDAGE", a survey to assess water-borne diseases in the Senegal River Basin was carried out in 2009. This study of the sanitary conditions was based on documents obtained by bibliographic research.

The purpose is to summarize the main findings with regard firstly to water-borne diseases along with national or regional programs for control of those diseases in the study area, and, secondly vector-borne diseases and zoonoses and their various control programs.

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The Knowledge Base for the Cubango-Okavango River Basins

What information do River Basin Organizations require to support their deliberations and joint decision making? How do they best achieve access to this information?

In 1994, the Governments of Angola, Botswana and Namibia agreed that the Cubango-Okavango River basin - stretching 1000 kilometres from the Angolan highlands to an alluvial fan in Botswana's dry Kalahari region - should be jointly managed by the three riparian States.

They also agreed that good management of the basin required a sound base of knowledge to support true transboundary decision-making.

The Permanent Okavango River Basin Water Commission (OKACOM) agreement, signed that year, began a process of knowledge gathering that culminated in the Cubango-Okavango Transboundary Diagnostic Analysis (TDA) and Strategic Action Programme (SAP) in 2011.

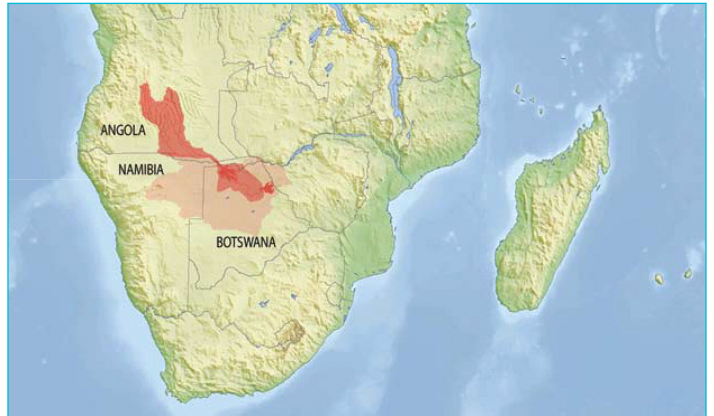
In a parallel process, OKACOM has also been developing information sharing mechanisms to ensure that the cycle of knowledge creation for the basin is sustained and inclusive.

For the first time, the region owns its own knowledge base for the basin and is putting it to work in planning for joint use of the river's resources.

Supported by the United Nations' Global Environment Facility (GEF), OKACOM commissioned a series of studies of environmental and social conditions on the river in the three countries, covering topics from ecology - the role of birds and macro-invertebrates, for example - to economic development activities such as the potential impacts of irrigated agriculture and hydropower plants. This initial set of studies completed in 1998 allowed OKACOM to review its understanding of what was needed.

Then 59 studies were carried out by teams of researchers from the three countries and the region, framed and informed by an Integrated Flows Analysis (IFA) approach. IFA allows decision makers to use scenarios to gradually develop what they feel is an acceptable development space for their river.

OKACOM used the analysis from the studies to develop its Transboundary Diagnostic Analysis (TDA) that describes the river system as it is and then used three possible water-use scenarios to explain the pros and cons of different development paths the three countries might follow.



At the same time, OKACOM carried out a series of public consultations in the three countries to find out what river basin issues were of high interest to the people and organizations living and working there.

For example, in Namibia it was felt that high levels of poverty in areas adjacent to the river basin had to be examined more closely, and, in Botswana, control of invasive species was a major concern. Angola's issues included conflict between resettled peoples and wildlife. Matching the results of these consultations to issues raised in the TDA, OKACOM produced the SAP - a plan for management and conservation interventions that would guide OKACOM's work and ensure that it was relevant to the three countries' needs.

OKACOM's experience highlighted the need to ensure that newly created knowledge would be circulated as widely as possible among the countries, and that the countries themselves cultivate local monitoring and research work to allow the knowledge base to be applied and expanded.

In 2010, OKACOM signed its Hydrological Data Sharing Protocol that committed the riparian States to collecting needed data and collaborating with one another in its use and analysis.

In 2011, OKACOM's draft Access to Information Policy was developed, aimed at ensuring full participation of interested parties in basin management and planning.

The job is never completed: 17 years were needed to build a River Basin Organization that supports planning and management of the Cubango-Okavango Basin. All agree, however, that persistence brings the reward of an enabled environment. A network of committed regional researchers, increased understanding of the concerns of their neighbours in the basin and the pride of managing the region's own resources are the living proof that OKACOM's commitment to cooperation and consensus have been worth the effort.

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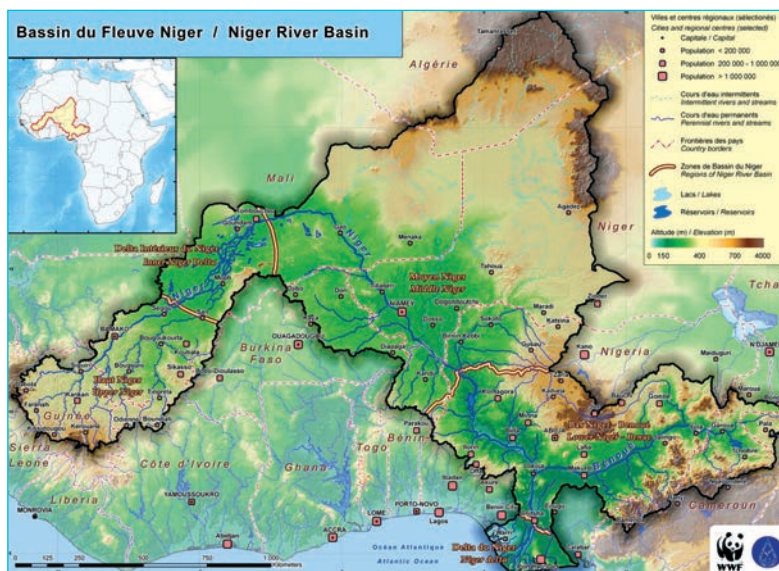


The Okavango River

Africa

Niger Basin Authority (NBA)

Reliable data in real time:
a prerequisite to forecasting the flow of the Niger River



With financial support from the European Union and France, the Niger Basin Authority (NBA) has developed in 2010 in collaboration with the engineering company ISL, a "Computer System for Hydrological Forecasting" (SIP).

This tool forecasts the flow rates of about forty hydrological stations carefully identified in the hydrometric network of the Niger Basin, which has more than hundred and fifty.

It allows forecasting floods which are often damaging particularly in urban areas, planning irrigation campaigns

and guaranteeing coordinated and optimized management of existing and future dams in the basin.

The architecture of this tool is modular and allows forecasters to easily access information on each model used by the system and gives the possibility to change the tool-managed models with the capitalization of knowledge on hydrology.

The ability to attach to each station several forecasting models allows operating in degraded mode in case of non-receipt of data or errors in the information received.

Two NBA experts, trained in the use of this tool, have been making forecasts since June 2011, in the station of Niamey, in Niger, using the data provided by the upstream stations of Alcongui and Garbé Kourou in Niger, Ansongo in Mali, and Liptougou and Koriziéna in Burkina Faso.

However, the frequent breakdowns of data collection platforms (DCP) that transmit information via satellite and / or the difficulty of accessing field observers by mobile phone are still a problem.

Failure to update the calibration curves of inadequately gauged stations may also affect the reliability of the forecast results.

Whatever the degree of automation used, the permanent presence of an observer from the local community remains essential for the transmission of information and protection of facilities.

The NBA Executive Secretariat often calls on the decision-makers of the Member States and managers of the data collection network,

to take care of the need for preventive maintenance, of the awareness of people living near the facility and of the compliance with strict procedures and quick transmission of information.

It is necessary that the NBA Executive Secretariat and Member Countries ensure the sustainability of hydrological monitoring.

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The Niger Basin Information System

The Niger Basin Information System is a body of the Executive Secretariat of the Niger Basin Authority (NBA), established by the NBA institutional reform of 2004.

The Information System, reporting directly to the Executive Secretary, has the essential tasks of monitoring changes in the basin, as concerns the hydrological, environmental and socioeconomic aspects, of producing regular information on the development of the basin through the analysis of collected data and of

implementing a system for disseminating the information.

The project for "Support to the development of an Environmental Information System of the Niger River Basin" was financed by the French Fund for Global Environment (FFEM) for \$1.2 million.

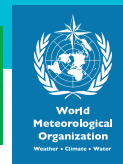
This project started in late 2005 and ended in December 2010.

"FFEM" entrusted IOWater, INBO Secretariat, with the final evaluation of the project.

The Niger River



IGAD-HYCOS



Better Management of the Water Resources in the Horn of Africa



Due to lack of adequate hydrological information, many water resources development schemes could not be designed optimally.

There is urgent need to build capacities to manage water and land resources in order to meet the needs of the rapidly growing population.

Among the major factors perpetuating poor management of water resources, is the lack of sufficient capacity in the countries to package correct and appropriate information in a form that is understandable by decision and policy makers.

The World Meteorological Organization (WMO), in collaboration with the Intergovernmental Authority on Development (IGAD), has been developing the IGAD-Hydrological Cycle Observing System (IGAD-HYCOS) project.

The project will cover Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan and Uganda.

The IGAD-HYCOS project is designed to improve regional cooperation and col-

laboration in the collection, analysis, dissemination and exchange of hydrological and hydro-meteorological data and information for water resources assessment, monitoring and management.

The project aims at providing adequate infrastructure for hydrological observation and regional cooperation. The project is designed to provide IGAD region with a hydrological information system that will feed into a regional water information system, and will assist participating countries in developing their national capacities for water management.

The IGAD-HYCOS project is one component of the Inland Water Resources Management Program (INWRMP) for which the IGAD Secretariat and the European Commission have signed an agreement in March 2010 with a value of € 14.0 M, from which an amount of € 4.8 M has been earmarked for IGAD-HYCOS project.

IGAD identified the World Meteorological Organization (WMO) as Implementing Agency.

The preparatory phase of IGAD-HYCOS will involve extensive country consultations with all relevant stakeholders to identify their needs and to address the needs of the INWRMP. On the request of the East African Community (EAC) the scope of the project has been extended to cover Burundi and Rwanda.

In order to start the project and engage all of the stakeholders, a Stakeholder Interaction Workshop was organized in Nairobi, Kenya from 24 to 26 November 2011. It allowed participants to have an in-depth exposure to the INWRMP and WHYCOS programs and agree on specific areas for their involvement in the implementation process.

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The availability and distribution of water resources in the Horn of Africa region is uneven and irregular both in space and time. Overall, water resources are an important transboundary issue in the region.

The availability of fresh water is the key to sustainable development and an essential element in health, food production and poverty reduction.

However, due to shrinking budgets, concrete improvements in the hydrological information management systems and the capacity building of hydrological services have been neglected.

This has prevented provision of the data needed for sustainable water resources management.

Water, Climate and Development Program (WACDEP)

To develop water security and resilience to climate change

Adaptation to climate change impacts on water is an emerging concern worldwide.

In Africa, this issue is especially addressed through the Water, Climate and Development Program (WACDEP) established in 2010 by GWP and AMCOW.

To ensure that countries have the abilities to integrate climate resilience and water security in development planning, and develop the investment strategies needed, **the partners initiated a project "Framework for water security and development of climate resilience"**.

Led by HR Wallingford, this project associates the International Office for Water, INBO Secretariat, in particular in all aspects of adaptation in transboundary river basins.

The project results will form a set of benchmarks for developing countries to implement the necessary adaptation plans, develop the investments with "no regrets" that are needed in Africa, and to finance strategies for action.

The WACDEP will provide:

- A Technical Paper for defining a policy framework on the development of water security and climate resilience;

- A strategic framework that will inform on how to develop adaptation actions and make policy decisions in African countries;
 - Some brief notes for policy makers, particularly on investment with "no regrets";
 - A strategy for capacity building and an implementation plan.
- Results are expected by spring 2012.

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Nyong River Basin



The Nyong River

Integrated water management at basin level allows establishing quality objectives and reconciles uses in the whole territory of a river and its tributaries.

The Nyong River and its watershed in southern Cameroon is a complex ecological and socioeconomic system, characterized by a multiplicity of ways of using natural resources (drinking

water, fishing, forestry, and agriculture, waterways transport, construction materials and tourism) and a multiplicity of governance bodies at the confluence of territories and activities (national, regional and departmental institutions, decentralized local authorities, private institutions, local communities, professional and environmental associations).

Overexploitation of natural resources generates increased uncertainty (decrease in fish stocks, eutrophication of the Nyong River, health risks, etc.) and threatens biological diversity and the socioeconomic functions of the Nyong River and its watershed.

The Dschang University's goal is a harmonious development of communities with a sustainable development perspective.

More specifically, the study aims to:

- Update the status of the basin's water resources and their evolution in space and time;
- Analyze the interdependence of multiple stakeholders and uses;
- Examine the functions of the Nyong River and propose appropriate financing systems, based on the "user-polluter-pays" principle or the payment for ecosystem services;
- Assess and adapt the institutional and legislative context at national, regional and local levels to achieve the objectives.

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Niger



REPASE-TIKISSO/DABOLA project Restoration of Ecosystems and Payment for Environmental Services

In April 2009, IUCN, the Guinean authorities and development cooperation institutions involved in Upper Guinea and local organizations agreed on guidelines for **the implementation of a project for ecosystem restoration in the Upper Niger River Basin.**

The Poverty Reduction and Environmental Management Initiative (PREMI) is the regional framework of the IUCN project.

Through this program, IUCN seeks to build capacity in the region to demonstrate the importance of taking into account the value of goods and ecosystem services in regional development plans, policies and strategies to reduce poverty and adapt to climate change in order to improve wealth and economic growth.

The project for Restoration of Ecosystems and Payment for Environmental Services (REPASE) in the Tinkisso River Basin, main tributary of the Niger River, is financed by SIDA (Swedish Agency for International Development). It aims for sustainable improvement of the people's standard of living in the basin through an ecosystem approach

to the management and exploitation of natural resources and adaptation to the impacts of global climate change.

It is based on Payment for Environmental Services (PES).

PES-financing seeks to encourage sustainable natural resources management by establishing a beneficiary-provider relationship through which environmental values can be explicitly and appropriately acknowledged.

Thus the availability of information on economic incentives for improved valuation of environmental services for the stakeholders, downstream and upstream of the dam Tinkisso, will contribute to the preservation of such services for the benefit of the local people.

The overall objective of the REPASE project is to promote integrated management of the Tinkisso River Basin through the ecosystem approach to minimize the effects of climate change and increase the benefits of communities living upstream or downstream from the River and dam reservoir.

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Kenya



Use of Water Resources as an economic good

The Water Resources Management Authority in Kenya (WRMA) has operationalized the Dublin principle that recognizes water as an economic good. The Authority has legalized water use charges which are documented in Water Resources Management (WRM) Rules 2007.

Raw water goes at the rate of about 5 US\$ per 1,000 m³ depending of the use and quantity abstracted.

The German International Cooperation (GIZ) Water Sector Reform Program (WSRP) has been supporting WRMA in operationalizing water resources management which is mainstreamed in the Water Act 2002.

Under the Water Act 2002, six semi-autonomous institutions based on major drainage basins in Kenya have been established and became operational in 2008.

One major focus emphasized by WRMA is economic water use for self

financing and effective management of water resources.

The system operates with involvement of stakeholders and beneficiaries through Catchment Area Advisory Committees (CAACs) and Water Resources Users Association (WRUAs).

One of the six WRMA regional institutions, managing River Tana, which is one of the major rivers in Kenya, has managed to permit conditions and payment of water use charges and control of the quality of effluent discharge to conform to water quality standards.

Tana Catchment Management Authority took a number of bold steps to minimize confrontation with their customers.

On a few occasions, the services of law enforcers had to ensure that the process is not abused and that no one takes advantage and engage in illegal activities.



The Tana River

This initiative ensured that the process is carried out smoothly without undue confrontation.

Other activities done side by side include capacity building of the water users so that they feel challenged to behave responsibly and use water resources while considering those living downstream as well as the environment.

The Tana region has been able to realize 75% of its potential revenue which is the highest proportion among the five other regions of WRMA.

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Burkina Faso



Basin Committee of the Nakambé Water Agency

The members of the Basin Committee of the Nakambé Water Agency held their third session from 1 to 3 September 2011 in Ziniaré.

In three years of existence, they have held three successive sessions, which

focused on: the adoption of organic laws, the appointment of Members of the Agency's Administration Board, the review of the situation for the preparation of the Master Plan for Water Development and Management (SDAGE).

During the third session, the Basin Committee adopted the budget and work program for 2011, the terms of reference for drafting the "SDAGE", for the development of Local Water Committees (LWC) and for information and awareness of the three categories of water users.

Two days were devoted to the members' training on climate change and its impact on water resources.

Participants then made an inventory of the observed impacts of climate change on water resources and identified the possible adaptation options.

Messrs. Michel Stein, Director of the French Loire-Brittany Water Agency, and Alain Bernard of the International Office for Water, INBO Secretariat, participated in a working session under the partnership between the Nakambé Water Agency and the Loire-Brittany Water Agency.

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The Nakambé River

North America

Canada - Quebec



International Secretariat for Water

The "Great Lakes-St. Lawrence Symphony"

The Great Lakes-St. Lawrence River Basin stretches from the western-most tip of Lake Superior to the Gulf of St. Lawrence, covering more than 3,200 km. It irrigates parts of six Canadian provinces and eight American states. In addition to the ecosystemic, geographical, historical, economic and strategic importance of the Great Lakes and the St. Lawrence River for North America, this hydrographical basin contains almost 20% of the planet's fresh water reserves and provides drinking water to 40 million people.

Coordination of the **"Great Lakes-St. Lawrence River Basin Symphony: its waters, its diversity, its people and its future"** will be carried out by the International Secretariat for Water (ISW) and its partners.

The "Symphony" is:

- **An opportunity to promote the many local, regional and cross-border water management and development initiatives that exist**, while highlighting their interdependence.
- **A shared vision for 2035 developed by local residents**, whether they be professionals, researchers, First Nation representatives, business people, artists, young people or elected representatives. This process will contribute to debate on managing water as a common good. It will entail local and regional consultations, workshops, etc.



- **An opportunity for innovation, calling upon local residents' creativity**, enabling them to express their views on water issues through images, music, dance, poetry, etc.
- **A 60-second "VidéEau" Film clip competition**, for young people aged from 17 to 30 years old, on the theme "My water is our water!" The winners will enter the global competition of the International "Water and Film" Events (IWFE).
- **The 1st Great Lakes-St. Lawrence River Basin Residents Assembly**, the objective of which is to contribute to political decisions regarding people-centered sustainable and fair development, which will be, early February 2012, the occasion of a public debate entitled "Vision for 2035".

This first Great Lakes-St. Lawrence River Basin Residents Assembly will be based on the consultation process, experiences and local contributions of artistic expression.

The "Great Lakes-St. Lawrence River Basin Symphony" results will be presented at the 6th World Water Forum in Marseille and to the Annual General Meeting of the Great Lakes and St. Lawrence Cities Initiative and at other events around the Basin.

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The St. Lawrence River

A Handbook for agricultural areas



In Quebec, the World Water Day of March 21, 2011 was marked by the publication of a **Handbook for the development of biodiversity in rivers in agricultural areas**.

Published by the "Fondation de la Faune du Québec/Quebec Fauna Foundation" and the Union of Agricultural Producers (UPA), the Handbook is based on the knowledge and experience gained in 10 pilot projects carried out in as many regions of Quebec between 2005 and 2010.

The Handbook will provide a reference for all people who care about the quality of rivers and ecosystem conservation in agricultural areas.

The river basin approach is well-liked in Quebec. Fifty projects have been created since 2005 in agricultural areas.

Written in simple language and easy to use, this Handbook outlines the steps necessary for the implementation of a project, addressing both the technical, organizational and communicational aspects.

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North America

Canada - Quebec



"COGESAF"



2nd edition International Forum on Integrated Water Management Tools for ACTION

The Cultural Center of Sherbrooke University hosted "the 2nd International Meeting on Integrated Water Management - stormwater management in urban areas" from 23 to 25 October 2011.

It is an initiative of the Water Governance Council of the catchment areas of the St. Francis River (COGESAF) in partnership with the City and Sherbrooke University.

This event gathered some 500 participants from complementary disciplines.

More than 60 speakers, including almost half from outside of Quebec, shared ideas during three days in twenty workshops.

Why choose this topic of stormwater management? The project initiator, Mr. Jean-Paul Raïche said: "In a context of climate change and a new directive concerning the design of sewer systems, municipalities will face significant challenges with regard to stormwater management."

They will have to establish the means that will reduce sediment and pollutant inputs, reduce the contamination of rivers and natural environments through runoff and erosion, prevent system overflows, etc."

The first International Meeting on Integrated Water Management, that gathered about 550 people from over 23 countries in June 2009, demonstrates the effectiveness of "COGESAF" approach and of its impressive network of contacts.

Further information is available on the website:

www.rv-eau.ca

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"ROBVQ"

"To and From" Project



The second meeting of the "To and From - Aller-Retour" Project for sharing citizen knowledge of water management took place last June in Costa Rica and Nicaragua.

This program, coordinated by the Regroupement of the River Basin Organizations of Quebec (ROBVQ), aims to share the Quebec experience in water management and governance and to learn from approaches used internationally, particularly in terms of citizens' participation. The first meeting of this project was held in Brazil in 2010.

The Quebec delegation was received at "CATIE" (Tropical Agricultural Research and Education Center) home office in Costa Rica.

The discussions mainly focused on the "FOCUENCAS II" project (Innovation, learning and communication for adaptive and joint river basin management). It was also an opportunity to present the Quebec approach of participatory governance. Afterwards, the delegation went to the County of Matagalpa (Nicaragua), on a "FOCUENCAS" project site.

In all these meetings, some initiatives were paid some attention:

- The creation by the municipality of La Unión (Costa Rica) of a water and environment school.

- The purchase by the municipality of Matagalpa (Nicaragua) of the slopes surrounding the city, and set up of a "bosque de nacimiento" (Forest of newborns) to limit "wild" urbanization. At each birth, the city plants a tree, and thus reforests the slope!

- The establishment of a national network of "environmental" journalists (Nicaragua), to provide people with quality information on what is happening in the environment.

What are the benefits of such a project for Quebec? Many ideas and recommendations! Although the context is not the same in Quebec and Central America, many elements can be used as a basis for thought, such as ways to do more to involve the population and local stakeholders, or the River Basin Organization's role as project facilitator (helping communities to implement their projects).

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North America

CANADA - USA



Great Lakes-St. Lawrence River Water Resources Regional Council

Through the Great Lakes-St. Lawrence River Water Resources Regional Council, the Governors of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin, and the Premiers of Ontario and Quebec are involved in protecting the world's largest source of surface fresh water.

The Governors and Premiers created the Regional Council on December 13, 2005, and endorsed "the Great Lakes-St. Lawrence River Basin Water Resources Compact".

The Agreement details how the Great Lakes States, Ontario and Quebec will manage and protect the Basin and provide a framework for each State and Province to enact laws for its protection.

The objectives of this Agreement are:

- To act together to protect, conserve and restore the Waters of the Great Lakes / St. Lawrence River Basin because current lack of scientific

certainty should not be used as a reason for postponing measures to protect the Basin Ecosystem;

- To facilitate collaborative approaches to Water Management across the Basin to protect, conserve, restore, improve and efficiently manage the Waters and Water Dependent Natural Resources of the Basin;
- To promote cooperation among the Parties by providing common and regional mechanisms to evaluate proposals to withdraw water;
- To create a cooperative arrangement regarding water management that provides tools for shared future challenges;
- To foster State and Provincial authority within the Basin under appropriate arrangements for inter-governmental cooperation and consultation;

- To facilitate the exchange of data, strengthen the scientific information upon which decisions are made, and engage in consultation on the potential effects of withdrawals and losses on the Waters and Water Dependent Natural Resources of the Basin;
- To prevent significant adverse impacts of withdrawals and losses on the Basin Ecosystem and its watersheds;
- To promote an Adaptive Management approach to the conservation and management of the Basin water resources.

In the United States, the Compact became law on December 8, 2008, following approval by each of the eight State legislatures and Congress, and signature by the President.

In Canada, the agreement was approved by the Quebec National Assembly on November 30, 2006, and by the Ontario Provincial Parliament on June 4, 2007.

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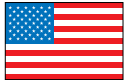
www.mddep.gouv.qc.ca

www.glsregionalbody.org

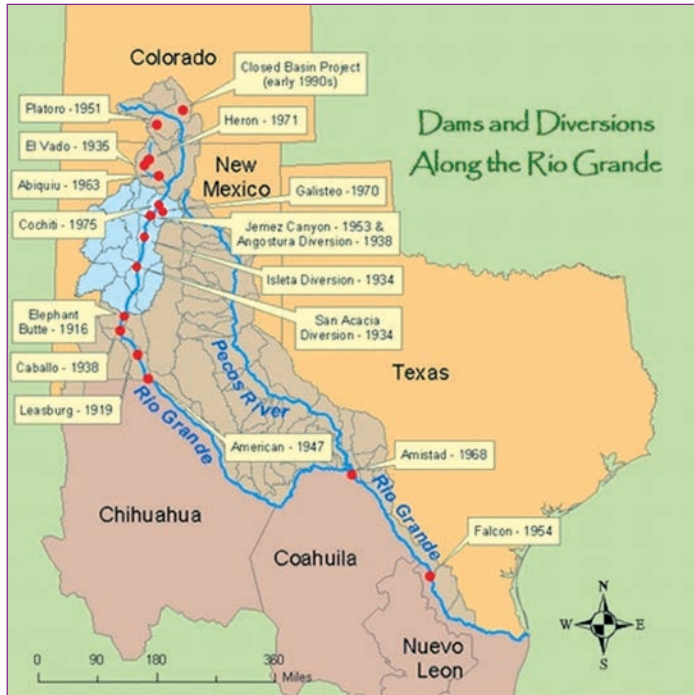


Lake Superior





How Sustainable are Engineered Rivers in Arid Lands?



Engineered rivers in arid lands play an important role in feeding the world's growing population. Each continent has rivers that carry water over long distances to fertile soil where rainfall is scarce: this is the case of the Ebro, Nile, Yellow River, Murray-Darling and São Francisco for example. Over the course of the last century these rivers have been equipped with large engineering structures that generate electric power and store water for agriculture and cities. This has changed their hydrology.

A study, carried out by the University of Texas, used the Rio Grande as an example.

Water engineering on the Rio Grande began less than a hundred years ago when the US Bureau of Reclamation completed the first modern dam and reservoir in New Mexico. Since then multiple reservoirs, diversion channels and irrigation canals have been added.

West of the 100th meridian, rainfed and irrigated agriculture depends on just two rivers: the Colorado and the Rio Grande. Water from both rivers is shared with Mexico. While the Colorado marks the border for just a short distance, the Rio Grande, called the Río Bravo in Mexico, does so for more than 1,000 km.

The variability of the basin's arid climate entails the risks of both drought and flooding.

To manage these risks and allocate water among users a complex array of water agencies has been created. The States of Colorado, New Mexico and Texas share water under the Rio Grande Compact. Rio Grande waters at Elephant Butte are controlled by the U.S. Bureau of Reclamation (the Rio Grande Project), the State of New Mexico (from Elephant Butte Reservoir to the Texas State-line), and the State of Texas (from El Paso to the Gulf of Mexico).

Río Bravo and Conchos waters are controlled by the "Comisión Nacional del Agua" (Río Bravo downstream from Juárez). Under treaties concluded in 1906 and 1944, the International Boundary and Water Commission (IBWC/CILA) is responsible for surface water allocation and flood control in the bi-national reach of the Río Bravo-Rio Grande from El Paso-Juárez to the Gulf of Mexico.

The research used several steps: study of water conditions in the headwater region, assessment of the conditions in the key impact regions—the Paso del Norte (PdN) and the Lower Rio Grande Valley (LRGV) where people and economic activities are concentrated.

Results of headwater and impact region analysis are used to estimate future water supply and demand. Key study components include: identify and study critical change factors; integrate results into a regional water budget; and provide policy advice to basin management agencies.

Three physical factors that need to be considered in estimating future water supply were examined: climate variation, climate change and reservoir sedimentation, **as well as three social and economic factors that change future water demand:** population growth, changes in land use/regional economic development, and increased efficiency in using water.

Assessments of this kind will lay the foundation for identifying water management strategies.

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The Rio Grande

Latin America and the Caribbean

ECLAC

"Public policy guidelines for the water supply and sanitation sector"

This document summarizes, in the form of public policy guidelines for the drinking water and sanitation

sector, the experience gained during research and technical assistance work in the project **"Compromise, efficiency and equity for sustainable drinking water and sanitation services in Latin America and the Caribbean"**, whose objective was to strengthen the capacity of governments in the region to design and implement effective public policies emphasizing compromise, efficiency, equity and sustainability.

The lessons learned are regrouped in the following chapters:

- exogenous and determinant factors for achievement and sustainability of service provision,
- efficiency of lenders,
- institutional organization of the sector,
- industrial structure,
- regulations and contracts;
- tariffs and subsidies;
- policies for the rural population,
- new conditions imposed by globalization.

This paper was presented and discussed at the Regional Conference in Santiago, Chile, on 15 and 16 March 2011.

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UNITED NATIONS

ECLAC



Lineamientos de política pública para el sector de agua potable y saneamiento

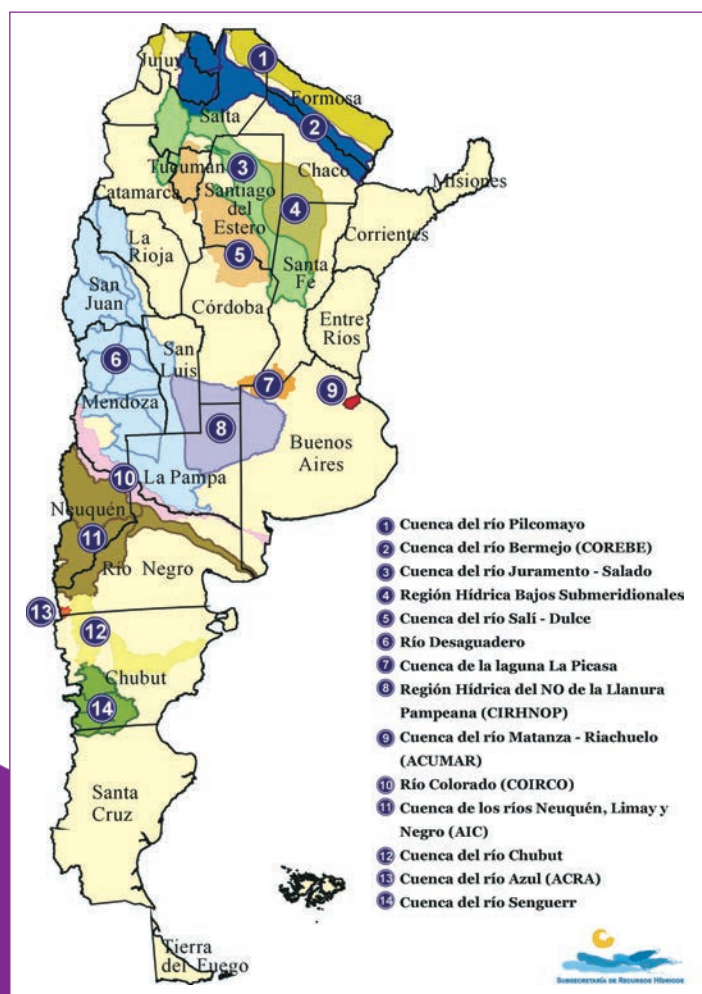
Michael Hamke-Domas
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Argentina



Basin Committees and Authorities in Argentina



Water resources management by basin organizations was adopted by the Argentinean Republic and has made progress in its implementation since the 1970s.

There are now fourteen national river basin organizations with different types of organization and varying levels of development. The Provinces and Central Government have been involved in these organizations since 1971.

Similarly, **several Provinces have inter-jurisdictional basin committees for their own rivers.**

From an international point of view, Argentina has joined the Intergovernmental Committee, Coordinator of La Plata Basin (1969), the Binational Commission for the Development of Upper Bermejo River Basin and of the Río Grande de Tarija (1995), the Tri-national Commission for the Development of the Pilcomayo River Basin (1995).

It should be mentioned that the last constitutional reform (1994) entrusted the Provinces with the management of natural resources.

In 2003, the Provinces developed the Guiding Principles of the Policy on Water Resources, and secondly, the Federal Council for Water Resources was established the same year, and the bases of the National Federal Plan for Water Resources were developed in 2006 together with its implementation methodology.

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The website of Basin Management over the World



www.inbo-news.org

Latin America

Peru - Bolivia



Preserving Lake Titicaca development



Lake Titicaca

Lake Titicaca is 3810 meters high; it is the largest water body in the endorheic basin of the Peruvian-Bolivian Altiplano, with a total area of 8,400 km², an average depth of 120m; the basin has a surface area of 149.000 km² in the territory of which live more than two million people.

Since ancient times, water resources played a key role in ensuring development in balance with the Andean world, being the spiritual basis for the

Tiwanaku culture, and thus the legend of Manco Capac and Mama Ocllo arising from its waters to form the great Inca Empire in Cuzco.

In 1955, the governments of Peru and Bolivia began a process of cooperation for the sustainable use of water and hydro-biological resources, culminating in the adoption and implementation of the Binational Master Plan after 41 years of persevering negotiations.

This Binational Master Plan is a fundamental tool to establish a system for regulating the waters of Lake Titicaca to achieve equitable development, initiate irrigation projects for rational use and preservation, conservation, mitigation of extreme events such as floods and droughts.

The Binational Autonomous Authority of Lake Titicaca, of Desaguadero River, and of Lake Lago Poopó y Salar de Coipasa (ALT - TDPS), was created in 1996, with full autonomy to promote and conduct actions, programs, projects, adopt and enforce zoning regulations, management, control and protection of water resources within the Binational Master Plan.

In 2006, the Binational Memorandum was drafted to extend the work of the "ALT" in the areas of sustainable, economic and social development and environmental protection.

Thus, 42,000 m³ of duckweed were harvested in the inner Puno Bay in Peru in order to restore the ecosystem and the quality of its waters, while in the Border Integration Area aquaculture is being promoted to generate optimal use of the aquatic environment.

During the Presidential Meeting of 2010 the Governments of Peru and Bolivia agreed to relaunch the "ALT" according to the new economic, environmental and social realities of the TDPS system.

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Nicaragua



Sixth National River Basin Forum

The Nicaraguan National Network of Basin Organizations (RENOC) organized the Sixth National River Basin Forum on 13 and 14 October 2011, in Managua on the "Basin Management: Adaptation for Life" topic.

"RENOC" proposed that national and local stakeholders share experiences on the implementation of Integrated River Basin Management as a strategy for water resources management and adaptation to climate change.

This forum was addressed to technicians and producers involved in the rehabilitation, conservation and sustainable management of natural resources and the environment, to municipalities, private companies and services, to national authorities and cooperation agencies and to the civil society in general.

The Round Tables focused on the following topics:

- 1 Basin Management and governance at local, national and regional levels,
- 2 Opportunities to address climate change impacts at the country level,
- 3 Experiences of regional planning with a basin approach,
- 4 Integrated Water Resources Management (IWRM) for Food Security and Nutrition.

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Managua

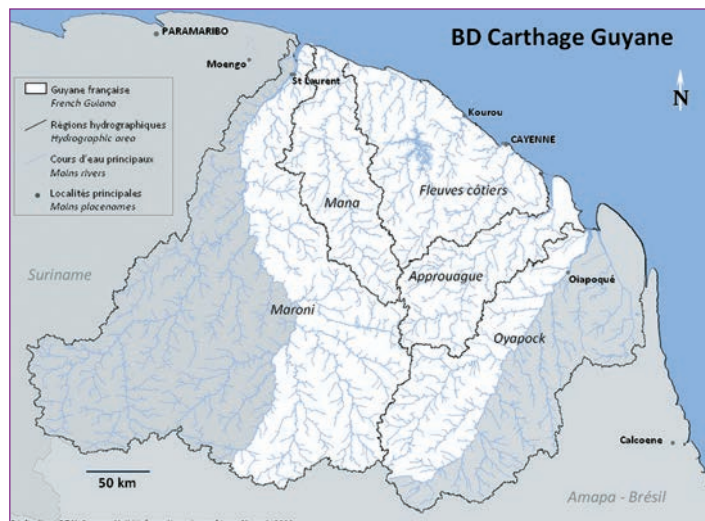


Latin America

French Guyana - Brazil - Suriname



A common map database for the Transboundary Basins of Guyana



In the Amazon, the territory is vast and complex, dense river networks interwoven in the forest. So far, very few fine and complete maps were able to be performed on large river basins.

French Guyana is located between two transboundary rivers, the Maro-

ni and the Oyapock, whose watersheds are shared with the States of Amapa in Brazil and Suriname.

Today these countries face the same challenge of building a reference frame for the management of a shared resource.

To achieve the Guyana reference frame, the Directorate for the Environment of French Guyana has developed since 2007 a major map project including all the border rivers.

It was based on methods already proven in tropical areas, using a digital elevation model coupled with satellite or aerial imagery.

The original approach comes from the use of high resolution data, especially images from the French satellite SPOT 5, and also with the cooperation of Brazilian and Surinamese partners, whose contributions have enriched the production.

The final database was validated in June 2011 and conforms to the French national BD Carthage® model, while being tailored to Amazonian specificity. The realization of this mapping provides the first common knowledge to



all countries in the transboundary basin of French Guyana.

The stakeholders will adopt this tool to successfully build a fully shared vision for better water resources management.

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Brazil



Sanitation governance in river basins: the experience of the “Turvo-Grande River Basin” project

This project was masterminded by the Trata Brasil Institute and aims at joining efforts with the Turvo-Grande River Basin Committee and with the National Water Agency (ANA) in cleaning up rivers in that basin. The initiative started in 2010 and is supported by the Pastoral Care of Children and by the São Paulo State Sanitation and Energy Office.

Its overall objective is to promote sewage collection and treatment services in all the municipalities of the basin and support the development of **Municipal Sanitation Plans (PMSB)** and to foster the replication of this pilot plan in other Brazilian basins.

In 2007, Brazil put the PMSB into motion as a legal requirement.

The Basin Committee's partners considered the basin as the good natural entity to manage sanitation, regrouping towns with problems in common, but also potential for joint solution.

The Turvo/Grande Basin showed the worst sewage collection and treatment coverage in the São Paulo State.

Its 66 municipalities make up more than 1.3 million inhabitants and share the need for deploying the PMSB as the first step towards the goal of treating 100% of effluents flowing into its “water bodies”.

The Project organized training and communication workshops among various stakeholders and municipalities, offering subsidies for the design of PMSBs.

The towns of Catanduva and Olímpia, which led the list of worst sewage treatment coverage (19% and 0.8%) among the most populated municipalities of the basin, overcame difficulties and drafted their plans thus showing that mobilization is effective.

The requests for funds are made to the State Water Resources Fund for the PMSB in the basin.

This project will be a cornerstone and replicated in other basins, contributing to the quality and quickness in applying Law.

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Stakeholders of the Turvo/Grande River Basin participating in the Seminar on “Sanitation and Water Resources”

Brazil



Creation of the State Park of the Costa do Sol



The new Park of the Costa do Sol covers 5,500 hectares around the Araruama Lagoon in the Rio de Janeiro State and includes the towns of Saquarema, Araruama, Arraial do Cabo, Cabo Frio, Buzios and São Pedro da Aldeia. It is the first State park fragmented into several protected units in several different locations, following a model already used in Canada and in some European countries.

The idea of creating the park was raised by the São João Lakes Basin Committee and by the São João Inter-Lakes Consortium (CILSJ) in 2007.

The project has achieved consensus among the mayors, the State Government and the environmental movement. They were excited by the positive results of the recovery process of the

Araruama Lagoon, the largest saltwater lagoon in the world, which suffered from the impact of urbanization along its banks.

The region receives a large number of tourists, which triples its population every summer.

Until 2000, the water of the Araruama Lagoon was crystalline. In 2000, the lagoon deteriorated, algae have proliferated and fish were contaminated.

Several wastewater treatment plants (EDAR) were built to solve the problem. But the uncontrolled occupation of land has continued, becoming a permanent threat to the ecosystem.

The recovery of the Araruama Lagoon is a unique example in Brazil.

The creation of the Park of the Costa do Sol does not contribute in itself to the preservation of the lagoon, but brings a new approach to the protection of the Atlantic Forest, of which only 10% of the original cover remains.

The park has a single management plan and an administration with a team and its own budget.

"The strategy was to protect samples of the diversity of the regional ecosystem, including islands, beaches, marshes, forests and ponds, providing a natural basis for economic prosperity focused on tourism".

It is expected that the park receives an annual visit of 700,000 people.

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LANBO

General Assembly of the Latin American Network of Basin Organizations Panama - 24 to 25 November 2011



The General Assembly of the Latin American Network of Basin Organizations (LANBO), took place in Panama from 24 to 25 November 2011 at the invitation of the Panamanian Authorities.

Ms. Lucia Chandek, Panamanian Minister for the Environment, was unanimously elected new President of LANBO, succeeding to Mr. Edgar Alfonso Bejarano, Director General of the Autonomous Corporation of Cundinamarca - Bogota - Colombia, who brilliantly fulfilled the Presidency the past three years.

LANBO Permanent Technical Secretariat will now be the responsibility of the Brazilian Network of Basin Organizations (REBOB), which takes

over from the Piracicaba-Capivari-Jundiá Intermunicipal Consortium - PCJ (Brazil), which has taken care of it with great success since the Rio de Janeiro General Assembly.

The Assembly thanked Messrs. Edgar Alfonso Bejarano and Dalto Favero Brochi, for the work they have done over the past three years.

Mr. Jean-François Donzier, Secretary of the International Network of Basin Organizations (INBO), welcomed the progress made by LANBO in Latin America and the Caribbean and

presented "the World Pact for better basin management". He invited all Members present to come and solemnly sign it in Marseilles on 16 March 2012, during the 6th World Water Forum.

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Latin America

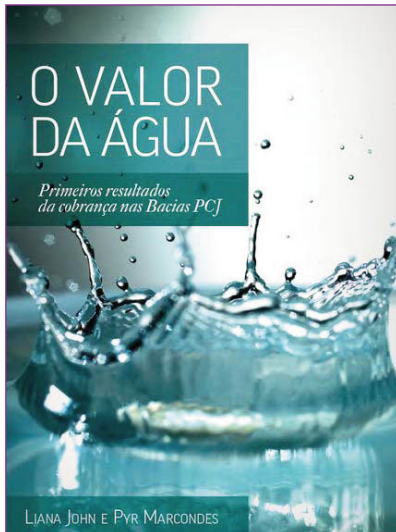
Brazil



Piracicaba-Capivari-Jundiá (PCJ)

The Consortium's experience narrated in the book "O Valor da Água / The value of water"

The PCJ Consortium published in early 2011, the book "O Valor da Água / The value of water" written by the journalists Liana John and Pyr Marcondes,



with the purpose of presenting the experience of using taxes for water use in the PCJ basins.

The tax for water use began in 2000, proposed by the PCJ Consortium and partners. This instrument use, which aims to curb uncompromising water consumption, began on a voluntary basis, with some cities contributing with R\$0.01 per m³ taken from the river. Since 2006, this tax has been applied to the Federal rivers and in the following year, in 2007, to those under Sao Paulo State responsibility.

In 2008, the basins belonging to Minas Gerais State also began to contribute.

Today, water utilities and companies of the cities of the basins, contribute with: R\$0.01 for abstraction of raw water, R\$0.02 for consumption of raw water, R\$0.10 for discharge of organic loads, and R\$0.015 for transfer between basins.

The collected amounts are used for the development of projects and recovery works, maintenance and preservation of rivers.

The book "The Value of Water – First results of the tax in the PCJ Basins" chronicles the entire process, from studies until the tax implementation. For the authors "if water is a human right and a common good, the task of dealing with it cannot be in the hands of a single government agency or NGO.

It is a task to be shared and monitored by all, whose good results benefit everyone."

The book can be downloaded in full in Portuguese at PCJ Consortium website at:

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Technical cooperation: Loire-Brittany Water Agency, Piracicaba-Capivari Jundiá Basin Organization (PCJ)

The legal and institutional framework of the Law 9.433 of January 1997 on integrated water resources management in Brazil was inspired by the French Laws of 1964 and 1992. Technical, academic and institutional exchanges between the two countries have played an important role in its development and implementation.

Brazil has 27 States, with a significant variety of climatic, cultural, economic and social situations and each with considerable autonomy from a political and administrative viewpoint.

The Brazilian institutional framework is comparable in many ways to that of the European Union.

As part of the financing of decentralized cooperation, the French Loire-Brittany Water Agency started a project alongside the PCJ - Piracicaba and Capivari Jundiá Consortium and the International Office for Water, INBO Secretariat, to address, through training and exchange of expertise, the three following priority topics:

► Comparison of the Brazilian Water Resources Management System with WFD

The European Water Framework Directive (WFD) of 2000 is interesting the Brazilian experts, since it implements a process of articulation between different levels of jurisdiction, echoing the difficulties faced in applying the Law of 1997 in the Brazilian federal context.

► Water resources planning

The experts involved will produce a comparative assessment of practices in both countries and propose changes:

■ **Brazilian experience:** National Plan for Water Resources in 2006, the development of Plans for Water Resources in several federal States, and many Basin Plans in various parts of the country, on very different geographical scales, and with widely varying technical characteristics and levels of participation of water stakeholders or of a wider public.

■ **French experience:** Basin Master Plans (SDAGE and SAGE) and more recently the WFD Management Plans.

► Financing of water resources management

The mobilized experts will produce a comparative assessment of practices, including water taxes and the application of the "polluter-pays" and "user-pays" principles in both countries and propose changes.

The results obtained in this project will be presented in a side event at the 6th World Water Forum of Marseilles in 2012.

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Mekong River Commission - MRC



Study visit of the Mekong River Commission to France and Germany

As part of the cooperation agreement between the French Development Agency and the Mekong River Commission (MRC), a study visit was organized in late October in France and Germany, with support from the International Office for Water, INBO Secretariat.

This visit, which took place as part of the Information and Knowledge Management Program in the field of Hydrology (IKMP-Hydrology), gathered representatives of the MRC and of each of its member countries (Cambodia-Laos-Thailand-Vietnam).

The main topics were the acquisition, processing and use of hydro-meteorological data and their use in the context of Good Basin Governance and for better management of flood risk in particular.

To better meet these issues, exchanges with the following institutions were organized:

- General Directorate for Risk Prevention and SCHAPI, MEDDTL, Paris,
- International Office for Water, Paris,
- Météo-France, Paris,
- International Commission for the Protection of the Rhine, Koblenz,
- Global Runoff Data Center, Federal Institute of Hydrology, Koblenz,
- Rhine-Meuse Water Agency, Metz,
- National Rhone Company (Compagnie Nationale du Rhône) in Lyons,
- and field trip in the Rhone Valley.



Given the intensity of the recent rainy seasons in the Mekong River Basin, the concern for better protection against such flooding is extremely active in the interested countries. A concerted policy of the different countries in this field and coordination at the Mekong

River Basin level are to be quickly established.

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Laos



The pilot Nam Ngum River Basin, spearheaded for IWRM development in Laos

A first management plan for the Nam Ngum River Basin had already been studied a few years ago with the French Development Agency financing.

The new Ministry of Water Resources and Environment (MONRE) has just been created and takes over the powers of the former WREA (Water Resources and Environmental Administration).

To accompany the reforms in progress for Integrated Water Resources Management, the French Loire-Brittany and Rhine-Meuse Water Agencies decided to support a pilot project in the Nam Ngum River Basin under their decentralized cooperation.

The International Office for Water, INBO Secretariat, will take care of coordination.

An International Seminar, organized on 28 and 29 March 2011 in Vientiane with AFD funding, helped launch this project, with an excellent level of participation. The Lao Minister of Water Resources and Environment and the French Ambassador co-chaired the first part of the seminar, thus demonstrating the local political will and enriching debates with their ideas.

In practice, it will be necessary to build the capacity of the Secretariat of the Nam Ngum River Basin Committee (NNRBCS), of MONRE, of the Provinces and Districts, so that they can prepare and implement, in a participatory manner, a sustainable water resource Management Plan in the pilot Nam Ngum River Basin.

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The contribution of the French Water Agencies thus made possible to continue and deepen the work already done in this basin.

The challenge is to develop mechanisms for Integrated Water Resources Management (IWRM) included in the new Lao legislation.



French-Chinese Cooperation Agreement on integrated water resources management for the Hai River pilot Basin

Access to water has become a major concern in China.

It has indeed only 7% of the water resources of the planet for one fifth of the world population.

The location of these resources is also uneven: abundant in the South, they are lacking in the West and North.

Finally, water quality is threatened by pollution from industrial, urban and agricultural discharges.

To address these challenges, China is building huge infrastructures and modernizing its water management methods.

In such a context, the Chinese Government is developing international collaboration, including with the European Union and its Member States.

An agreement was signed on 21 December 2009 by the Chinese Ministry of Water Resources and the French Ministry of Ecology and Sustainable Development, to develop cooperation in areas of common interest of Integrated Water Resources Management and Protection.

As part of this agreement, and following several exploration missions carried out on both sides in China and in France throughout the year 2010, the Hai River Basin, which extends over 318,000 km² and covers four Provinces (Hebei, Shanxi, Henan, Inner Mongolia) and two large Municipalities (Beijing and Tianjin), was selected in order to develop a pilot project for cooperation between the two countries.

The achievement of this project for cooperation and technical assistance between 2011 - 2014 will address the following objectives:

- Learning from each other and sharing the experiences of both countries in integrated water resources management at the basin level,
- Exchanging policies and measures to protect and restore aquatic ecosystems, as well as the implementation of "polluter-pays" mechanisms.
- Developing appropriate mechanisms for the control and reduction of water abstractions and polluting discharges of municipalities and

industries in the Haihe River Basin (permits, controls, standards, regulations, metering, analyses, clean and water saving technologies, wastewater treatment, leak detection, monitoring of abstractions and discharges, financial incentive mechanisms ...).

This especially means testing the application in China of some mechanisms for basin management and water pollution control used in France since the Law of 1964 that created the Water Agencies.

The project partners are, on the Chinese side, the Commission for Hai River Conservation (under the supervision of MWR), and the Water Boards of Tianjin Municipality and Hebei Province, and, on the French side, the French Embassy in China, the Seine-Normandie Water Agency, the Interdepartmental Sanitation Syndicate of Greater Paris (SIAAP), the Interdepartmental Institution of Great Lakes of the Seine and the International Office for Water (IOWater), INBO Secretariat, which will take care of the project technical coordination.

All these partners signed the Memorandum of Understanding of the project on 4 July 2011 in Beijing, in the presence of the Chinese Vice Minister for Water Resources and the French Ambassador to China, on the occasion of a first reconnaissance mission in the pilot basin and a training course on the role of Water Agencies and local authorities and on the water management tools used in France, which was attended by 65 Chinese officials of the basin.

Phases of the cooperation agreement

The project will proceed in two phases:

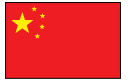
- A first cooperation phase will allow better knowing on both sides the functioning of the basin institutions and the procedures and means they are implementing in France and China,
- A second phase, during which could be tested on a Hai River sub-basin some French methods whose relevance have been identified in the first phase.

A practical multi-year action plan will be jointly developed at the end of the first phase in March 2012 to select the pilot sub-basin, specify the needs in expertise and training, define a 2 to 3 year realistic timetable for completion and to quantify the cooperation costs for both parties.

An amendment will be signed at the World Water Forum in Marseilles in March 2012.



Signing of the project memorandum on 4 July 2011 in Beijing



China

Towards a Water Platform between China and the European Union



The 4th Yangtze Forum was held in Nanjing on 18-19 April 2011.

On this occasion, the first China-Europe Water Platform Conference took place on 17 April for establishing a

framework for dialogue, exchange of best practices and collaboration.

The Water Platform will facilitate a focused and efficient technical approach to bilateral exchanges of experiences and best practices.

This initiative is in line with the EU-China River Basin Management Program (RBMP) launched in January 2007.

Thus since 2007, a large number of experts from over 14 EU Member States have been involved in the water dialogue on IWRM and IRBM, and over 1,000 Chinese experts and water professionals have been supported to participate in conferences, study tours, exchange visits and joint research projects.

Four guidebooks on the EU Water Framework Directive and its daughter directives and 3 guidelines on their implementation have been published in Chinese.

At the same time a virtual knowledge hub has been set up on the RBMP website, which rapidly is becoming a

repository of lessons learned and IWRM good practices and of basin management issues in China and Europe.

Officials from China and the EU have expressed their willingness to further consolidate the platform after the closure of the RBMP in 2012.

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Donghu Lake restoration project in Wuhan

As part of the agreement signed in September 2010 between the Wuhan Water Authority and the French Adour-Garonne Water Agency, a mission was carried out from 9 to 17 June 2011 by Jean-Pierre Rebillard from the Adour-Garonne Water Agency, Alain Dutartre from Cemagref Bordeaux and Alain Daut from Ecolab, University Toulouse III. It dealt with Donghu Lake recovery of its quality to allow for aquatic recreational activities.

This expert mission focused on five points:

- Techniques for sampling and analysis;
- Indicators for monitoring and assessing the aquatic environment of the lakes;
- The data pattern to be set up,
- Techniques for water quality restoration,

- Evaluation and monitoring to assess the impact of any restoration operation (management of aquatic plants and sediments, etc.).

This lake, which has for a long time received wastewater from nearby urban and industrial areas, saw its water quality deteriorate and has a large amount of sediments rich in organic matter and nutrients.

One of the projects presented by the Wuhan Water Authority to improve lake quality involved pumping water from the Yangtze River (40 m³/s) for diluting the nutrients found in the lake waters.



Lake Donghu

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All information is available on the Web



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Dong Nai Basin Pilot Project

The Dong Nai Basin pilot project, coordinated by IOWater, INBO Secretariat, aims to provide MONRE (Ministry of Natural Resources and Environment) with:

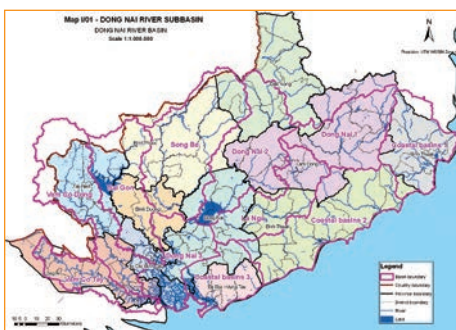
- **Institutional support**, financed by the French Loire-Brittany and Seine-Normandie Water Agencies;
- **Assistance in developing the Dong Nai Management Plan**, in connection with an information and monitoring system for surface water, funded by the French Ministry of Economy, Finance and Employment.

In a first step, it means strengthening the role of the Directorate for Water Resources Management of MONRE for central coordination and of the DWRPIS (Division for Water Resources Planning and Investigation of South Vietnam),

which will become the Dong Nai River Basin Organization.

Year 2011 has been rich in actions on the different project components:

- Participation of French legal experts in the drafting by MONRE of the future Water Law;
- Organization of the first meeting of the future Dong Nai Basin Committee and discussions on the characterization of the Dong Nai;
- Finalization of sectoral reviews for developing the Management Plan in the fields of domestic waters, industry, agriculture, regulation of water regime and hydromorphology by experts of the French Water Agencies;



- Establishment of a water information system;
- Support to the development of the Basin's water monitoring provided by Asconit;
- Development of the Dong Nai pilot management plan coordinated by SCE Consultants.

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Support to the development of information systems



The "information system" component of the French-Vietnamese cooperation program aims to support MONRE in its role as coordinator of **"national water data and information management"** in accordance with Decree 120/2008, while strengthening shared data management between the interested parties.

A first inventory of existing data sources was established with an online catalogue which already provides access, in English and Vietnamese, to descriptions of over 350 sources.

The initial diagnostic phase has also noted that data processing and enhancement are very limited for reasons mainly related to the heterogeneity of the data produced and the lack of procedures for information sharing between producers and users.

A short-term action plan was thus presented to create an organizational and technical framework for facilitating shared data management between the national and basin levels, and developing a pilot information system on the Dong Nai Basin, in accordance with the guidelines given by Decree 120.

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"IWRM - Vietnam"

Since 2007 the joint R&D project for Integrated Water Resources Management Vietnam (IWRM-Vietnam) funded by the German Ministry of Education and Research is developing Planning and Decision Support Tools adapted to Vietnamese conditions.

The project is being conducted in three provinces: Nam Dinh, Lam Dong and

Can Tho, which correspond to the Red River Delta, the Central Highlands and the Mekong Delta.

The Institute of Environmental Engineering and Ecology at the University of Bochum is closely cooperating with the Department of Water Resources Management (DWRM) of the Vietnamese Ministry of National Resources and Envi-

ronment (MoNRE) in order to develop a method in compliance with Vietnamese conditions and aiming at designing tools for assessing:

- water demand versus water resources;
- sensitivity of water resources to contamination risk;
- Water Management Units.

Further activities will be carried out, such as:

- Development of a web-based GIS (Geographic Information System);
- Training on Planning and Decision Support Tools for IWRM in Vietnam.

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Training on Planning and Decision Support Tools



India

Towards a National River Policy

The Ganges River



The River Policy attempts restoration of maximum flow and minimum abstraction from the rivers.

The purpose is to ensure environmental flows in rivers while maintaining its ecological and economic services to dependent communities.

The policy envisages delegation of management to the communities.

The Agency for implementing the Rivers Policy - Ground Water Directorate will implement programs; undertake studies and feedback workshops with the primary stakeholders.

Associations of villagers will coordinate the participation of local communities and user groups in the process of water governance.

Water governance should be completely transparent and participatory.

State River Authorities may be delegated powers to initiate coordinated action to deal with the pollution of the river waters.

They will actively coordinate for controlling solid and liquid waste pollution, sewer treatment and waste disposal.

Water use for celebrations, public gatherings on festivals or religious occasions, fairs and cultural tourism should be considered.

It emphasizes research to be made for effective and sustainable restoration of rivers function, in-depth knowledge of natural parameters of rivers needs to be looked for, enhanced and suitably documented.

The success of the National River Policy will entirely depend upon the population's commitment and support.

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Free Speech

Threats against the Damodar Basin

Damodar is a major tributary of river Ganga. It is known as the 'Sorrow of Bengal' for its frequent flooding in the lower catchment areas.

The Damodar River Basin has a surface area of 25,000 sq. km and a population of 25 million inhabitants.

The availability of water and other natural resources made it one of the most populous, economically active and ecologically vulnerable river basins in India.

Considering the severity of the flood and its economic importance, the Government of India through the Damodar Valley Corporation (DVC) initiated the 1st multipurpose river valley project in 1948.

Five reservoirs have been built on the Damodar and its tributary the Barakar along with large irrigation canals.

But the basin is threatened by quick economic development, sharp population growth and large scale deforestation.

Heavy mining and industrialization, rapid urbanization and land use change coupled with modern agricultural practices are putting severe pressure on the river.

Scarcity of water in dry period and recurrence of flood in monsoon with heavy point and non-point pollution are becoming a menace to the basin.

The lack of an Integrated River Basin Management, in spite of DVC's presence, is causing severe water stress and leading to disasters.

A basin organization with broad representation based on a national water policy is immediately necessary to prevent further disasters.

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The Damodar River





The Water Management Committee of Voh-Koné-Pouembout (WMC VKP)

The rural areas of Voh, Koné and Pouembout villages (VKP), located in the northwest of New Caledonia, are faced by unprecedented development generated by the setting-up of an international mining industrial complex whose activity will produce 60,000 tons of nickel per year and result in doubling the population by 2020.

This process leads to the development of a multitude of small and medium enterprises, industrial and agricultural activities, and generates increasing pressure on water resources, in terms of quantity and quality.

To cope with the risks of shortages, quality degradation and water use conflicts, the Northern Province, local authority with jurisdiction in economic development, country planning and environment, has developed original tools to ensure the expansion of the VKP area while preserving water resources.

An original and informal structure gathering all the institutional stakeholders involved in water management was created: **the Voh-Koné-Pouembout Water Management Committee (VKP-WMC).**

The VKP-WMC has developed an action plan which aims to characterize adequacy between water needs and resources.

Planned for an initial period of 3 years and supported by the European Commission and the South Pacific Commission, the program includes about one hundred actions articulated around five topics:

- Knowledge of resources;
- Needs and risks;
- Environment and Heritage;
- Communication and governance;
- Duplication and sharing of experience.

The VKP-WMC operates according to the will and resources of its members.

The Northern Province catalyzes the dynamics of the actions by ensuring WMC coordination and technical and financial support.

Thus, the resources exploited for drinking water, industrial or agricultural production, are now being monitored for the quantification of water bodies and the identification of exploitable volumes.

The risk of salinization of coastal aquifers is studied, as well as health risks associated with drinking water supply, according to the method of the WHO Water Safety Plan adapted locally.

Raising people's awareness on the waste of the resource, the problem of invasive aquatic species, data exchange and interoperability, the spatial and temporal perspectives of agricul-

tural water demand or the analysis of the impact of climate change are all issues fueling VKP-WMC activities.

The first analysis of the data produced by the different partners can now initiate new actions aimed at streamlining and increasing water resources use in the VKP area.

This VKP-WMC experience is unique in New Caledonia and greeted by all its members for its ability to federate stakeholders and coordinate their actions for the benefit of the Caledonian population.

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www.inbo-news.org

The website
of Basin Management
over the World



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SIC-ICWC

Capacity Building in Integrated Water Management and Planning

The Institute for Water Education (UNESCO-IHE, Delft, Netherlands) and Scientific-Information Center (SIC) of Interstate Coordination Water Commission (ICWC) of Central Asia (CA) are realizing a Joint Program for Capacity Building on Integrated Water Management and Planning in Central Asia.

Training of national trainers for the 5 countries is one Component of the Joint Program. It consists of 4 Educational Blocks:

- **Block 1:** Integrated Water Resources Management;
- **Block 2:** Perfection of Irrigated Agriculture;
- **Block 3:** International Water Law and Policy;
- **Block 4:** Regional Cooperation on Transboundary Rivers.

Regional trainers from SIC-ICWC have developed educational programs for these Blocks, composed of separate but interconnected modules that can be given separately to the students or experts, depending on the training needs.

The 4 blocks and their modules cover practically all aspects of the water sector and all levels of training - from lowest (farmers, association of water users, local state bodies of water management etc.) up to highest (decision-makers in the appropriate ministries and departments).

Period 2010-2011 was devoted to the realization of some regional seminars for training national trainers on each educational block and to the preparation of national seminars.

The Ministry of Agriculture and Water Resources of the Republic of Uzbekistan has shown high interest in the realization of these training seminars. In September 2011, national seminars were carried out in different regions of Uzbekistan (Tashkent, Samarkand, Fergana) addressing the staff of all Basin Organizations and Irrigation Systems.

Water saving, water management at basin level, public participation and water legislation were the basic themes of these seminars.

About 100 experts were trained.

The realization of such seminars within the Joint Program is now interesting other countries of Central Asia - Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan.

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Uzbekistan



Integrated Zarafshan River Basin Management: A Water Use Efficiency Plan

Initiated in 2010 by the Government of Uzbekistan, this project is supported by UNDP and consists of three components:

- **Component 1:** Improved Legal and Institutional Framework for IWRM in Uzbekistan.
- **Component 2:** Improved Water Communal Services and Utilities in the Zarafshan River Basin.

- **Component 3:** IWRM and Water Use Efficiency Plan for the Zarafshan River Basin (ZRB).

The Republic of Uzbekistan has been a Party of the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes and the 1997 UN Convention on Non-navigational Uses of Transboundary Watercourses.

The Law on Water and Water Use of 1993 will be modernized while taking into account the changes in the water sector.

One of the objectives is to create a legislative basis, which would include **Public Water Committees (PWC)** set up in rural areas for managing water supply at local level.

It is planned that the PWCs should be non-governmental, non-profit and self-governed organizations of citizens.

The creation of Basin Councils is also planned.

An Intersectoral Working Group (IWG) has been created and had several sessions for reviewing the draft new law and obtaining a consensus of its members regarding the legislative principles.

The IWG includes the representatives of more than 20 National Agencies-Partners (Ministries, Implementing Agencies, State Committee for Nature Protection, Water Consumers Associations, Private Farm Associations, Local Authorities etc.)

The successful realization of the two other components of the project is directly related to the acceptance of the new water Legislation and will allow disseminating its experience to the whole territory of Uzbekistan.

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Le The Zarafshan River

Eastern Europe - Caucasus - Central Asia

Early stages of the pilot project to strengthen data administration in two EECCA Transboundary Basins

In the countries of Eastern Europe, Caucasus and Central Asia, the challenges related to transboundary water management are particularly critical for future development.

The implementation of effective policies to manage water resources while respecting natural balance requires above all that the decision makers, involved at regional, national, and local levels, have the information available to meet their needs and validated with the partners, on water resources assessment and present and future water needs / demands.

In 2010, the "FFEM" (French Global Environment Fund) provided the funding of € 800,000, with the support of the French Ministry of Ecology and Sustainable Development and the International Office for Water, INBO Secretariat, for jointly financing a € 2,252,000 project to build data administration capacity and enhancement at transboundary basin level in the countries of Eastern Europe, Caucasus and Central Asia.

This project, developed as part of activities related to "the Convention on the Protection and Use of Transboundary Watercourses and International Lakes", whose secretariat is

hosted by UNECE, aimed primarily at strengthening, in 2 transboundary pilot basins, the capabilities of shared data and information management between the various partners by using methodologies that can be also applied to other transboundary basins.

Administered by IWAC (International Water Assessment Center) and technically coordinated by IOWater, this project began activities in December 2010:

- **In the Dniester River Basin** shared by the Ukraine and Moldova, in cooperation with the national authorities and the Dniester III project.
- **In the Aral Sea Basin** (Amu Darya and Syr Darya River Basins) shared by the five Central Asian countries (Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, Turkmenistan) and Afghanistan, again in collaboration with the national authorities through IFAS Executive Committee, an international organization recognized by the five Central Asian countries to develop integrated water resources management in the Aral Sea Basin.



The Amu Darya delta

After a phase of objective validation with the partners, the diagnostic phase is entering now in the final phase.

It has already enabled to:

- **develop a database of data producers**, managers and users which can be consulted online
- **organize, in 5 of the 7 countries concerned, workshops gathering the main data producers**, to launch, with their direct collaboration, an inventory of data sources existing at national level (available online in Russian and English) and draw data flow diagrams describing the exchange of existing data on the main topics of water resources management (surface water quantity, rainfall, surface water quality, groundwater, uses, socioeconomic, environmental and geographical data)
- **launch an online survey** that allows partners, data producers, managers and users, presenting their needs in terms of information, services management tools and training related to data administration.

Based on the obtained results, an action plan will shortly be presented to the partners of each basin in order to define with them the priority actions that will be developed in 2012 for the final phase of the project.

The results of this work are already available on the dedicated Website and were presented in several side events during the last UNECE Environment Ministers' Conference held in Astana in September 2011.

This project will be presented at the next World Water Forum to be held in Marseilles in March 2012.

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Workshop in Central Asia



UNECE



Fonds Français
pour l'
Environnement Mondial

IWRM-Net - Scientific Coordination Project



For 5 years, from 2006 to 2010, the European **IWRM-Net** project, which IOWater, INBO Secretariat, coordinated, has gathered **20 organizations from 14 countries** involved in research programs on integrated water management.

IWRM-Net has developed activities for cooperation and exchange in this area.

Two calls for transnational projects have been possible, allowing launching new research on topics such as hydro-

morphology, water governance, the problems of drought and scarcity, climate change, but also socio-economic development and evaluation of policies on Integrated Water Resources Management.

IWRM-Net Scientific Coordination Project aims to guarantee the continuity of the research projects that were financed by the calls for proposals of the European **IWRM-Net** program.

The French Ministry for Ecology, at the initiative of **IWRM-Net-SCP**, aims to include these projects in the broader context of European Research on Water.

The **www.iwrn-net.eu** website has been updated and includes, in addition to a science policy information interface, links to 10 financed projects, 6 of which being multinational projects launched in 2010 on the following topics:

- **Water Cap and Trade** (scenarios of "water markets" in Southern Europe);
- **Water2Adapt** (water demand management for adaptation to climate change);
- **IMPACT** (model of river restoration);

- **ICARUS** (adaptation of ecosystems to climate change in Southern European rural areas);
- **CLIMAWARE** (climate change impact on river flows and their consequences on hydromorphological conditions);
- **ESAWADI** (ecosystem service approach for WFD implementation).

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NOVIWAM

New integrated water resources management systems for Southern Europe

NOVIWAM
Novel Integrated Water Management Systems
Southern European Regions



Communication and dissemination of results

The constant exchanges between partners and the communication of work are the guarantors of the success of this project.

In 2010 and 2011, two conferences were held in Poitiers and Oporto on the following topics:

- Integrated river basin management
- Urban wastewater management;
- Quality of water and aquatic ecosystems;
- An irrigation best suited to the situation of the resource;
- Governance tools and modeling.

The associated roundtables were designed to initiate the action plan and to define the essential tools that can be developed.

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

This project is funded by the European Union under FP7 and gathers partners from Albania, Cyprus, France, Portugal and Spain and will be developed for neighboring countries facing similar water management problems, existing in the Euro-Mediterranean climate space.

The need analysis in terms of research was completed in early 2011.

The establishment of a joint action plan between the partners has been initiated.

"Waterdiss2.0"

Optimizing identification and dissemination of findings of European Water research



The **"Waterdiss2.0"** (Dissemination and uptake of Framework Programme water research results) project aims to promote dissemination of European research results on water.

This project is coordinated by the International Office for Water, INBO Secretariat, and includes **8 partners from France, Spain, Great Britain, Germany, Romania, Poland and Italy.**

It is funded by the European Union.

Thanks to an innovative methodology **"Waterdiss2.0"** allows:

- **enhancing faster research results**, with the development of individual strategies for joint dissemination, defined with the project coordinators,

- **bringing together "producers" and "users" of research**, through their participation in various events such as Pollutec 2011 in Paris or WWF6 in Marseilles in March 2012,
- **exchanging via a platform,**
- **creating a network, the "European Water Community"**, which aims to improve water management in Europe by promoting links between research and public policy (Science Policy Interface).

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Oporto - Portugal - 27-30 September 2011



254 participants from 46 Countries

The ninth Conference of the "EUROPE-INBO" group was held in Oporto, Portugal, from 27 to 30 September 2011, at the invitation of ARH Norte.

The "EUROPE-INBO 2011" conference gathered 254 participants, representatives of National Administrations and Basin Organizations as well as NGOs and companies from 46 Countries.

This meeting was jointly organized with the 9th General Assembly of the Mediterranean Network of Basin Organizations (MENBO).

The 9th "EUROPE-INBO 2011" International Conference in Oporto was organized around successive round tables addressing the following issues:

- **Water Governance in Transboundary River Basin scenarios;**
- **Adaptation to long term challenges linked to climate change and prevention of extreme phenomena;**

- **Water and Energy;**
- **River hydro-morphology, restoration and protection of water ecosystems;**
- **Application of the WFD in countries non-members of the European Union.**

75 papers were presented during the five round tables.

The recommendations and proposals will be presented at the World Water Forum in Marseilles, from 12 to 17 March 2012, under the Regional European Preparatory Process:

1 **Transboundary Water Management**

Cooperation among the riparian countries to better manage transboundary rivers, lakes and aquifers in Europe and the Mediterranean should be improved.

Transboundary river basins and aquifers should be managed in an integrated manner, based on legal frameworks common to all the riparian countries, a shared understanding of the challenges, based on the exchange of data and analyses, and on the involvement of all the different stakeholders to define a "shared vision" and a common strategy for the future to share the benefits.

It is advisable that all UNECE countries ratify the "Water Convention" (Helsinki 1992) as well as the amendment opening the Convention to countries outside the region.

Many basins still lack effective frameworks for cooperation.

The joint bodies responsible for transboundary cooperation on water are still few, often with a limited mandate and limited operational capacity.

It is advisable to provide increased support to interested countries for the signing of new agreements on transboundary basins, as well as for the creation of new River Basin Organizations or for strengthening existing ones.

The implementation of the European Water Framework Directive (WFD) is a path that other regions can explore, especially neighboring countries that share the same transboundary basin with EU Member Countries.

It is necessary to strengthen and widen the mandate of International Commissions and their means for carrying out their tasks of exchange and coordination at the level of their entire transboundary basin.

The Basin Management Plans should be the key instruments for this integration of transboundary efforts.

2 **Cross-sectoral integration and adaptation to climate change**

The basin management approach seems the best way to manage water resources: **common cause between upstream and downstream basins should be strengthened, particularly for adaptation to climate change.**

It is essential to improve coordination between the WFD and the other European Directives on water resources management.

But, above all, water management is linked to many sectoral policies of the European Union: **cross-sectoral integration is the only way for sustainable water resources management in the future.**

The "Good Status" of many Water Bodies, especially groundwater, will not be achieved in the entire European Union in 2015 and sometimes beyond, without a significant strengthening of agri-environmental measures especially in the reform of the Common Agricultural Policy.

It is necessary to introduce new practices to prevent droughts and water shortages affecting a large part of the territory and of the European population, and to provide "sustainability" to irrigated agriculture, essential for increasing food production, for securing farms' economy and production quality

It will be necessary to reduce water consumption and enhance the effectiveness of all uses.

We must quantify the economic value of the services provided by aquatic ecosystems, to better justify their protection and restoration.

Climate change will occur with more severe droughts or floods throughout Europe.

It is urgent to develop a better "Science and Policy Interface" (SPI) to anticipate changes and provide field operators with new tools for adapting to climate change to be introduced in the next 2015 - 2021 and 2021 - 2027 cycles of the Basin Management Plans and Programs of Measures.



"FOR FACILITATING THE IMPLEMENTATION OF THE EUROPEAN WATER FRAMEWORK DIRECTIVE"

Mediterranean Network of Basin Organizations (MENBO)

It is necessary:

- to reduce the risk of floods and marine flooding;
 - to prevent water scarcity and drought risk (especially with a demand management policy);
 - to introduce innovative and ambitious measures for adaptation to climate change and to its consequences on hydrological cycles.
- ③ **Coordination of policies on water and renewable energy**

It is essential to balance the WFD requirements with those of the Directive on Renewable Energy.

The improved performance of existing hydropower plants, which have real economic value, is a priority.

Old infrastructure should be rehabilitated to meet the new requirements.

The infrastructures that are no longer economic should be "erased".

Strategic plans for the development of hydropower must be drafted and accompanied by measures to minimize impacts on the environment and improve the built areas versus aquatic life.

Framework agreements, laying down the objectives to be achieved, the requirements to be complied with and the means for follow-up and monitoring, could be usefully generalized.

A review of old hydropower concessions should be quickly considered.

Infrastructures should meet strict requirements, particularly in terms of maintaining an ecological reserved flow for migrating fish species and sediment management.

The new hydropower concessions or the renewal of old ones should be considered in each basin to cover "a complete chain of infrastructures" enabling their integrated management and not for each infrastructure after another.

- ④ **Improvement of European and Mediterranean drinking water supply and sanitation services**

Water services have a cost and require substantial funding, both in investment and operation.

The Organization for Economic Cooperation and Development (OECD), in particular, promotes the concept of "3T" (Taxes, Tariffs, Transfers) as viable options for sustainable financing of water services.

The civil society should be informed and take part in the decision-making process.

The vocational training of the employees of water utilities is essential to guarantee the good design, development, operation, maintenance and renewal of infrastructures and the quality of the services provided to the users.

It is essential to make them a condition for assistance from the European institutions and donors.

- ⑤ **Rehabilitation and protection of aquatic ecosystems**

It is a priority target of the Water Framework Directive.

One of the barriers is land ownership: **the right to intervene in private fields, or to change their use, should be increased.**

Mechanisms for regional planning on a large-scale (green and blue schemes) should be developed,

- ⑥ **Strengthening of European cooperation in the field of water**

It is undeniable that the Millennium Development Goals (MDGs), especially in the sanitation sector, cannot be achieved without significant support from the European Union and Member States to Third Countries, especially in Africa, but also in Eastern Europe, Caucasus and Central Asia and in the Mediterranean.

The focus can be placed on increasing cooperation between EU District Authorities, Local Authorities and NGOs and their counterparts in neighboring countries through innovative financial mechanisms such as the "1% for common cause" allowing the managers of water and sanitation utilities to voluntarily spend up to at least 1% of their income for national, community and international common cause actions.

It is appropriate to continue and strengthen the EU Water Initiative (EUWI), ten years after its launching, by providing it with real means for institutional supports.

Water should be a priority of the EU assistance-to-development policy.

It is advisable that the "2nd EUWI strategy" gives more room to improved governance, financing mechanisms, transboundary basin management, communication and participation.

To achieve these goals, it is advisable to launch again the dynamics of twinning between EU Basin Organizations and their counterparts in neighboring countries.

A "World Pact for better river basin management" will be proposed for signature by Basin Organizations from all over the world during the closing day of the World Water Forum in Marseilles on 16 March 2012.

The participants thanked Mr. Laurent Fayein, President of the Rhone, Mediterranean and Corsica Water Agency (France), for his Presidency of the EUROPE-INBO Group during the year 2010/2011.

They gratefully accepted Turkey's proposal to host in Istanbul the next EUROPE-INBO 2012 conference.

The Delegates thanked the Portuguese Authorities and the ARH-Norte for their excellent hospitality and their good organization of this 9th Conference.

Mr. Antonio Guerreiro De Brito, President of ARH Norte (Portugal), was elected President of the "EUROPE-INBO Group" for the year to come.

MENBO General Assembly thanked Mr. Fadi Comair, General Director for Water and Energy in Lebanon, for his initiatives launched during his MENBO Presidency.

Mr. Antonio Guerreiro De Brito, President of ARH Norte (Portugal), was elected new President of MENBO until the next General Assembly in 2013.



Europe

European Union



STREAM: first summer school

The **STREAM** project (Sustainable Technologies and Research for European Aquatic Management) is funded by the European Commission under the FP7- Environment.

It is coordinated by Minerva Consulting and Communication (BE) and involves the European Water Partnership (EWP), Menon Network and Europe for Business (EFB).

The project aims at reducing the gap between research on water, policy making and industry, by bringing together members of these three groups of stakeholders.

Knowledge sharing experiences, such as e-Learning, are addressed to the three groups and "summer schools" are especially addressed to researchers and industry/SME.

The main objective of the project is to contribute to make the point on the state of the art of the research funded by the European Union to support the development of water technologies in order to face future challenges.

STREAM raises awareness on the findings of research projects through the organization of various communication

activities and will convey tailored information to specific categories of stakeholders.

The **STREAM** project launched the first "Summer School", which was held on 26-30 September 2011 in Barcelona.

During the intensive 5 days training, participants had the possibility to meet and share experiences with high-level experts in water resource management, legislation, as well as technology and innovation.

E-Learning courses have been launched as well as, starting from November, policy seminars: the first taking place during the International Water Week in Amsterdam.

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RESTORE

Communicating river restoration best practice across Europe

RESTORE (Rivers: Engaging, Supporting and Transferring knowledge for Restoration in Europe) is an **EU-LIFE** Information and Communication project that aims to develop the existing river restoration network, raise awareness of best practice and promote effective river restoration knowledge transfer across 21 countries in Europe.

The UK-based River Restoration Center (RRC) is promoting best practices of river, watercourse and floodplain restoration, enhancement and management.

RRC is the **RESTORE** leader for Western Europe covering the UK, the Republic of Ireland, Northern France, Germany, Netherlands, Denmark, Belgium and Austria.

RESTORE will collate information about different approaches and experiences in river restoration to better inform and support those involved in river management to achieve environmental objectives set by EU Directives.

Project engagement in **RESTORE** will focus on three key audiences: policy-makers, river basin managers and practitioners.

The outreach target over three years (Sept 2013) is 90,000 people.

The RRC hosted an event for contractors and consultants to discuss the link between river restoration design and implementation in July 2011.

This is the first of twelve events to be held in Western Europe with site visits and field excursions also planned.

In addition to these events, the project will develop a database with an online Wiki function which will allow users to edit and contribute to the project at any time.

The database will link to case studies, guidance and contacts including general search options on river types, restoration measures and evaluation procedures.

The project will also disseminate information through a website and regular electronic newsletters.

The other project partners include the Environment Agency, "CIRF" (Italian Center for River Restoration), "SYKE" (Finnish Environmental Research Institute), Wetlands International and "DLG" (Government Service for Land and Water Management) in the Netherlands.

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Forest workshop site visit, July 2011. © Toni Scarr

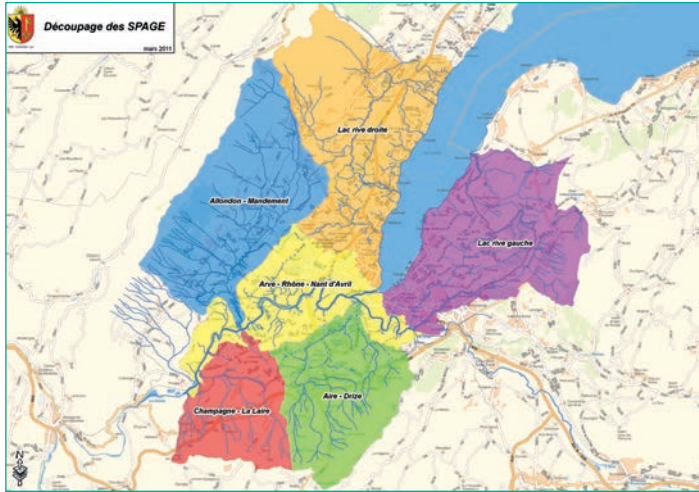


Switzerland



Six "SPAGES"

Tools for better management of our water resources



Although there is in general no shortage of water in the Lake Geneva Region, its management has proven to be more and more complex. In fact, on a densely populated territory with a large variety of installations, water resources are continuously under strong pressures.

To plan and coordinate optimal water management at the level of watersheds, the Canton of Geneva, is planning the implementation of Schemes for the Protection, Planning and Management of Water Resources (SPAGE).

Six "SPAGES" for Geneva

The objective of the "SPAGES" - which find their legitimacy in the Water Act - is to reconcile, on the territory of each hydrological watershed, the various issues related to water: protection against floods, uses (drinking water, recreational activities, energy production), wastewater treatment, agricultural use, nature protection.

A "SPAGE" represents therefore a tool for overall water management.

To achieve this, the territory has been divided into six river basins which go beyond national boundaries, with the upstream parts of the watercourses generally on French territory.

Design and Implementation

The development of a "SPAGE" can be divided into four consecutive steps:

- The first consists of a general situation analysis of the relevant river basin and its various water bodies (status of the watercourses, ponds, biocenosis, groundwater, recreational activities, uses, etc.);
- The second step aims at defining the objectives which will guarantee, in the long term, the conservation of water quality, the protection against floods, the minimal space necessary for watercourses or objectives for nature and landscape;
- The third step consists of the development of a Plan of Measures meeting the set objectives, through field actions to be carried out;

- Finally, after a six-year period, an evaluation of the efficiency of the measures will be made before embarking on a new action cycle.

A multi-stakeholder approach

The development of a "SPAGE" is carried out in partnership between the services of the State, the communities and the associations and sectors concerned (fishermen, associations for environmental protection, farmers, etc.).

This approach allows the Canton of Geneva having efficient tools for the management of its water resources in the long term.

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"LEMANO"

A new method for assessing the sustainability of water resources management

The "LEMANO" method for assessing the sustainability of water resources management is based on the World Bank's "capital stocks" model.

In this model, communities not only have at their disposal economic assets, in the usual sense of personal properties, real estates and financial assets but also a set of "environmental and social assets".

A community does develop according to sustainability principles only if it lives on the interests generated by the "capital" at its disposal and if its aggregated value is maintained over time.

The integration of the environment as "capital" implies that natural resources can be exploited for the benefit of communities as long as their ability to renew is not affected.

The "LEMANO" method takes into account a total of twenty-one sustainability indicators: 8 are environmental, 6 economic and 7 social.

The main results of the "LEMANO" method applied in four river basins located in the Lemman Lake region, Aubonne (Vaud), Versoix (Ain, Vaud, Geneva), Dranses (Valais) and Foron Sciez (Upper-Savoy) are expressed as a percentage of a situation regarded as sustainability optimum.

They show existing gaps between a measured reality and an estimated "sustainable" status, this helps identifying management strengths and weaknesses for which remedial measures should be implemented by water managers.

A management chart is thus provided. According to the importance of gaps, prioritized recommendations are made and submitted to water stakeholders in order to help them manage water resources according to sustainable development principles.

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"Programme Solidarité Eau" - Solidarity Water Program - PS-Eau

Solidarity financial mechanisms for water and sanitation...

A human right and an international emergency!

5,000 people, mostly children, die every day from diseases caused by unsafe water or a lack of toilets.

In 2010 the UN recognized access to safe water and sanitary facilities as a basic human right.

It is indeed a great step forward, and Governments, local authorities and NGOs must now do everything in their power to achieve this objective and bring a maximum of technical and financial support to those living in developing countries.

Decentralized Cooperation aiming at access to water and sanitation for all

Of all the different forms of cooperation that can be mobilized to supplement major bilateral and international funds and financing mechanisms, **cooperation between local authorities of the North and South is extremely important:** it helps to tackle various specific problems encountered in the field, thanks, in particular, to the ties that are built between towns, organizations, associations, elected officials and technicians who are responsible for water issues and development.

Such cooperation addresses technical, social and governance issues and the local authorities' experience acquired through such initiatives is invaluable (daily management of services, public relations, working in partnership at various geographical scales, etc.).

However, taking action, carrying out projects also requires financial resources!

An innovative means of financing: the "1% for solidarity for water"

Since 2005 in France, the Law has allowed local authorities, their structures and bodies responsible for water and sanitation, as well as water agencies to dedicate up to 1% of their budgets to decentralized cooperation and international solidarity actions for water and sanitation.

Application of this Law is not compulsory.

It requires a political decision on the part of the local elected representatives to implement it.

The 1% mechanism has been growing at a startling rate as € 10 million were mobilized in 2007 and € 19 million in 2010!

Now, all the French Water Agencies, 30 water authorities and 30 towns and cities (in other words more than 16 million customers) are contributing to international development actions, thanks to a small amount taken from each water bill.

Potentially, it is estimated that a total of € 60 million per year could be raised in this way.



Well built in Nagréongo (Burkina Faso)

And now the challenges... generalization in France and why not across Europe...

Of course particular attention must be paid to the quality of the projects retained (management, technical and financial viability, relevance, sustainability, timely implementation, impact assessment, etc.).

The 1% financing mechanism is now becoming well-known and appreciated for its simplicity and effectiveness. Now it is important to let all the local authorities in France know about this mechanism and increase the number of international development actions. Similar innovative financing mechanisms are being set up in other European countries (Switzerland, the Netherlands and Belgium) and the hope is that these mechanisms could be adapted in all developed countries, making it possible to considerably increase the number of development actions based on international solidarity for water and sanitation.

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European Union: new priority substances



IOWater, associated with INERIS, has for 6 years provided technical assistance to the DG Environment of the European Commission for WFD implementation.

In the fall of 2011, the Commission used the results of this work to propose to the European Parliament a new list of "priority substances" with concentrations to comply with.

Using a database of **15 million analyses collected in 28 countries**, a website for experts has been created, in a first step, and summarizes on sheets the available data for each substance.

The site will be accessible to everyone after the publication of the new list.

The collection tool used to gather these data will also be available.

Written in English, it was designed to be used both by an expert in databases and by a non-expert.

Everyone will be able to use it to collect analyses on water, sediment and biota, in accordance with the needs of the European Commission and European Environment Agency.

It includes procedures for data import and export in XML format and automatic checks that allow for distribution in decentralized services and the gathering of structured files.

www.priority.substances.wfd.oieau.fr

France



Val-de-Marne

The "Blue Plan", a shared policy about water



PLAN BLEU
VAL-DE-MARNE

Located just outside of Paris, the Val-de-Marne, in addition to being among the most urbanized departments in France, also produces the largest quantity of drinking water from its rivers.

After years of experience in public management of sanitation services, the General Council initiated a participatory approach to sustainable development with the "Blue Plan", which brings together all the water stakeholders - users, managers or consumers - around sustainable water management for 2020.

The drafting of the "Blue Plan", is indeed based on dialogue between all the water stakeholders.

For two years, workshops have been taken place gathering water professionals for drafting an action plan, finally adopted by the General Council of Val-de-Marne.

Signed in 2009 by 78 partners, the "Blue Plan", includes a Water Charter and an action plan, that promote the commitment of everyone, citizens, professionals and public institutions, to offer water a better future in the Val-de-Marne.

The aim is to take into account the "water" factor in environmental, social, and economic issues: regional and urban planning, water quality, biodiversity preservation, storm water treatment, fight against the use of pesticides, international cooperation, waste disposal by common-cause associa-

tions, awareness of companies and residents, development of commercial shipping, flood prevention, etc.

The sharing of experiences allowed for the realization of very different projects such as **the project to recover the Bievre River**.

This river, which flowed through Paris until its outlet into the Seine, has been polluted by industries and gradually transformed into a sewer. Its rebirth in two segments as a natural river in the Val-de-Marne, a project jointly set up with the local communities bordering the river and their residents, is scheduled for 2014.

Other segments of the river will be recovered in middle term.

In 2010, 249 concrete actions were carried out by all the partners within the "Blue Plan". A committee, made up of all the water stakeholders, annually identifies actions to be implemented.

In 2011, three priorities were identified: flood risk, reduction of the use of pesticides, and storm water management.

For example, the implementation of international partnerships with local authorities in five countries (Vietnam, Niger, Palestine, El Salvador and South Africa) can also be mentioned.

Water management, in addition to being an important vehicle for mobilizing stakeholders, also contributes to the development of a new culture based on sustainable development.

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French Guyana

Master Plan for Water Management and Development (SDAGE)

Guyana, a French Department in South America, covers about 84,000 square kilometers, composed by 90% of rain-forest. Its borders with Brazil and Surinam are made up of rivers, the watersheds of which have an international character.

For implementing the European Water Framework Directive, Guyana forms a sole River Basin District in which the Basin Committee has implemented a Master Plan for Water Management and Development (SDAGE).

The "SDAGE" development has been the subject of a wide consultation, both public and institutional, in the French department and also in neighboring countries. Water management in Guyana addresses key concerns: drinking water supply for the entire popula-

tion, reduction of domestic pollution, agricultural pollution, reducing the impacts of mining, especially gold. Improve water quality also means improving knowledge of aquatic environments, and the application of the polluter-pays principle.

The "SDAGE", approved on November 23, 2009, defines five broad guidelines for water management, divided into 70 detailed provisions.

It sets targets for achieving the good status of the 944 inland and coastal surface water bodies and 12 ground-water bodies.

The associated Program of Measures includes more than 360 actions to be implemented by 2015.

Monitoring indicators have been defined at the national level and

locally, and are the "SDAGE" management chart.

It gives an overview of the results obtained on water uses and effects on the environment.

In parallel, working groups met in 2011 to make an assessment of the progress made in the Program of Measures.

The work relies on partners identified during the development of the "SDAGE" as "leaders" of the detailed provisions, whose role is to follow up with the action developers.

This arrangement allows fostering a dynamics with the various partners, mostly administrations, but also communities, associations for environmental protection and professionals.

Major collaborative work remains to be done, so that the actions taken on the French side are reflected in the border watersheds in Brazil and Suriname, or at least are not compromised by contradictory policies.



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Free speech

The Alps: a framework for Public Consultation on Water Management



Under the current intensity of climate and anthropogenic change in the Alps, extreme events such as droughts, floods, avalanches and debris flows are on the increase.

The number of drought days has, for example, been growing in most of the Alps within the last 50 years.

These extreme events are tightly interlaced in rapid temporal succession and subject to significant seasonal shifts.

This requires significant adjustments to be made for example in dam-reser-

voir management strategies, water supply to tourist resorts, irrigation and pasture cycles as well as wood and sediment management.

It is important to involve local water users and consult the public, including tourists, but also to improve water management using a multi-sectorial, multi-lingual and multidisciplinary approach.

This should involve both the media and targeted think-tank groups for exchanging knowledge between the six alpine countries.

Not enough scientific advancement is shared with stakeholders, and vice versa; stakeholders are not involved enough as climate change witnesses to fill scientific knowledge gaps.

Scientists should become more proactive in providing knowledge for water practitioners in river basins.

Simultaneously, it is necessary to identify experienced stakeholders for them to give presentations at applied scientific conferences.

Good practice examples of adaptation to extreme events should be identified, even in remote areas and successful adaptation techniques from the past used to inspire the future.

Unforeseen effects are to be anticipated, such as the impacts of droughts on local and regional economy.

Water management should be interrelated with the cultural and agricultural landscape and attempt to contribute to achieve carbon neutrality by protecting wetlands, lakes and soils to fix carbon and avoid soil erosion.

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Department of the Lot

Conservation of drinking water resources in wine-producing region

The region, where the "AOC"-labelled wine of Cahors is produced, extends on 45 municipalities of the Lot River Basin.

On this territory, **wine producers and local authorities gather to protect their water resources which are threatened by pesticides pollution.** In 2008, a Local Action Plan (LAP), a technical and financial tool of the Adour-Garonne Water Agency was used and managed by the "ADASEA" of the Lot.

The various actions were determined with a diagnostic of the territory, realized in coordination with the various stakeholders.

They concern all users of pesticides: farmers, municipalities and individuals.

This is a threefold objective: reduce pressures caused by pesticides and limit transfers of pollutants in water resources, improve knowledge and

follow-up water quality, and finally increase the users' awareness to reduce the use of pesticides.

Currently, about a hundred wine producers are voluntarily committed to reduce or stop the use of pesticides on approximately 1,800 ha, and half of the municipalities implemented weed-killing plans, in order to limit the use of pesticides in public spaces.

At the same time, the French Ministries of Sustainable Development, Health and Agriculture have published a national list of 507 drinking water catchment areas among the most threatened by diffuse pollution.

Three of these catchment areas are in the Department of the Lot, all of them located in the LAP area.

The objective is to protect these catchments areas against diffuse pollution, by 2012.

A specific action plan must be drafted and its implementation is based on partnership with the various stakeholders of the territory.

Actions will be proposed using a voluntary approach through contracts, but this may become compulsory if the fixed objectives are not met.

The challenges of this approach are good coordination and an appropriation of this program by the various stakeholders, in order to reconcile economic stakes linked to wine production and environmental stakes of water resources conservation.

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The Lot valley

Eastern and Central Europe

France



Twinning arrangements of the French Water Agencies in Eastern Europe

IN BULGARIA

On 20 April in Blagoevgrad (Bulgaria), Messrs. Radoslav Georgiev, Director of the West Aegean Basin Directorate and Marc Abadie, General Director of the Adour-Garonne Water Agency, signed a three-year partnership between their two institutions in the presence of Mrs. Ivelina Vassileva, Deputy Minister for the Environment and Mr. Pierre Augey, Chairman of the Commission on International Relations of the Adour-Garonne Basin Committee.

The West Aegean Basin is that of the Struma River which has its headwaters south of Sofia and receives tributaries

from Serbia and the former Republic of Macedonia (FYROM) before joining the Aegean Sea across the northern part of Greece.

In accordance with the wishes expressed by the Bulgarian partners, this partnership agreement consists in sharing experience on three topics related to the implementation of the Water Framework Directive:

- **Development, monitoring and updating of the West Aegean Basin Management Plan;**
- **Restoration of the morphodynamics of rivers and of ecological continuity;**
- **Economic analysis.**

IN POLAND

To give a new impetus to cooperation between France and Poland in the field of water, a meeting was held on last 7 June in Warsaw with the participation of the Adour-Garonne and Artois-Picardy Water Agencies.

One of the major lines of this cooperation is the problem of flooding.

On this occasion, the Artois-Picardy Water Agency signed a partnership agreement with the Regional Water Management Board in Krakow - RZGW (Upper Vistula).

In 1993, the Adour-Garonne Water Agency had signed a partnership agreement with the Regional Water Management Authority in Warsaw (Middle Vistula), which was renewed on 21 July 2010 for three years.

In October, a videoconference seminar was organized on **the implementation of the Nitrates Directive** and on the analysis of diffuse pollution pressures.

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Central Serbia - Kosovo



Transboundary Zapadna Morava River Basin: Wastewater management

The harmonization of water resources management with European environmental standards in the countries of former Yugoslavia involves the implementation of large investment programs, the financing of which requires the mobilization of huge funds. In order to prepare the quick mobilization of funds for integration, **the European Union has launched studies for the Master Plan for Sanitation in the Zapadna Morava River Basin.**

The Zapadna Morava is a tributary of the Danube. Its watershed, which hosts about 2 million inhabitants, covers 36 municipalities and extends in Central Serbia and Kosovo.

There is currently no operating wastewater treatment plant in the basin, and industrial and domestic discharges have proven to have impact on water quality, with consequences on the environment and public health.

The studies were entrusted to a consortium of consulting firms led by Safège and regrouping Seureca, Eptisa, Safège Serbia and Beoinzenjering 2000.

The project aims to provide stakeholders with the tools to accelerate investment in sanitation infrastructure, including preparing a logical and functional framework for access to IPA funds (Instrument for Pre-accession Assistance) of the European Union.

By choosing to focus on the hydraulic aspects of the policies, the EU is in line with the Framework Directive 2000/60/EC and demonstrates the importance of integrated water resources management in the river basins to solve environmental problems.

Due to the very particular transboundary context of the river basin resulting from the status of Kosovo, project management is provided both by the EU Delegation in Belgrade and the EU Liaison Office in Kosovo.

The master plan seeks to align the interests of both communities.

The master plan for sanitation thus should lead to the definition of two investment programs (Central Serbia and Kosovo,) whose coordinated implementation should enable integrated wastewater management throughout the river basin before 2035, within an institutional framework adapted to the transboundary nature.

These investment programs will be implemented by regional public companies responsible for drinking water supply and sanitation.

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The Zapadna Morava



Guadalquivir

Study on the economic productivity of water use



The M. Botín Foundation has dealt with the issue of water since 1998.

It has carried out studies on multiple scales for the country as a whole and on some products such as tomato and olive oil; and also on the scale of the Guadalquivir River Basin where the irrigated area reached 846,000 ha in 2008.

This basin study is taken into account not only the use of "blue water" (irrigation, urban and industrial water supply) but also the use of "green water" for the above-mentioned uses and ecosystems.

The analysis of the water demand of the ecosystems is an issue of growing significance as changes in land use seem to affect the availability of "blue water" as much as climate change.

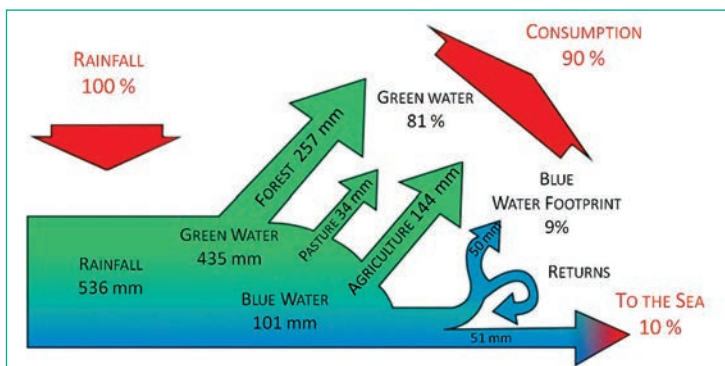
Water consumption has been analyzed through the method of the Extended Water Footprint that considers both water consumption and its associated economic value.

The results show that agriculture is the main consumer (192 mm/year, 34% being blue water and 66% green water).

Olive represents the major consumer: in the last decade its irrigated area rose more than 200.000 ha.

Economic productivity fluctuates between less than 0.4 €/m³ for the most traditional crops (cereals, maize, cotton and rice) and values between 2 €/m³ for olive and more than 4 €/m³ for vegetables.

But the highest economic productivity is tourism (200 €/m³) and industries (50 €/m³).



The study concludes that better water management could be achieved thanks to a reallocation of water resources between the different uses. This may occur without social conflict with the farmers since the quantities of "blue water" required for these non-agricultural high-added value uses are 1-2% of the current total "blue water" use.

It is necessary to promote "win-win" solutions, facilitating farmers to change towards more productive and less contaminant crops: **more cash and care of nature per drop.**

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Ebro River Basin Confederation

"RECOREBRO", a monitoring network for discharged irrigation waters

The Ebro River Basin has 965,698 hectares of irrigated land. It is therefore very important to control and implement measures in irrigated agriculture in order to achieve the good status of water bodies required by the European Water Framework Directive.

The main problems come from the discharges of irrigation water, which carries concentrated amounts of nitrates and salts. In large irrigation districts, most of this water is gathered by drainage systems and ends up in streams and rivers.

In the Ebro Basin a special network for the Control of Discharged Irrigation Water (RECOREBRO) has been set up.

This network adds up to existing quality monitoring networks and has been established in sub-basins which have a significant predominance of irrigated land in order to daily control discharged water flows and their salt and nitrate concentrations.

It enables to obtain annual overall data from the studied district regarding water efficiency and the migration of contaminants by hectare.

The network has been set up in close collaboration between users, regrouped into irrigation communities, researchers and government authorities.

Collaboration with users is also making possible to extend the control network on a smaller scale within each irrigation district.

It currently monitors 5 sub-basins representing a total of 215,000 hectares, 22% of the irrigated lands in the Ebro Basin.

The Program of Measures of the Ebro River Basin District, under the Water Framework Directive, includes a number of actions to lessen the amount of discharged irrigation water by increasing efficiency and reusing water.

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Measurement station on the Ebro River

Spain



Júcar River Basin Authority

Integration of green filters in wetlands

To apply the Water Framework Directive and Urban Waste Water Directive in the Albufera Lake Basin, it has been necessary to resort to advanced water treatment systems to reduce nutrients. It is a wetland of high ecological value.

An unconventional technology using artificial wetlands has been used.

This technology is based on the use of aquatic plants that eliminate, among others, suspended solids, organic material, nitrogen, phosphorus and pathogens.

In the Albufera Basin, the Spanish Ministry of Environment and Rural and Marine Affairs has undertaken the construction of several artificial wetlands or green filters for additional treatment of urban wastewater.

In the case of "the Tancat de la Pipa", this new technology is used to improve water quality in the Lake, through the involvement of regional universities for monitoring its functioning and measuring the effectiveness of contaminant reduction and the evolution of water quality.

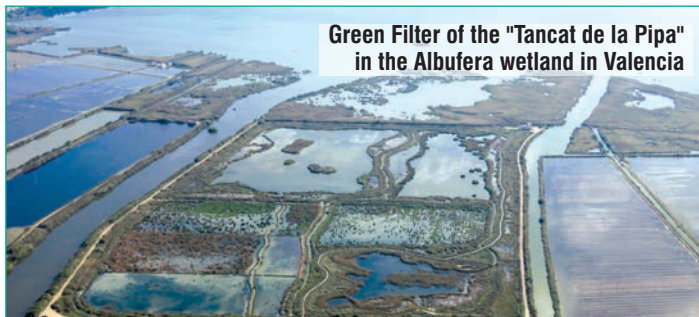
The experience of the "Tancat de la Pipa" has highlighted the potential of these spaces addressing water treat-

ment using unconventional technologies, to permit environmental restoration as well as public use.

Such activities offer possibilities for collaboration between the administration and social agents, through agreements on "land stewardship" planned in the Law 42/2007 of 13 December 2007 on Natural Heritage and Biodiversity.

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Green Filter of the "Tancat de la Pipa" in the Albufera wetland in Valencia



INVITATION



His Excellency Mr. Mohamed Salem Ould Merzoug,
World President of INBO,

High Commissioner of the Organization for the Development of the Senegal River (OMVS),
the Regional Networks of Basin Organizations in Africa, North America, Latin America, Brazil, Asia, Central and Eastern Europe, Eastern Europe, Caucasus and Central Asia, and in the Mediterranean,

the EUROPE-INBO Group of European Basin Organizations
and the International Network of Transboundary Basin Organizations,
the French Basin Committees, Water Agencies and Overseas Water Offices

INVITE YOU TO SIGN
"THE WORLD PACT FOR BETTER BASIN MANAGEMENT"

On Friday, 16 March 2012 - 13:00 to 14:30
at the 6th World Water Forum

Participate in the final drafting of the "Pact" and send us your comments:

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Middle East - The Mediterranean

Lebanon



Towards a Lebanese societal project... Sustainable environment: a new citizenship?

A small State located between Syria and Israel, Lebanon extends over 225 km of Mediterranean coasts and widens up to 50 km inland.

Its religious and cultural diversity is strong with 17 or 18 communities living willy-nilly together.

Sustainable environment could provide the beginnings of a social compact around which the Lebanese communities could gather.

In summer 2006, following the bombing of the Jiyeh Power Station in South Lebanon, an oil slick affected

most regions, either Christian or Muslim.

Pollution and environmental degradation then became a reality.

Other degradations, recurring in daily life of the Lebanese, have occurred for many decades: accumulation of waste, deforestation and air and water pollution do not spare any region and any community.

While historical record and politics divide the Lebanese communities, could these communities be capable of preserving a deteriorating territory?

The preservation of our collective environment could be a boost for building the future around sustainable development.

A questionnaire was submitted to 1,434 students in public and private schools: the objective was to measure the degree of awareness to environmental and pollution issues, then to propose an educational program that takes into account the psychological indicators, the sources and references essential to any educational program dedicated to environmental awareness.

The data processing results, on the one hand, the typical eco-village project, started in parallel with this research, on the other, have validated our initial hypothesis and the conclusions of this work show that such an assumption is not utopia.

We all share the same territory!

Rima Tarabay

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Fadi Comair

Director General in the Ministry of Water and Energy

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Promoting peace in the Jordan River Basin

Today, 40% of the world's populations live in transboundary river basins.

Basin development planning and management in regions such as the Middle East are vital due to the increasing pressure on scarce freshwater resources, especially in international river basins such as that the Jordan's.

Water allocation has been a significant element of the tension between the Basin's riparian countries for the past 40 years, thus more progress needs to be made to implement good basin planning and management.

At the University of Texas in Austin, Georges Comair and Daene McKinney are developing a geographically referenced database (geodatabase) using a

recently updated hydrological information system similar to the Arc Hydro framework.

Developing a transboundary geospatial database for the Jordan River Basin using Arc Hydro is essential to implement Integrated Water Resources Management.

To this day, due to the political situation in the region, no comprehensive database of all riparian countries of the Jordan River is available.

As in many transboundary basins in the world, information is often incomplete or inaccurate, especially if the riparian countries are in a conflict situation.

The geodatabase used in this study contains geographic data (areas of basins and length of streams).

Building a geodatabase in the future may help enhance cooperation between the five riparian countries by providing access to accurate data for

hydrological analysis of the basin and assist in optimizing water resource allocation plans for the region.

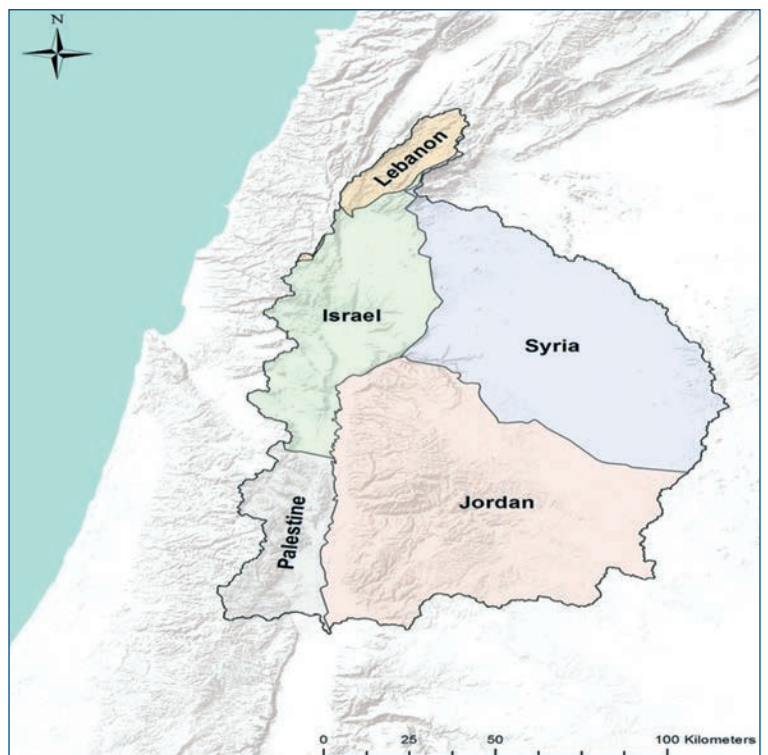
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Le Jordan River



Middle East - The Mediterranean

Iraq



IWRM in the Greater Zab River Basin - Kurdistan



Signing of the project - October 2010

After decades of conflict, the autonomous region of Kurdistan in Northern Iraq has recovered the stability essential to its economic development.

Water resources shared with the upstream Turkish and Iranian neighbors and the Iraqi government downstream is a key to this development: good quality arable lands could be irrigated, hydropower has definite potential, the industrial base should be strengthened

and natural areas and the rich archaeological heritage herald a major tourism development.

Integrated Water Resources Management at river basin level is a response to challenges currently facing the region where access to safe water and sanitation are far from guaranteed.

Faced with this growth, it is crucial to assess the water resource status to

ensure a harmonious development respectful of the environment.

The French Ministry of Finance supports the Kurdish Government by funding a project in the pilot Greater Zab River Basin to provide the Kurdish institutions with local decision-making supporting tools which are still lacking.

A consortium of French companies, involving the Canal de Provence Company, BRGM, IOWater and G2C IT, is leading the project for the benefit of the Kurdish Ministry of Water Resources.

The first phase of the project, which started in November 2010, is planning:

- A data collection and analysis for a shared knowledge base on water, its uses, natural environments, etc.;
- The analysis of the legislative and regulatory basis with proposals for adaptation;

- The implementation of a water information system in order to facilitate decision-making support, sharing and retrieval of data by the Ministries;
- The drafting of a Basin Management Plan including prioritized measures;
- A skills transfer and training plan.

The project allows initiating collective thinking on coordinated management of water resources at river basin level.

The Kurdish Authorities already wish to strengthen their knowledge by joining INBO.

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Water Management Strategy in the Mediterranean

MELIA Project recommendations

Sustainable water management is a main objective in the development of the Mediterranean Region.

The amount of information available on water issues and technical solutions proposed to support water management are enormous, but there is a serious problem of public awareness.

Nowadays water management in the Mediterranean region is unsustainable.

Introducing Integrated Water Resources Management (IWRM) has been recognized as a practical solution.

Laws and regulations based on IWRM principles are common in most Mediterranean Countries, but law enforcement is usually poor... One of the main factors explaining failure in

applying this concept is the poor public perception of the importance of proper water management.

Education and media mobilization at all levels must address this problem.

The MELIA project has gathered valuable knowledge on Integrated Water Resources Management (IWRM) in the Mediterranean in the past few years, and has developed recommendations extracted from the dialogue among the key stakeholders concerned and affected by water use and management.

The main recommendations are as follows:

- Establish an effective and consensual national regulatory framework.

- Promote the effective participation of end-users.
- Develop cheap and user friendly wastewater treatment infrastructures, which guarantee sustainability and adaptation to the context, at the financial and educational level.
- Use treated wastewaters for agricultural purposes.
- Establish control, monitoring and follow-up mechanisms for law enforcement with penalties, for it to be effectively carried out.
- Increase civic education and awareness about the risks related to bad planning of water use.

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The Mediterranean

EMWIS

SEMIDE EMWIS

Towards a common water information and knowledge hub in the Mediterranean region

The democratic impulse instilled by the Arab Spring in the Mediterranean region is accompanied by a strong need for access to information so that citizens can fully participate in the socio-economic development of their country.

In the water sector, this "thirst" for information had already been identified by the civil society during the Ministerial Conference on Water at the Dead Sea in December 2008.

The Ministers had also included in their declaration the need for reliable and harmonized data on water resources and their uses, organized in information systems at the national level.

Indeed, the establishment of **National Water Information Systems** is a prerequisite to the development of sustainable policies for managing water resources.

The strengthening of information networks as part of a Mediterranean water knowledge hub was highlighted at the last meeting of the Water Expert Group of the Union for the Mediterranean on 18 May 2011 in Barcelona and resulted in a special workshop with key stakeholders of the region.

Thus a project was presented to the secretariat of the Union for the Mediterranean in order to:

- **Facilitate the development of national water information systems**, to improve data collection, management and dissemination.
- **Establish a framework for coordination between the international and regional initiatives collecting water data and statistics**, to harmonize definitions and support countries in a coordinated manner.

This project is the "data and information" component of a larger program of gradual implementation of a **Mediterranean water knowledge hub** which will include, among other components: vocational training, prospective analysis, research and development (R & D), transfer of know-how and technologies...

In the longer term, it will be part of the extension to Mediterranean Partner Countries of the enlarged Shared Environmental Information System -SEIS- introduced as part of the European Neighborhood Policy.

The national component focuses on 4 pilot countries which started creating a National Water Information System (Morocco, Tunisia, Lebanon and Palestine).

These national systems rely on an interministerial approach using the standard of the United Nations System of Environmental and Economic Accounting for Water - SEEAW.

The approach is open to the integration of other countries and all the Mediterranean countries are concerned by the activities of regional dialogue and exchange of good practices.

For feeding thoughts on the implementation of a database on shared water resources, proposed by the Water Strategy of Arab countries, EMWIS and the Institute for Water, Environment and Health of the United Nations University (UNU-INWEH) signed a cooperation agreement.

Information as a vehicle for cooperation and peace

As part of preparations for the next Marseilles World Water Forum, **EMWIS** has been designated as Coordinator of Target 7 of the theme "Contribute to cooperation and peace", related to the implementation of transboundary Water Information Systems.

It is proposed to develop mechanisms to share and monitor information at the transboundary level: contribution to online inventories, establishment of water information systems, indicators and guidelines for monitoring programs, etc.

Intercontinental Mediterranean process for the 6th World Water Forum

This process was initiated at a regional meeting held in Murcia (Spain) on 18-19 April 2011. A steering group, coordinated by the Mediterranean Water Institute of which **EMWIS** is part, was formed to highlight the specificities and challenges of the region's water, provide solutions and obtain commitments on their implementation.

The first Mediterranean Water Forum was held in Marrakech (Morocco) on 19-20 December 2011, as a milestone in the Mediterranean preparatory process.

The selected priority themes are:

- non-conventional water resources,
- water demand management,
- water governance,
- treatment of industrial and urban wastewater.

EMWIS and the REVOLVE journal have established a partnership to produce a special issue for the 6th World Water Forum, entitled "About water in the Mediterranean", and that will focus on creative, innovative and unusual solutions to solve regional problems.

The issue will also focus on initiatives targeting young people and projects that stimulate dialogue and exchange through and around the Mediterranean.



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The Mediterranean

Morocco - IUCN



Biodiversity matters: the Moulouya river basin experience

Measuring 650 km in length, the Moulouya is the largest river basin in the Maghreb. Located in one of Morocco's driest areas, more than 24,000 animal and 7,000 plant species live there, with an outstanding rate of native and endemic species. It constitutes also a biodiversity hotspot, covering 4 wetlands of international importance according to the Ramsar Convention.

This Mediterranean natural heritage is now facing competition for water

between different sectors, namely domestic, industrial and irrigation uses, which adds to the difficulties of managing water shortages during the drought periods and to the impact of pollution generated by socioeconomic activities.

Making an efficient use of increasingly scarce water resources within a perspective of social and environmental sustainability is a challenge for the whole region.

In this context, the IUCN Mediterranean office, the Moulouya River Basin Agency and the University of Oujda in Morocco joined efforts for a site demonstration project that took place between 2007 and 2010.

Funded by the European Union, the project aimed to set up a pilot integrated management process for freshwater biodiversity in the river basin.

It aimed to involve stakeholders in the conservation and incorporation of information on the flora and fauna into the river basin management plans. The data from previous assessments on the conservation status of fish, crabs, dragonflies, molluscs and aquatic plants were considered.

An Aquatic Biodiversity Management Committee for management plans was put into place, and biodiversity monitoring infrastructures were built.

The involvement of local partners and population was a key to the success of the project: **The "Moulouya Caravan"** travelled along the river course to raise awareness on the aquatic species richness in the basin.

Reference documents for river management were produced with recommendations for future projects to reduce their impacts.

An important factor for the success of this project was that local people were used to work with international organizations and that technical capacity had already been built up.

The final outcome showed **how biodiversity information can be effectively integrated into river basin management plans**, providing a reference for other projects in similar regions.

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Turkey



Twinning on the implementation of the Floods Directive

An EU institutional twinning with Turkey aims at implementing the Floods Directive and the capacity building of the new Water Directorate of the Ministry of Forestry and Hydraulic Infrastructures.

While EU Member States are actively working to meet the deadline of December 2011 given by European legislation for submitting the "Preliminary Assessments of Flood Risk", it is recognition of the efforts made by European Authorities to implement this important directive published in 2007 and the guarantee for the Turkish partners to benefit from a transfer of a brand new experience.

This 24-month twinning project to be started in 2012 includes:

- **Support to the transposition of the Floods Directive in Turkey and adaptation of the institutional organization;**
- **Preparation of a flood risk management plan for the "Bati Karadeniz" pilot Basin**, running to the Black Sea, in which an event with important consequences occurred in 1998;
- **Preparation of the National Plan for implementing the Floods Directive**, by incorporating an economic analysis using the regulatory impact assessment method.



World Water Forum
Marseilles - France - 16 March 2012
Please sign "The World Pact for better River Basin Management"

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The website of basin management over the world

- **The International Network of Basin Organizations**
- **The Regional Networks of Basin Organizations:**
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 - Latin America - LANBO
 - North America - NANBO
 - Asia - NARBO
 - Brazil - REBOB
 - Central Europe - CEENBO
 - Eastern Europe, Caucasus, Central Asia - EECCA-NBO
 - The Mediterranean - MENBO
- **"EUROPE-INBO" :**
European Water Framework Directive implementation
- **The Network of International Commissions and Transboundary Basin Organizations**
- **The 6th World Water Forum of Marseilles 2012**
- **"The World Pact for better River Basin Management"**



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