

**Join us in Merida,
in Mexico, from 1 to 4 June 2016
for INBO 10th World General Assembly!**



Morelia - Mexico - March 1996



The Martinique - France - January 2004



Debrecen - Hungary - June 2007



Dakar - Senegal - January 2010



Fortaleza - Brazil - August 2013

"Mexico+20"

Just 20 years ago, the first INBO World General Assembly took place in Morelia, Mexico.

This year, after Fortaleza, Brazil in 2013, Mexico will host, once again, the next World General Assembly of the International Network of Basin Organizations (INBO).

In twenty years basin management has imposed itself on all the continents, as a necessity to deal effectively with the great global challenges.

Every three years, INBO World General Assembly is an opportunity to exchange between representatives of Basin Organizations from all over the world and their partners and to mobilize its regional networks for discussing about **"better Basin Management to face these global challenges"**.

Four Round Tables are scheduled:

- Adaptation to climate change in basins,
- Mandates, composition, role and means of the Basin Councils and Committees,
- Sustainable basin management: planning and funding,
- Participation of the economic sectors and citizens.

The General Assembly will also be an occasion to make a first assessment of the implementation of the **"Paris Pact on water and adaptation to climate change in basins"**, already signed by 342 organizations from the whole world as part of COP21 - Paris 2015, and to prepare COP22 in Marrakech in 2016.

You are invited to present your experiences!

Please register to participate:

www.riob.org/inscription/inbo-2016.php





30 November - 12 December 2015 - Paris

342 organizations worldwide have signed the Paris Pact on Water and Adaptation to Climate Change in the basins of rivers, lakes and aquifers

As part of the "Lima-Paris Action Agenda", Peru, supported by France, organized on the 2nd of December 2015, the official day on "Water and Climate Change Adaptation" of the COP21 in Paris, under the joint chairmanship of Mrs. Ségolène Royal, French Minister for the Environment, Energy and the Sea, Head of the French Delegation to the COP21, and Mr. Manuel Pulgar-Vidal, Peruvian Minister for the Environment, organizer of the COP20 in Lima in 2014.

So, for the first time in the COP history, the issues of freshwater are officially taken into account!

"The Paris Pact on water and adaptation to climate change in the basins of rivers, lakes and aquifers" was presented at the day opening.

"The Paris Pact is the first concrete commitment of the COP 21: We call all water stakeholders to join it. (...) This pact will give a boost and can be considered as an innovative instrument", Mrs. Ségolène Royal said, when she formally signed the document alongside the Peruvian Minister for the Envi-

ronment and Mrs. Charafat Afailal, Minister in charge of water in Morocco, the country that will be the organizer of the COP22 in 2016.

Mr. François Hollande, President of the French Republic, also declared at the official closing session of the Action Day, this last Saturday, 5th December: "It was important that initiatives be launched here in Paris (...) there is the Paris Pact for water which gathers 342 organizations and 87 Countries (...)"

Drafted by the International Network of Basin Organizations (INBO) on the request of the organizers, the "Paris Pact" aims at a global mobilization of the basin organizations and all other stakeholders involved, multilateral and international organizations, governmental administrations, local authorities, companies and all economic sectors, the civil society, for starting without any delay the actions needed to adapt freshwater management to the effects of climate change: all organizations involved in integrated river basin management were invited to sign this "Pact".

Thus to date, 342 organizations have already signed the "Paris Pact" in 87 countries, which shows that everywhere it greatly mobilized all stakeholders in water resources management, because we have to act quickly before it is too late!

Mrs. Royal has encouraged all water stakeholders to sign the Pact and "thus to add their tributary flows to swell the mainstream".

Mr. Jean-François Donzier, INBO Secretary General, presented the Pact during the official day on "Water and adaptation to climatic change" and reminded that climate change is already affecting and will increasingly affect the quantity and quality of freshwater and aquatic ecosystems, especially through the intensity and greater frequency of extreme hydrological events, such as floods and droughts: "In these perspectives, the basins are natural areas where water flows on the surface and in the subsoil: appropriate water resources management and adaptation should be organized at that level".

The "Paris Pact" includes two components: part one is describing the context and providing general principles for adaptation to climate change in basins, and part two is listing the commitments to be made by the signatories to organize adaptation to climate change and take appropriate measures.

The action of basin organizations and all other stakeholders involved is essential to increase the resilience of our societies to the risks facing water resources in the context of climate change.

The round table, organized during this "Water and Adaptation" Day and facilitated by INBO, allowed presenting real examples of adaptation projects in different basins in China (Hai River Basin), India (aquifer management), Mexico (Mexico Valley), South America (Ecocuencas project), the Senegal River (OMVS), the Niger River (NBA), the Congo River and its tributaries (CICOS) and Morocco (ABH), as well as the Mediterranean Water Information Systems and the platform of pilot basins to test adaptation measures, led by UNECE and INBO.

These projects show that we can act quickly if the stakeholders are getting mobilized!

www.inbo-news.org



Mrs. Ségolène Royal and Mr. Manuel Pulgar-Vidal signing the Pact © IOWater - C.Runel



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21-CMP11



COP21: Lima-Paris Action Agenda (LPAA)

Signing of cooperation agreements on adaptation to climate change between France, China and Mexico

1 Support to the establishment of the "Greater Mexico" Metropolitan Water Organization and to the "Mexico Valley" Basin Council:

This 4-year project was the subject of two agreements signed on 2 December at the COP21, between SEMARNAT, CONAGUA and MEEM on the one hand, and between the Mexico Valley Basin Council and the Seine-Normandy Water Agency, on the other, also involving SIAAP, Seine Great Lakes and IOWater.

2 Support to integrated management of the Hai River and its tributaries (Beijing and Tianjin basins):

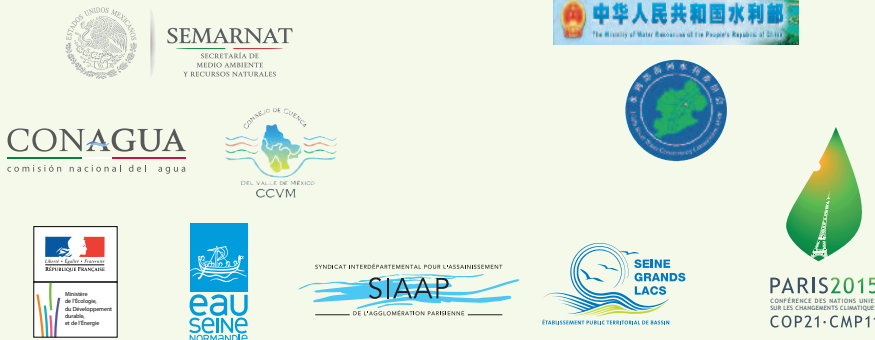
It is a new 3-year agreement, from 2016 to 2018, for the launching of the third phase of the project initiated in 2011, signed by the Hai River Conservancy Commission (HRCC) and the Seine-Normandy Water Agency and also involving SIAAP, Seine Great Lakes and IOWater on the French side.



This signing ceremony at the opening of the COP21 official Day on water and adaptation was chaired by Mrs. Ségolène Royal.



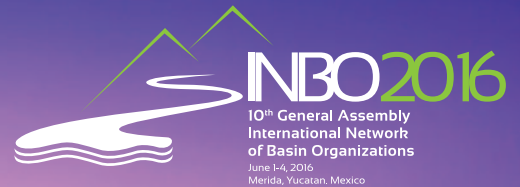
Signatories of the French-Mexican agreement © IOWater - C.Runel



SAVE THE DATE

10th GENERAL ASSEMBLY INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS

June 1-4, 2016
Merida, Yucatan. Mexico



Chichen Itzá, Yucatan >>>

It is one of the main archeological sites of the Yucatan peninsula. Important and renowned relic of the Mayan civilization. The archeological site of Chichen Itza was inscribed in UNESCO's World Heritage List in 1988.

Registration is open at:
www.riob.org/inscription/riob-2016.php
Contact: ag2016.riob@riob.org



It is time to take stock of the situation...

"Integrated river basin management is crucial to ensure water resources sustainability"



The 16 themes coordinators at the Closing Ceremony
© IOWater - C.Runel

The topics of river basin management and transboundary cooperation were widely discussed during the 7th World Water Forum in Korea and tangible progress has been achieved!

The International Network of Basin Organizations (INBO), UNESCO, UNECE, OECD, the GEF, SIWI, IUCN, Green Cross, IOWater, OMVS and ANBO were entrusted with the coordination, together with their many partners, of more than a dozen thematic or regional official sessions entirely devoted to this issue and that have required a wide preparatory mobilization for more than a year.

These sessions allowed addressing the topics of integrated management and governance in the basins of rivers, lakes and aquifers, whether national or transboundary, as well as the central issue of the now essential adaptation to the effects of climate change on water resources.

Issues, such as the statute and means of transboundary basin organizations, planning procedures, implementation and financing of joint infrastructure, establishment of integrated water information systems and exchange of data and information among riparian countries, implementation of UN Conventions, better consideration of transboundary aquifers and joint management of surface and groundwater, users and citizens' participation in river basin management as well as education of the populations and improvement of professional training for the different stakeholders involved, were discussed in depth and illustrated by the presentation of many very practical case studies.

As part of the regional process, and this is an innovation, two "Inter-Regional Days" were organized in Gyeongju, firstly, by the Africa - Arab Countries - Europe Regions on "cooperation to reduce conflicts and improve transboundary water management" and, secondly, by the Africa - America - Asia - Europe - Mediterranean Regions on "adaptation to the impacts of climate change on water resources".

A regional session "Europe" showcased the implementation of the European **Water Framework Directive** and the preparation of the next Basin Management Plans by the 28 Member States of the European Union and associated neighboring countries.

Although there are still different sensitivities, particularly on transboundary water management, an overwhelming majority of participants converged on the relevance of national and transboundary basin approaches to address the major global challenges of water resources management.

The overall conclusions and recommendations of the debates were, for the first time in a World Water Forum, presented to the attending Ministers, who welcomed the many contributions and efforts made by the regional and thematic processes.

On the themes of basin management, these recommendations can be summarized as follows:

- It is important to maintain and recover sound water cycle through promoting relevant international cooperation as well as managing water cycle and river basins in integrated and comprehensive manner.

- Cooperation and dialogues over transboundary waters among riparian countries offer significant prospects for their sustainable development, regional integration and enhancement of mutually beneficial relations in economic, social and environmental fields.
- In many regions, riparian countries of transboundary basins have created joint commissions, authorities or international organizations, improving dialogues, exchanges of useful information, conflict resolutions and benefit sharing.
- One of the keys to building trust could be facilitating data and information exchanges among riparian countries of transboundary basins and aquifers.
- Cooperative efforts in the field of transboundary waters are strongly encouraged.
- The recent entry into force, in August 2014, of the UN Convention of 1997 on International Watercourses, as well as the opening of the Helsinki Convention of 1992 to all United Nations Member States are useful in this context, applied when appropriate.

www.worldwaterforum7.org



Closing Ceremony © IOWater - C.Runel



Two new publications for better basin management

In 2015, the **International Network of Basin Organizations (INBO)**, the UN Economic Commission for Europe (UNECE), the Global Water Partnership (GWP), the National Agency for Water and Aquatic Environments (ONEMA) and the International Office for Water (IOWater) jointly published two books entitled:

- **"Water and Climate Change Adaptation in Transboundary Basins: Lessons Learned and Good Practices"**, in the UN collection (INBO, UNECE),
- **"Management and Restoration of Aquatic Ecosystems in River and Lake Basins"** (INBO, GWP, ONEMA, IOWater), in the collection of Handbooks on Water Management.

Both publications, distributed free of charge and initially published in English for the World Water Forum in Korea, have been translated into French on the occasion of the COP21 in Paris and then will be translated into other languages.

They follow previous publications of the various partners involved, including the "Handbook on Integrated Water Resources Management in Basins" (2009), the "Handbook for Integrated

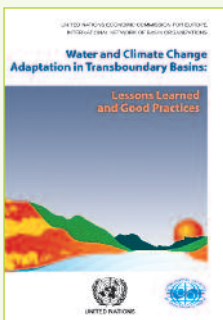
Water Resources Management in Transboundary Basins of Rivers, Lakes and Aquifers" (2012), the "Guidance on Water and Adaptation to Climate Change" (2010) or the "Report on experiences of Transboundary Basin Organizations in Africa" (2014).

These documents are available on:

www.basins-management-publications.org



Water and Adaptation to climate change in transboundary basins



In spite of local uncertainties about the intensity and variability of climate change, the frequency of extreme events that result from it, and about its impacts on water resources, it is urgent to initiate now adaptation measures in river basin management, including transboundary basins.

Thus, the drafting of multi-year Management Plans for the Basins of national and transboundary rivers, lakes and aquifers, is becoming a priority and should incorporate these adaptation measures.

In transboundary basins, strong cooperation between riparian countries is needed, and this requires attention to be paid at all levels and in all sectors.

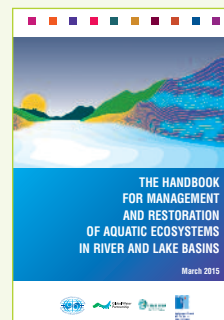
For the adaptation plan to have solid bases, the participation of all stakeholders is essential, crossing the multiple physical, political and institutional borders, and opening it up to all sectors with water-related activities.

Some basin organizations around the world have already taken action to adapt to climate change. It is now crucial to be able to benefit from their experience and to promote exchanges among all institutions concerned by climate change adaptation.

To facilitate this exchange, this publication mobilized about sixty experts from international organizations (WMO, GWP, AGWA,...) and transboundary and national basin organizations worldwide.

This publication identifies the field experiments made and aims to provide practical advice through **58 case studies and 63 "lessons learned"** about how to prepare and implement a strong, realistic and operational medium-to-long-term plan for adapting to climate change in the basins.

Management and restoration of aquatic ecosystems in river and lake basins



Freshwater resources are increasingly used, wasted and polluted; aquatic ecosystems are threatened and sometimes destroyed. In addition to their great heritage value for landscapes and biodiversity, aquatic ecosystems provide significant services in regulating water resources and flows and in the self-purification of pollution. Wetlands improve water quality by trapping sediment, filtering pollutants and absorbing nutrients.

They also play a key role in flood control and drought prevention.

However, human activities, where they do not merely destroy these environments, often disrupt biotopes, cause pollution and fragment the longitudinal flow of many rivers over the world.

It is now recognized that aquatic environments play the role of **"green infrastructure"**, which is as essential to proper water resources management as a traditional artificial infrastructure.

Examples of good practice and effective natural developments can be identified in many countries.

Today, significant progress is more than ever needed to move from theory to practice and take practical measures to preserve and restore aquatic ecosystems, by using, in particular, these successful examples coming from the field and identified in various national or transboundary basins.

This handbook identifies **45 examples of field achievements** and aims to give practical advice through **25 "lessons learned"** about how to use a realistic, effective and operational "green infrastructure", to restore, protect and develop aquatic ecosystems, especially in the context of Basin Management Plans including measures for adaptation to the climate change impacts on water resources.

International Events

UNITED NATIONS



Adoption of Sustainable Development Goals by the UN General Assembly

25 - 28 September 2015 - New York - USA



The eight Millennium Development Goals (MDGs) have given, from 2000 to 2015, a framework for action to the international community that aimed at reducing extreme poverty and child mortality, fighting against epidemics including AIDS, improving access to education, gender equality, and sustainable development.

The United Nations General Assembly of September 2015 adopted a new frame of reference: the 2030 Agenda and its seventeen Sustainable Development Goals (SDGs).

It was the culmination of a long process of consultation between governments and a wide range of partners, including a large number of organizations representing the civil society.

The International Network of Basin Organizations (INBO), through its special consultative status with the UN Economic and Social Council (ECOSOC) was accredited to attend the proceedings of the Summit and participate in the many side events at the UN in New York.

INBO Secretary General was able to promote the **"Paris Pact on water and adaptation to climate change in the basins of rivers, lakes and aquifers"**.



In his speeches, he particularly highlighted the turn that represent SDGs, and especially the adoption of a specific goal dedicated to water: **Goal 6, "Ensure availability and sustainable management of water and sanitation for all"**.

This goal and several others related to water management and risks include the main directions that **INBO** has been promoting for over 20 years and open

up new perspectives for integrated basin management worldwide including transboundary basins.

The Paris Pact allowed basin organizations and their partners to commit themselves at the COP21 in Paris, on the occasion of the official "Water and Adaptation" Day on 2 December 2015, towards a practical implementation of these Sustainable Development Goals.

www.un.org/sustainabledevelopment

Stockholm Water Week



23 - 28 August 2015 - Stockholm - Sweden



During the 2015 edition of the Stockholm Water Week, the discussions of course largely focused on "Water for Development", chosen as the main theme before the adoption of the 2030 Agenda and its Sustainable Development Goals (including Goal 6 on water) at the United Nations General Assembly from 25 to 28 September 2015 in New York.

With the perspective of the organization of the COP21 on Climate in Paris in December 2015, adaptation to climate change was also one of the most discussed topics.

In this context, **INBO** was particularly involved in the official event for the presentation of **the "Lima-Paris Action Agenda (LPAA)"** component of the COP21, organized by the Peruvian presidency of the COP20 and the French Ministry of the Environment, Energy and the Sea (MEEM). Its intervention aimed to present **the "Paris Pact on adaptation to climate change in the basins of rivers, lakes and aquifers"**.

This initiative, launched by **INBO** on request from the LPAA organizers, summarizes the principles and actions that should be implemented to ensure adaptation to climate change in basins.

On this occasion, Basin organizations, local and national governments, companies, NGOs and donors were invited to join the "Pact" and commit themselves to implement these principles and actions through tangible projects.

www.worldwaterweek.org

www.riob.org/cop21



7th Meeting of the Parties (MOP 7) to the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes

17 - 19 November 2015 - Budapest - Hungary

INBO participated in the seventh Meeting of the Parties to the UNECE Convention of 1992 on the Protection and Use of Transboundary Watercourses and International Lakes.

During the plenary session, it was especially invited to organize an event for presenting the **"Paris Pact on water and adaptation to climate change in the basins of rivers, lakes and aquifers"**.

On this occasion, many representatives of basin organizations and governments signed the Pact.

The Meeting of the Parties also reviewed the progress made in the Convention implementation activities.

The 2016-2018 work program was also discussed. Among important issues, participants also approved:

- Supporting accession to and implementation of the Convention;
- Assessing the benefits of transboundary water cooperation;
- Promoting climate change adaptation in a transboundary context;
- Assessing the water-food-energy-ecosystems nexus in transboundary basins;
- Improving water governance through Dialogue on National Policies under the European Union Water Initiative (EUWI);
- Developing partnerships, in the light of the "globalization" of the UNECE Water Convention (Helsinki, 1992);
- The entry into force in 2014 of the United Nations Convention on the Law of Non-navigational Uses of International Watercourses.

On these last points, in fact, and following the entry into force in 2013 of the amendment allowing accession by all Member States of the United Nations to the 1992 Water Convention, this session of the Meeting of the Parties marked the transition to a global legal and intergovernmental framework of the Convention for transboundary water cooperation. The meeting was distinguished from previous editions by an unprecedented participation of countries from outside the UNECE region (74 countries represented), parties to the Convention or not. Several non-member States expressed their intention to accede.

The Meeting of the Parties adopted a decision on establishing a framework for the implementation of the Convention worldwide, complemented by a decision on cooperation with partners.

The Meeting also stressed that **the implementation of the 2030 Agenda and the Sustainable Development Goals (SDGs), the Sendai Framework for Disaster Risk Reduction and the COP 21 Paris agreement** will require enhanced cooperation between sectors and across borders.

It therefore emphasized the important role of the Convention to support countries in their efforts to achieve the 2030 Agenda for Sustainable Development and the other global commitments.

In this respect, the inclusion of a target on transboundary cooperation in the SDG on water and sanitation represents an important political recognition.



The meeting of the parties took the opportunity to publish:

- **A Policy Guidance Note on the Benefits of Transboundary Water Cooperation**, which aims to help governments and all stakeholders develop a better understanding of this important issue;
- **The report "Reconciling Resource Uses in Transboundary Basins: Assessment of the Water-Food-Energy-Ecosystem Nexus"**.

The Meeting of the Parties adopted a decision on the establishment of a reporting mechanism on the implementation of the provisions of the Convention. A pilot reporting exercise will be carried out in the year 2016-2017. This monitoring tool will assess the progress made in transboundary cooperation with respect to the Convention but also to the SDG (target 6.5).

Finally, the 2016-2018 work program was adopted. Activities detailed in the latter will support countries worldwide to apply the Water Convention principles, to cooperate on transboundary water management and to address global challenges such as climate change, soil erosion, water pollution, floods and droughts.

A workshop on promoting transboundary cooperation under the provisions of the Water Convention in the Middle East Northern Africa (MENA) region was organized as a side event of the meeting of the parties.

www.unece.org



International Events

Organization for Economic Cooperation and Development (OECD)



Water Governance Initiative Meetings

5th Meeting - 25 - 27 May 2015 - Edinburgh - Scotland

The Water Governance Initiative (WGI), coordinated by OECD, follows the commitments made at the 6th World Water Forum held in Marseilles in 2012.

The goal of the initiative is to firmly base the principles of good Water Governance on the experiences of institutions and countries from all over the world and on proposals of the four working groups established in March 2013.

INBO, IOWater and UNESCO are facilitating working group 3 on Governance of the Basins of national or transboundary Rivers, Lakes and Aquifers.

This work on the basins aims to propose good rules of governance around the following issues:

- Legislative and institutional frameworks;
- Strengthening and creation of Basin Organizations for national or transboundary rivers, lakes and aquifers capable of ensuring sustainable water resources management;
- Development of assessments and inventories to guide decisions;
- Establishment of good governance indicators on the basin scale.

This work was presented at the 7th World Water Forum during the meetings planned to deal with the theme "Effective Governance (4.2.)" and more specifically in session 4.2.3 on "Strengthening Basin Governance for managing water resources at different levels".



5th plenary session

The 5th meeting of the OECD Water Governance Initiative gathered more than 70 participants around four objectives:

- Outcomes of the "governance" sessions of the 7th World Water Forum;
- The sharing of experience on water governance reforms, initiatives and events, with a focus on the host country, the United Kingdom;
- Ways to develop OECD Water Governance Initiative;
- Proposal of a series of indicators to assess the performance of water governance.

INBO has especially contributed to the following principles:

- **Principle 2:** Manage water on the appropriate scale(s) within integrated basin governance systems;
- **Principle 5.d:** Encouraging the design of harmonized and consistent information systems on the basin scale, including in the case of transboundary water.

Delphine Clavreul

Water Governance Program
Division of Regional Development Policies
Delphine.CLAVREUL@oecd.org

www.oecd.org

6th Meeting - 3 November 2015, OECD Headquarters, Paris



This meeting, which gathered 44 OECD Initiative members, aimed to engage the delegates in a series of practical exercises on water governance to dig deeper into the role of the various stakeholders.

It allowed discovering a range of techniques based on the "Wat-A-Game" toolkit and the "CoOPLAaGE" set, proposing a new strategy for the participation of stakeholder groups.

It dealt with:

- A general introduction on participatory water governance;
- An imaginary case study in which the participants were invited to choose a role and react as they would do in real operations.

Each participant had to fill in an option sheet mentioning one or two proposals and describing the implementation level, the estimated intensity of resources required and the expected impacts.

All options were then gathered into a collective matrix and discussed (consistency, feasibility, efficiency, etc.).

The participants had then to decide how the participatory process should be organized in order to get a water management plan.

This participatory simulation allowed better understanding of complexities at basin level.

Delphine L'Aot

IRSTEA
delphine.laot@irstea.fr

<http://oecd-wgi.watagame.info>



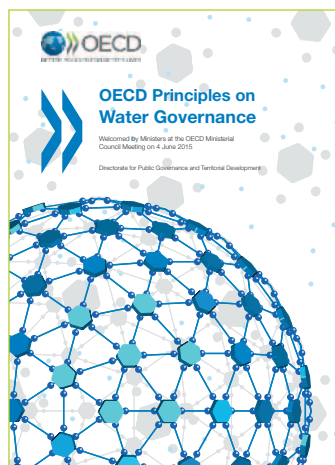
6th Working Group Meeting

International Events

Organization for Economic Cooperation and Development (OECD)



The OECD Principles on Water Governance



On 4 June 2015, Ministers from OECD's 34 member countries backed 12 OECD Principles on Water Governance, and encouraged governments to put them into action.

Meeting current and future water challenges requires robust public policies targeting measurable objectives in pre-determined time-schedules at the appropriate scale, relying on clear assignment of duties across responsible authorities and subject to regular monitoring and evaluation.

The Principles provide a framework to assess whether water-related institutions perform optimally, learning from international experience, but also to seek to catalyse reform processes that can help adjust where need be.

The Principles were developed using a multi-stakeholder approach within the OECD Water Governance Initiative, of which INBO is a co-founder.

The Principles were endorsed by a great number of public, private and non-profit organizations at the 7th World Water Forum in April 2015 in South Korea.

These Principles were translated into 15 languages.

To support the implementation of the Principles, next steps include collecting evidence and good practices at local, basin, and national levels and developing a set of indicators on governance that can help better measure the state of play of water-related institutions at different levels.

INBO will contribute to best practice identification and indicator development in relation to the Principle 2: "Manage water at the appropriate scale(s)".

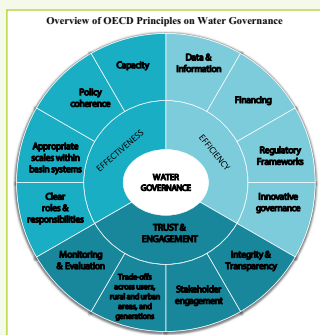
Delphine Clavreul

Water Governance Program
Division of Regional Development Policies
Delphine.CLAVREUL@oecd.org

www.oecd.org



The 12 Principles:



EFFECTIVENESS

Principle 1: Distinguish roles and responsibilities for water policymaking, policy implementation, operational management and regulation, and foster coordination across these responsible authorities.

Principle 2: Manage water at the appropriate scale(s) within integrated basin governance systems to reflect local conditions, and foster coordination between the different scales.

Principle 3: Encourage policy coherence through effective cross-sectoral coordination, especially between policies for water and the environment, health, energy, agriculture, industry, spatial planning and land use.

Principle 4: Adapt the level of capacity of responsible authorities to the complexity of water challenges to be met, and to the set of competencies required to carry out their duties.

EFFICIENCY

Principle 5: Produce, update, and share timely, consistent, comparable and policy-relevant water and water-related data and information, and use it to guide, assess and improve water policy.

Principle 6: Ensure that governance arrangements help mobilize water finance and allocate financial resources in an efficient, transparent and timely manner.

Principle 7: Ensure that sound water management regulatory frameworks are effectively implemented and enforced in pursuit of the public interest.

Principle 8: Promote the adoption and implementation of innovative water governance practices across responsible authorities, levels of government and relevant stakeholders.

TRUST & ENGAGEMENT

Principle 9: Mainstream integrity and transparency practices across water policies, water institutions and water governance frameworks for greater accountability and trust in decision-making.

Principle 10: Promote stakeholder engagement for informed and outcome-oriented contributions to water policy design and implementation.

Principle 11: Encourage water governance frameworks that help manage trade-offs across water users, rural and urban areas, and generations.

Principle 12: Promote regular monitoring and evaluation of water policy and governance where appropriate, share the results with the public and make adjustments when needed.

You can download the OECD Principles on Water Governance in all languages available at:

www.oecd.org/tr/gouvernance/principesdelocdesurlagouvernanceleau.htm





The 10-year Strategy (2015-2025) of the African Network of Basin Organizations

15 - 16 December 2015 - Dakar - Senegal

ANBO Coordination Committee - Dakar - 15 - 16 December 2015



ANBO adopted its 2015-2025 strategy during its General Assembly in February 2015 in Addis Ababa.

A conference of donors will be organized at the end of the first half of 2016 in order to seek funding for this 10-year strategy and the action plan associated with it.

The annual meeting of ANBO Coordination Committee was organized in Dakar on 15 and 16 December 2015, with support from the team of the European project "Strengthening the Institutions for Transboundary Water management in Africa (SITWA)".

Many organizations attended the meeting alongside members of **ANBO** Coordination Committee, including the Directorate General for Development and International Cooperation of the European Commission (DG DEVCO), the Global Water Partnership (GWP) and **INBO**.

The sessions were chaired by the Secretary General of OMVS, Mr. Madine Ba and by **ANBO** President, Ms. Tracy S. Molefi.

The main objective of this meeting was to validate the final report on ANBO governance (which includes recommendations on new statutes and options to reorganize the Secretariat) and the selection of two basins that will be supported in strengthening their legal and institutional framework.

The Organization for the Development of the Senegal River (OMVS) confirmed that it would continue its role of **ANBO** Permanent Technical Secretariat.

The Coordination Committee approved the proposal to provide **ANBO** Secretariat with:

- **A team of four people:** an Executive Secretary, a Program Officer, a Director of Finance and Human Resources and an officer responsible of the administrative secretariat,
- **An advisory function for support to and supervision** of studies and capacity building programs,

INBO made proposals for the development of the **African Water Documentation and Information System (AWIS)**.

Many requests for review of the proposed statutes were made during the discussions and it was therefore agreed that a new proposal would be available in March 2016 for adoption in June.

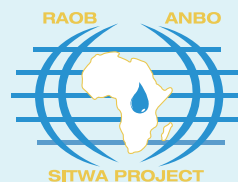
Two basins were selected to receive support for strengthening their legal and institutional framework:

- **The Lake Kivu and Ruzizi River Basin** has already a basin organization: the Lake Kivu and Ruzizi River Basin Authority (ABAKIR). **ANBO** will support the process of ratifying the Convention that was signed by the three countries: Rwanda, Burundi and DRC.
- **The Mejerdha Basin** shared between Tunisia and Algeria: **ANBO** is responsible for supporting the organization of high level meetings between the two riparian States in order to advance the constitution of a basin organization.

The participants concluded their work by stressing once again the importance of having sustainable funding mechanisms.

Hawa S. Diop
Communication Officer
SITWA Project
sitwaanbo.hawa@gmail.com

www.raob-anbo.org



Steering Committee of SITWA project - Dakar - 17 December 2015

Regional Water Partnership for West Africa (GWP/WA)

6th General Assembly of partners

7 - 8 May 2015 - Cotonou - Benin



The 6th General Assembly of the Regional Water Partnership for West Africa (GW/WA) was organized around the theme "Africa facing the challenges of the post-2015 development: what role for partnerships in the context of climate change?".

The event was sponsored by the Minister for Water of Benin and the participants included the President of GWP/WA, the Executive Secretary of the Global Water Partnership (GWPO) and the President of the National Water Partnership of Benin (Benin NWP).

INBO was represented at high level by its Secretary General.

The meeting gathered nearly one hundred West African and European participants who discussed four main topics:

- Role of networks in post-crisis reconstruction;
- Global dialogue on Sustainable Development;
- Sustainable natural resources management;
- Role of youth in development.

In view of the UN General Assembly organized four months later in New York, the participants launched the "Call of Cotonou to water stakeholders in the West African Region".

The call invites all water stakeholders in West Africa to get moving and mobilize their national and international networks to:

- Advocate the adoption and implementation of a **Sustainable Development Goal (SDG) specific to water**;
- Accompany the States in the region in achieving this "Water" objective;
- Promote the integration of the "water" issue into the component on adaptation to climate change of the COP21 2015 in Paris.

The GWP/WA Technical Committee was renewed during the General Assembly.

The activities of the GWP/WA President were evaluated and Professor Abel AFOUDA was reappointed to this function for the next two years.

UNESCO



International Conference on Hydrology in the Large River Basins of Africa

26 - 30 October 2015 - Hammamet - Tunisia

More than 150 experts from 27 countries (mainly Africans and Europeans, with some representatives from Latin American and Asian countries) participated in this conference organized under the auspices and with the technical and financial support of UNESCO, as part of its FRIEND-Water program.

Among the other partners of this event, the "Agence Universitaire de la Francophonie" (French-speaking University Agency) and the Institute of Research for Development provided support.

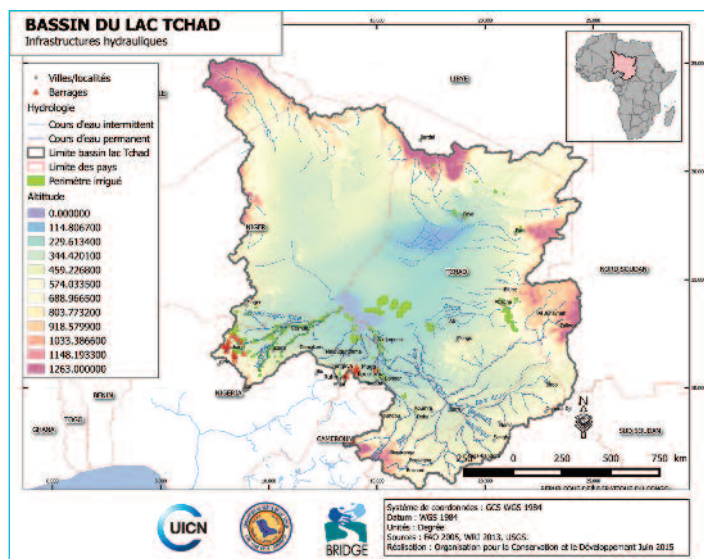
The aim of the conference was to exchange experiences on the development of African basins and on the monitoring and modeling of hydrologic changes that affect them. This represents a serious challenge as the weaknesses of hydrological monitoring networks in the African countries are striking: low number of gauging stations with a very uneven geographical coverage, data not collected / recorded for decades, difficult access to weather and climate data, lack of monitoring of sediment flows and water quality with the exception of a very small number of stations managed by international bodies.

Alongside representatives of universities, NGOs, African basin organizations (OMVS, CICOS, VBA, etc.), ANBO, **INBO made a speech to remind the need to exchange and share hydrological information between riparian countries of transboundary river basins, with a focus on West Africa and the Niger, Volta and Senegal Rivers.**

en.unesco.org/node/239356



Strengthening transboundary cooperation in five African Basins



The **BRIDGE** program (Building River Dialogue and Governance) aims to improve transboundary cooperation between riparian countries by facilitating hydro-diplomacy and building capacities for the good governance of shared waters. It is led by IUCN's Global Water Program and Environmental Law Center.

Funded by the Swiss Agency for Development and Cooperation, **the project is being implemented in five basins in Africa:** Lake Chad and Mano River in West and Central Africa; Pungwe/Buzi/Save Basin and Lake Malawi/Nyasa/Niassa in Southern Africa; and Juba-Shabelle Basin in Eastern Africa (IGAD region).

In West and Central Africa, BRIDGE has been collaborating since 2014 with the Lake Chad Basin Commission (LCBC) and the Mano River Union (MRU) by supporting the establishment of legal and institutional frameworks for water governance reform between Guinea, Sierra Leone, Liberia and Côte d'Ivoire and by strengthening institutional arrangements in the Lake Chad Basin.

It has supported the LCBC to produce 3 thematic maps: BRIDGE has facilitated the establishment of two national platforms and one transboundary platform for the promotion of multi-sectoral dialogue in the Chari Logone sub basin in the Lake Chad Basin.

In Southern Africa BRIDGE has strengthened transboundary collaboration through improved understanding of environmental issues in order to mainstream the ecosystem approach in the Pungwe, Buzi and Save basins shared by Mozambique and Zimbabwe.

In the Lake Malawi/Nyasa/Niassa sub basin, BRIDGE has initiated a transboundary dialogue between Malawi, Mozambique and Tanzania.

In Eastern Africa, BRIDGE is working with the Secretariat of the Intergovernmental Authority on Development (IGAD) and its Member States on the following:

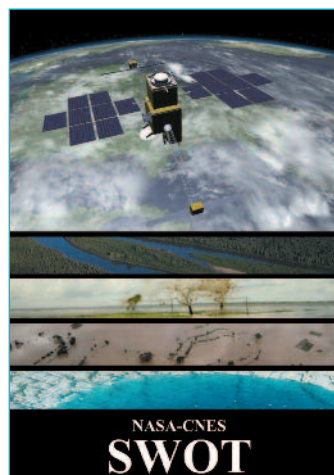
- A "situation analysis" of Juba-Shabelle Basin, shared between Kenya, Ethiopia and Somalia;
- Support to the finalization of the Protocol for the IGAD Regional Water Resources, to the initial discussions and to the Water Related Data Exchange Policy;
- Conducting a number of trainings in hydro-diplomacy and benefit sharing.

Begnakiré Sandrine Sankara Bassonon
IUCN
Sandrine.BASSONON@iucn.org

www.iucn.org

Working Group on Space Hydrology

A Working Group on Space Hydrology, facilitated by IOWater, INBO Secretariat, was established in 2014 and gathers the CNES, IRD, AFD, IRSTEA, BRLi and CNR.



The working group met on three occasions in 2015: in February on the premises of the CNR in Lyons, in June on the CNES site in Toulouse and in October at the BRL head office in Nimes. The last meeting took place at the AFD in Paris on 4 February 2016.

Two members of the **International Congo-Ubangi-Sangha Basin Commission (CICOS)** attended the meeting in Nimes for future cooperation: the Congo Basin has been chosen to be the pilot basin for the **SWOT** project as it has already a hydrological monitoring project funded by AFD and FFEM, and European satellite altimetry projects.

The **SWOT** (Surface Water and Ocean Topography) satellite program is a French-American project of Earth observation satellite that will provide for 2020 the spatial and temporal variations in the water levels of major rivers and lakes, in the flows of large rivers and in the ocean levels.

This union between space and hydrology at the service of IWRM should provide basin organizations with new tools for measurements and hydrological monitoring.

Satellite altimetry is a component among others of operational hydrology.

swot.cnes.fr



Afri-EU Innovation Alliance for water and Climate



Afri-Alliance (Afri-EU Innovation Alliance for Water and Climate), an European H2020 project, 2016-2021, is mobilizing 16 partners. It aims to enable African and European stakeholders of the water sector to work together on issues of innovation and Science Policy Interface in order to

develop the African capacity to meet the future challenges generated by climate change.

The project, coordinated by the UNESCO-IHE Center, will strengthen and enhance research and innovation related to water and climate change.

Afri-Alliance, that will last five years from the first half of 2016, is part of a continuous process of technology and knowledge transfer (WP3 / WP5).

Particular attention is paid to innovation needs of existing networks in the short and medium term at different regional levels in Africa, which will allow developing groups of specific actions.

IOWater, INBO Secretariat, will coordinate the development of a research & innovation agenda.

All this work will be supported and followed up by key stakeholders in research and innovation in Africa and Europe, regrouped together in an Advisory Committee.

Partners: UNESCO-IHE, Waternet (ZWE), Water Research Council-WRC (ZAF), ICLEI Africa (ZAF), African Network for river Basin Organization-ANBO, Global Water Partnership-GWP, African Water Association-AfWA (CIV), West Africa Service Center on Climate Change and Adapted Land Use-WASCAL, BothEnds (NLD), Akvo (NLD), International Institute for Environment Engineering-2iE (BFA), Council for Scientific and Industrial research-CSIR (BFA), Water Environment and Business for development-WE&B (ESP), International Office for Water- IOWater (FRA), Faculty of Geo-Information Science and earth Observation-ICT-UTwente (NLD), Water supply and sanitation technology Platform-WssTP.

afrialliance.org

University of Geneva (UNIGE)



UNIVERSITÉ DE GENÈVE

Cooperation and Benefit Sharing in the Senegal and Niger River Basins

The use of shared water resources for energy purposes is a significant challenge in the socioeconomic development of West Africa.

In order to reinforce transboundary water cooperation, riparian States sharing the Senegal and Niger River Basins established the Organization for the Development of the Senegal River (OMVS) in 1972 and the Niger Basin Authority (NBA) in 1980 to achieve equitable allocation of social, economic and environmental benefits amongst them.

The Platform for International Water Law of the Faculty of Law of the University of Geneva and the Geneva Water Hub organized a Round Table on **"Cooperation and benefit-sharing in the basins of the Senegal and Niger rivers"** at the headquarters of the World Meteorological Organization in Geneva, on the 24th of September 2015.

Participants in the Round Table included three experts from West Africa: Mr. Tamsir Ndiaye, Director of the Agency for the Management and Exploitation of the Diama Dam, Mr. Aminou Tassiou, Former Minister for Hydraulics of the Republic of Niger, and Mr. Akambi Afouda, President of the Global Water Partnership in West Africa (GWP-West Africa).

The Round Table was divided into two sessions devoted respectively to "The Evolution of the Factors of Cooperation within the NBA and OMVS" and "Common water structures and the Sharing of Benefits in the Senegal River and Niger River".

The experts pointed out that the two river basin organizations had different levels of cooperation.

They underlined the interest of common water structures as a factor for integration in shared basins.

Komlan Sangbana

Senior Lecturer
komlan.sangbana@unige.ch

Dr. Mara Tignino

Coordinator of the Platform for International Water Law, Faculty of Law
University of Geneva
mara.tignino@unige.ch

www.unige.ch/droit/eau



The round table

Volta Basin Authority (VBA)



Towards a Master Plan and a Water Charter



Visit of the NWTC by VBA delegation

Started in 2012, the Volta Basin Authority (VBA) Capacity Building Project for the implementation of priority actions of the 2010-2014 Strategic Plan was completed in 2015.

Coordinated by INBO, it received support from the Water Facility of the European Union, the French Development Agency, the Seine-Normandy and Adour-Garonne Water Agencies.

In April 2015, members of the VBA Committee of Experts and Executive Directorate undertook a working visit to France.

The delegation got acquainted with the activities of the Canal de Provence Company (SCP), the National Space Center (CNES), the Coteaux de Gascogne Development Company (CAGG), and IOWater's National Water Training Center (NWTC) and National Water Information and Documentation Center (CNIDE) in Limoges.

A study was made of the future Water Charter to prepare arguments for the stakeholders. An information leaflet was published.

A closing workshop was organized by VBA and INBO in Ouagadougou in April 2015.

It gathered representatives of riparian countries of the Volta, of the VBA Executive Directorate, and of its partners.

The workshop allowed discussing the preparation of the Water Charter and Master Plan, two major products that VBA will develop in the coming years.

www.abv-volta.org

Volta HYCOS

The Volta Basin Authority (VBA) has received funding from the African Water Facility, hosted by the African Development Bank, and support from the International Union for Conservation of Nature / Swedish International Development Agency (IUCN / SIDA) through the implementation of the Volta HYCOS Project.

This support includes a training component made of five modules:

- Use of satellite data for IWRM,
- Gauging with Acoustic Doppler Current Profiler (ADCP) and reel,
- Data management by Hydromet software,

- Hydrological modeling and flood forecasting,
- Installation and Management of Data Collection Platforms.

These training courses were organized at the AGRHYMET Regional Center in Niamey, between March and April 2015 by the group AGRHYMET / CNR (National Company of the Rhone) /

IOWater, INBO Secretariat, supported by the know-how of the IRD and independent consultants.

A total of 53 participants from the six Member States and VBA Executive Secretariat were trained using some appropriate educational materials.



Lake Chad Basin Commission (LCBC)



Implementation of the Water Charter



The sub-regional workshop

The Water Charter of Lake Chad Basin was adopted in N'djamena on 30 April 2012 by the 14th Summit of Heads of State and Government of the Member States of Lake Chad Basin Commission.

The Charter comprises one hundred articles and is supplemented by five appendices.

To ensure the operability of the Charter, the International Office for Water, INBO Secretariat, with funds from the **French Fund for Global Environment (FFEM)**, has provided support to faci-

litate national workshops for the ratification of the Charter, for the drafting of new Terms of Reference of new annexes and exchanges with other Basin Organizations in the region.

A sub-regional workshop to share experiences on transboundary water management was held in Yaoundé (Cameroon), on 25 and 26 March 2015.

This meeting allowed exchanges, including on obstacles to the implementation of the Water Charters of the Senegal, Niger and Chad Basins.

A new Annex, on updating the missions, the responsibilities and functioning of the Lake Chad Basin Commission's bodies, is also being drafted with the support of two regional legal advisers.

Michel Dimbele-Kombe

Director of the Basin Observatory
Lake Chad Basin Commission (LCBC)
Fax: +235 252 41 37
mdimbelekombe@yahoo.fr

www.cbllt.org



The Niger Basin Observatory

The Niger Basin Observatory (NBO) was created by a Special Session of the NBA Council of Ministers, held on 8 and 9 January 2004 in Yaoundé, Cameroon. Its primary purpose is to increase the coordination role of the NBA and improve dialogue on the basin scale.

As a decision making support tool, the **Niger Basin Observatory (NBO)** is responsible for:

- monitoring the basin evolution in its different hydrological, environmental, human, socioeconomic components,
- producing periodic information on the development of the basin,
- disseminating useful information to both decision-makers and other development stakeholders.

The monitoring and systematic production of useful and relevant information at regional level require the establishment of a sustainable and reliable mechanism for the collection and exchange of data and information at both national and local levels.

The need has emerged to organize and set up the Network of Producers and Managers of Hydro-meteorological, Environmental and Socioeconomic Data to feed and properly operate the various analysis tools.

NBO has successively established the networks of Niger, Chad, Cameroon and Nigeria, since 2012.

In 2015, the NBO continued the establishment of networks in the other Member States, including Mali, Côte d'Ivoire, Guinea, Burkina Faso and Benin.

Workshops, led by NBA experts, are primarily intended to inform the bodies having the environmental and socioeconomic data and information and make them aware of the merits of the NBO, of its tools and working procedures, of the need to establish a network of data producers and formalize working relationships through sound collaborative commitments.



These workshops were largely funded by the Swedish International Development Agency (SIDA) through the "Partnership for Environmental Governance in West Africa (PAGE)" program, implemented by IUCN-PACO in collaboration with the German Cooperation Agency (GIZ) and the French Development Agency (AFD).

The establishment of Networks of Producers and Managers of hydro-meteorological, environmental and socioeconomic data became effective in the 9 Member States.

www.abn.ne

Flood control in the Niger Basin

The project for support to the Niger Basin Authority (NBA) by the German International Cooperation Agency for Development (GIZ) on flood control ends in early 2016.

The Deltares / UNESCO-IHE / IOWater group, in charge of the project implementation, has carried out:

- Mapping of flood risk in the basin and in pilot zones (Niamey in Niger and Malanville in Benin);

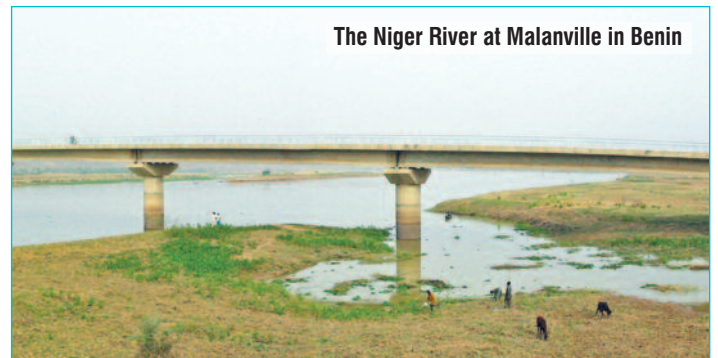
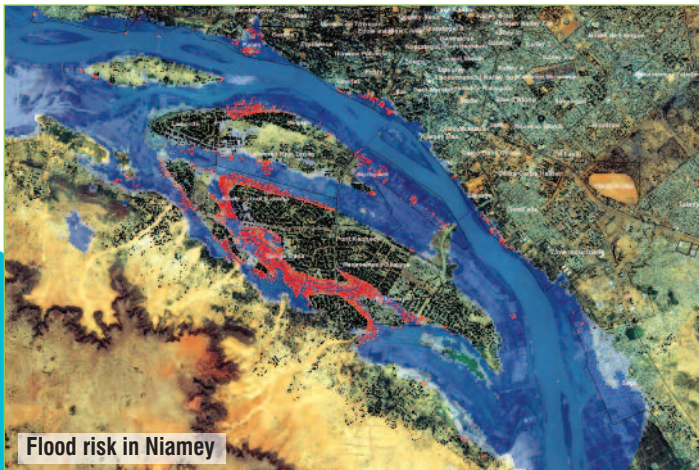
- Development of a flood forecasting model;
- Improvement of hydrological data management (Niger HYCOS);
- Improvement of the warning system.

Training courses are also provided by the group to strengthen the abilities of the NBA teams.

Abdoulaye Kaya
Niger Basin Authority (NBA)
abdoulayekaya@yahoo.fr

www.abn.ne

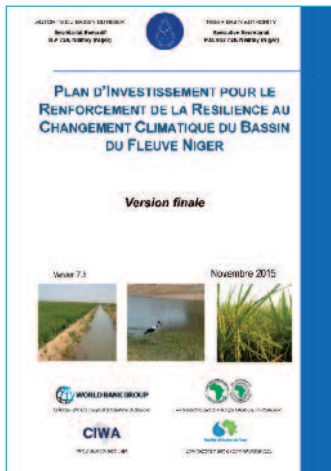
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH





Niger Basin Authority (NBA)

Investment plan for building resilience to climate change in the Niger Basin



At the end of the ministerial roundtable on the future of the Niger River, held on 19 April 2015 in Washington DC, during the spring meetings of the **World Bank and the International Monetary Fund**, the participants agreed to launch an initiative to develop a consistent set of actions and concrete investments for increasing climate resilience in the Niger Basin and secure the funds needed.

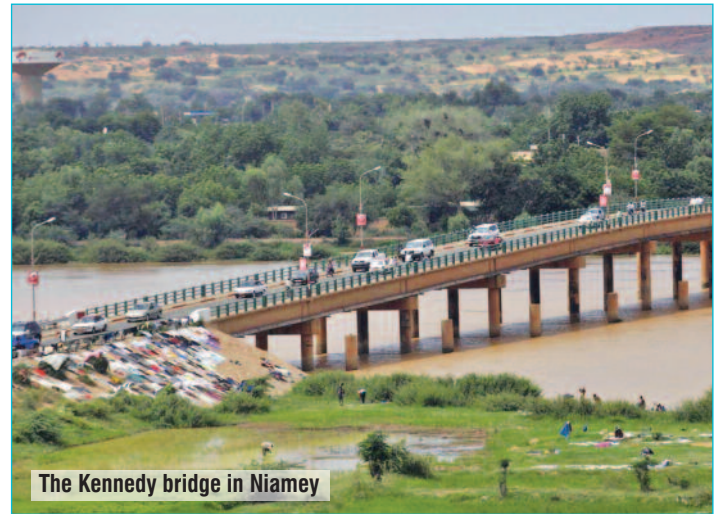
This initiative was presented at the COP 21 in Paris in December 2015.

This initiative, supported by all the NBA Member States and technical and financial partners, is reflected in the drafting of a **Climate Investment Plan "CIP"**, using the main existing planning documents. It is planned in the short / medium term (5-10 years) and aims to develop actions whose implementation can be done quickly.

Thus the CIP includes 246 actions identified and retained by the Member States in a participatory and inclusive approach by making consistent the **National Adaptation Plans (NAP)**, on the one hand, as well as **NBA** regional initiatives and other sub-regional institutions, on the other.

These actions are split into two groups:

- 1 **"Knowledge and Institutions" activities for:**
 - Knowledge: collection and generation of information, climate forecasting tools,
 - Vulnerability Assessment,
 - Communication, awareness raising,
 - Integration of adaptation to climate change into public policy.



- 1 **Sectoral actions that contribute to strengthen the resilience of the basin's populations and ecosystems.**

The total amount of these 246 priority actions is estimated at 3.11 Billion US Dollars over a period of 10 years. The CIP is the "Climate" Thematic Plan of the NBA 10-year Operational Plan, the total amount of which is about 8 Billion US Dollars.

The NBA was present at the COP21, and it facilitated, on 2 December 2015 at the African Pavilion, a High Level Panel on "adaptation to climate change in the international river basins: the Climate Investment Plan of the Niger River Basin" in the presence of the Basin's Heads of State.

Abdoulaye Kaya
Niger Basin Authority (NBA)
abdoulayekaya@yahoo.fr

www.abn.ne

Congo Basin - "CICOS"



Cartography of partners of the International Congo-Ubangi-Sangha Basin Commission

The **International Congo-Ubangi-Sangha Basin Commission (CICOS)** was established in 1999 by Cameroon, the Central African Republic, Congo and the Democratic Republic of Congo (DRC).

Gabon and Angola joined the institution later.

"CICOS" mandate is to promote inland waterway transport and develop water resources in the basin.

The implementation of projects and programs of "CICOS" and of its Member States is supported by various technical and financial partners.

To enhance the effectiveness of this support, a profile analysis of the partners operating in the sectors of inland navigation and water management was carried out at national and regional levels.

This study, financed by German Cooperation (GIZ) and entrusted to

IOWater, INBO Secretariat, combined a literature review, interviews with partners in each country and field investigations.

A comprehensive list of partners was developed, indicating the partners' position in relation to "CICOS" and the nature of the projects implemented.

Based on the major trends thus observed, a number of recommendations to "CICOS" for mobilizing funding were established.

Damien Brunel
CICOS Adviser
dbrunel.atcicos@yahoo.fr

www.cicos.info





Declaration of the sixteenth Heads of State's Conference on Climate Change

The Heads of State and Government of the Republic of Guinea, the Republic of Mali, the Islamic Republic of Mauritania and the Republic of Senegal, met in Conakry on 11 March 2015, on the occasion of the XVI Conference of Heads of State and Government of the Organization for the Development of the Senegal River (OMVS).

They declared being aware of:

- The commitment of the international community to mitigate the effects of climate change;
- The vulnerability of their economies and their populations to climate variability;
- The fragility of ecosystems in the Senegal River Basin;
- The degradation of the Fouta Djallon Mountain that houses the headwaters of the main rivers of West Africa.

They took account of:

- The increased pressure on natural resources due to high demographic growth and the growing needs related to food safety and well being of the population;
- The decrease in water resources availability due to climate change because of the temporal, spatial and quantitative variability of rainfall and runoff in the Senegal River Basin;
- The OMVS role and experience in the joint management of trans-boundary water resources.

They appealed:

- The Basin populations to a greater awareness of the impacts of climate change and to their mobilization for the implementation of appropriate adaptation measures;



- The international community to:
 - ➔ work towards strengthening international cooperation in this field,
 - ➔ mobilize support for OMVS to build its capacity, and accelerate the implementation of its integrated development program that effectively contributes to the reduction of the greenhouse effect;
- The signatories to the UN Convention on Climate Change to contribute to its effective implementation.

The Heads of State committed themselves to take better into account the climate change dimension in their development strategies and policies for the welfare of their populations.

www.portail-omvs.org

Improving Ecosystem Resilience to Climate Change in the Senegal River Basin

Establishment of the Regional Water and Environment Observation Center for the Fouta Djallon

The Senegal River, 1,790 km long, rises in the Fouta Djallon Mountain in Guinea. This area, called the West African Water Tower, is of particular importance as all the rivers of the region have their headwaters there.

But, also it is a highly important ecological ecosystem (forests, reservoir of significant biodiversity).

However, this ecosystem is very vulnerable to climate changes combined with anthropogenic activities and currently shows significant signs of degradation (strong reduction of the vegetation cover, soil erosion, diminishing water quality and quantity, loss of biodiversity).

The restoration and conservation of this fragile ecosystem would participate significantly in preventing carbon emissions and in trapping the atmospheric carbon found in the region.

To cope with this situation, OMVS is implementing a set of actions including the establishment of **the Regional Water and Environment Observation Center for the Fouta Djallon**.

The project is structured into three components:

- establishment and operation of the Observation Center;
- improving knowledge and information management;
- capacity building of the stakeholders and support to the local development of the mountain area.

Its total cost amounts to 6 Million Euros.

OMVS High Commission

omvssphc@omvs.org

www.portail-omvs.org



The Senegal River

Mono Basin Authority (MBA)



On 30 December 2014, the Heads of State and Government of Benin and Togo signed the draft Convention on the Statutes of the Mono River which crosses both countries, creating the **Mono Basin Authority (MBA)**.

Alongside ECOWAS' Water Resources Coordination Unit, IOWater and pS-Eau, the French Rhone Mediterranean Corsica Water Agency (AERMC) is helping the gradual process of MBA establishment.

The objectives are twofold:

- To assist in the successful implementation of Integrated Basin Management;

- To encourage the development of cooperation on water and sanitation projects supported by the French local Authorities in the whole basin.

A first pilot year allowed approaching the central government, local authorities and civil society partners to identify a set of needs and actions to be taken, both at transboundary level (MBA) and at national level in Togo and Benin: drafting of a Master Plan for Water Development and Management (SDAGE), establishment and structuring of Basin Committees and Local Water Committees, thinking about the establishment of funding mechanisms, strengthening the Information Systems, building of drinking water and sanitation



infrastructure and support to the governance of services.

The originality of the approach is based on the relationship between the writing of planning documents, the programming and financing of short-term actions and the development of cooperation projects on IWRM and access to

drinking water supply and sanitation services.

The participation in July 2015 of the Water Resources Directors of Togo and Benin in two meetings of exchanges and information in France took place under this framework.

Burkina Faso



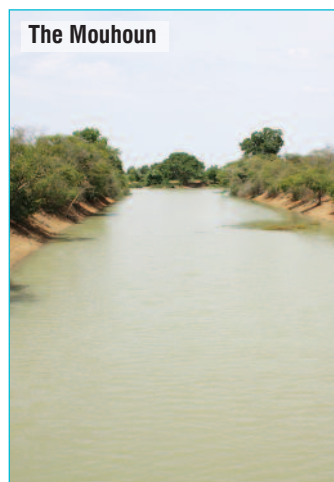
Mouhoun Water Agency: Towards the implementation of the "SDAGE"

After the adoption of the **Mouhoun Master Plan for Water Development and Management (SDAGE)** in July 2014, year 2015 was devoted to accompanying the **Mouhoun Water Agency (AEM)**, with the support of the **French Adour-Garonne and Seine-Normandie Water Agencies**, in the operational implementation of the "SDAGE" and in strengthening its departments and services with assignments dealing with:

- Development of knowledge of water resources to support the Water Resources Department in the definition of monitoring;
- Drafting of the "AEM" Multi-Year Action Plan;
- Recovery of the Financial Contribution regarding water.

A pilot Water Police service was established in the Kou sub-basin.

A visit to France allowed the various stakeholders to exchange on the difficulties encountered, to participate in a Basin Committee and work with their counterparts on topics such as: communication, Programs of Measures and their funding.



Integrated management of the Nakanbé in Burkina Faso and the White Volta Basin in Ghana

Throughout 2015, the **Nakanbe Water Agency (AEN)** continued its "SDAGE" elaboration, with the support of the **Loire-Brittany Water Agency (AELB)**, by adopting the Nakanbe Basin assessment and working on Basin Development scenarios.

A training course for the members of the Basin Committee was organized as a side event of the Water Assessment Adoption session.

As the White Volta is a transboundary river, an IWRM project was also started with the support of the AELB in the

downstream sub-basin of the White Volta in Ghana.

The first phase of this project was completed in 2015 with a three-day workshop, led by IOWater, INBO Secretariat, and two experts from AELB, on the topics of joint planning between Burkina Faso and Ghana and sustainable financing of basin agencies. A report was drafted on this occasion and the outlines of the 2nd phase were drawn.





Integrated Management of the Sanaga River

The Lom Pangar dam project



The Sanaga is the largest river in Cameroon. Its hydroelectric potential is very high. The State of Cameroon has commissioned the **Electricity Development Corporation (EDC)** to develop this potential in accordance with the principles of integrated management.

EDC entrusted a technical assistance assignment, which is financed by the

French Development Agency (AFD), to the consultancy consortium consisting of Artelia, PWC and ERE-Development. This assignment is being carried out as part of the Lom Pangar Hydropower project to build a 6bn m³ dam-reservoir with the aim of increasing Cameroon's electricity production capacity and reducing the seasonal fluctuations in the Sanaga river flow rate.

The main objectives of the technical assistance to establish a management framework for the Sanaga Basin to ensure its sustainable development, are as follows:

- Organize national consultation workshops;
- Prepare the draft decree creating the **Sanaga River Basin Commission (SRBC)**;
- Assess the human resources and training required for members of SRBC and its Permanent Technical Secretariat (PTS). Develop a strategy for training, information and communication;
- Estimate the budget required for the operation of the SRBC and its PTS and develop a lasting mechanism to fund its operation;

- Perform an audit of the current Water Information System (WIS) and define the needs for developing a new WIS;
- Establish a technical partnership between EDC and a foreign company to manage the dam-reservoirs, hydropower plants and gauging station networks.

This technical assistance is being carried out from December 2014 to June 2016.

Théodore Nsangou
EDC
theonsangou@yahoo.fr

www.edc-cameroon.org



Benin



Vulnerability to flooding in the Sota River Basin

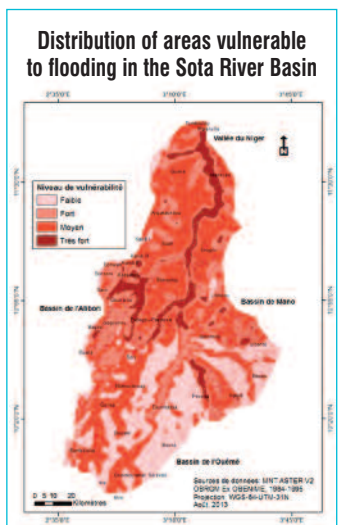
The effects of hydroclimate changes are already being felt and will intensify with the increase and multiplication of extreme events in the Sota River Basin at the Coubéri outlet in Northern Benin.

A study characterized the vulnerability to flooding. The combination of different factors allowed identifying four flood vulnerability levels:

- **The areas with low vulnerability to flooding** cover 23% of the basin and are mainly spread in the southeastern part of the basin.
- **The areas of average vulnerability to flooding** correspond to the areas with average slopes where runoff does not allow water to stagnate. These areas occupy 38% of the basin surface.

- **The areas of high vulnerability to flooding** occupy 23% of the basin. These zones concern flood-prone areas, and are located near the rivers in the plains.
- **The zones of very high vulnerability to flooding** occupy 9% of the territory and are located near the riverbed and at the lowest points of the Sota river low water level north of the basin.

The sectors most exposed to such risks are agriculture, animal husbandry, habitats and biodiversity. The most vulnerable social groups are small farmers, market gardeners and emerging farmers, fishers and breeders.



Dègla Herve Koumassi
Pierre Pagney Laboratory
"Climate, Water, Ecosystems and Development"
kharidad1@gmail.com

www.inbo-news.org

All information is available on the Web



www.inbo-news.org

1.50 Million visits in 2015

North America

Canada - Quebec



A guide for successful twinning projects!

Drawing on four twinning experiences between organizations from France and Quebec, the **North American Network of Basin Organizations (NANBO)** and the **Regrouping of the River Basin Organizations of Quebec (ROBVQ)** have partnered to publish a twinning guide and a trilingual model charter.

These tools will allow organizations to undertake twinning projects with similar organizations elsewhere, while benefiting from the experience of their peers.

Specifically, the guide offers a six-step method to establish a functional and beneficial twinning project for each partner involved. It also gives some advices to ensure the success of the approach.

The guide is available in French, English and Spanish at:

<http://bit.ly/1WBUpfF>

Caroline Gagné

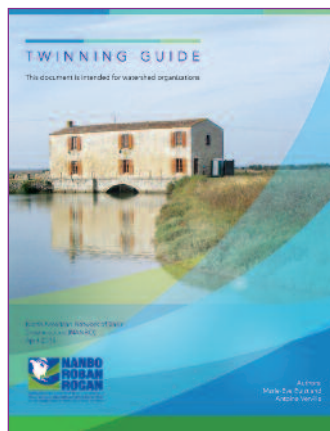
Communication / marketing Officer

ROBVQ

Tél. : (418) 800-1144 #6

caroline@robvq.qc.ca

www.robvq.qc.ca



Experience between France and Quebec

The program of **ROBVQ** and the **French Association of Public Local Basin Authorities (AFEPTB)** allowed establishing five twinning projects between basin organizations in France and Quebec to improve practices in both countries regarding dam management, adaptation to climate change, public involvement in water management or control of invasive species.

International Conference on Drinking Water Source Protection



The Regrouping of the River Basin Organizations of Quebec (ROBVQ) is organizing the **4th International Forum on Integrated Water Management**, to be held in Quebec City from November 1st to 3rd, 2016.

It will address the water source protection issue.

The conference will address topics such as assessment and monitoring of

water sources, risk management and emergency measures, protection measures, governance and land use planning.

This international conference is organized in partnership with the Laval University and the St-François River Basin Organization (COGESAF).

<http://rv-eau.ca>



4th edition
International Forum
on Integrated Water Management
Tools for ACTION



Latin America

Transboundary water management in the Amazon Basin

The "MAP" Initiative - Madre / Acre / Pando



Managing transboundary basins is not a simple process.

In the Amazon Basin, which is the largest water reservoir of the planet, talking about transboundary management is not very easy due to its extent and complexity as it concerns eight countries.

The "MAP" Initiative involves the Department of **Madre de Dios** in Peru, **Acre** State in Brazil and the Department of **Pando** in Bolivia and aims at collaborating to jointly find solutions to the problems of this tri-national region.

The "MAP" initiative was created in 1999 at the meeting of 25 representatives of universities and research centers of Peru, Bolivia and Brazil.

As part of this process, "MAP" organized, from 9 to 11 November 2015, its "10th MAP Forum", an opportunity to strengthen the vision of transboundary waters.

Transboundary cooperation, as well as climate change and the extreme events that have occurred in the region, were the two major topics discussed at the "10th MAP Forum",

The event was supported by the **Amazon Cooperation Treaty Organization (ACTO)**, which implements the project on "Integrated and Sustainable Management of Transboundary Water Resources taking climate variability and change into account in the basin" (OTCA / UNEP / GEF), of which "MAP" is a pilot project.

This 10th Forum, which was held on the campus of the Federal University of Acre (UFAC), addressed the topic of new ways for adaptation and resilience to extreme climate events in the "MAP" region and gathered more than 400 participants.

There are 53 other sub-basins that Brazil shares with other Amazonian countries.

Integrated Transboundary Water Management of the Acre River Basin was one of the tackled issues.

The Acre River Basin is part of the Purus River Basin, a great Amazon Sub-Basin.

The Amazon Basin is known for its many ecosystems and its ethno-cultural diversity.

Similarly, the area includes the largest transboundary aquifers in the world. The management of this basin has until now only concerned the sub-basins of surface waters.

For effective transboundary management, all the major transboundary sub-basins must be taken into account: the Tapajós, Madeira, Purus, Solimoes, Negro, Trombetas, Paru, Foz / Amazonas and Amapá / Littoral.

In order to implement transboundary water management, in 2006, "MAP" proposed to the Technical Committee for Transboundary Water Resources Management (CTGRHT) of the National Council of Water Resources (CNRH) of Brazil to establish a Working Group on the Acre River.

The CNRH/BR adopted a motion that recognizes the importance of establishing mechanisms and instruments common to the three countries in the Acre River Basin.

This group proposed a Cooperation Agreement for Sustainable Development and Integrated Management of the Acre River.

Three discussion groups will be created to establish Local Coordination Committees, which in practice are the River Basin Committees in each country.

In 2016, a special technical meeting will examine how to promote the signing and implementation of the Tri-national Cooperation Agreement on the Acre River Basin.

The Brazilian Network of Basin Organizations (REBOB) participated in the Forum and is supporting the project.

Mauri Cesar Barbosa Pereira

Director of REBOB/North
mauricesar@gmail.com



www.inbo-news.org

All information
is available
on the Web



www.inbo-news.org

1.50 Million visits in 2015

Latin America

Forum "Agro-Cities and Climate Change"

26 - 28 August 2015 - Hermosillo - Sonora - Mexico



The Forum "Agro-Cities and Climate Change: present and future" was organized by the Institute of the Americas (IDA), the Observatory of Changes in Latin America (LOCAL), the International Europe-Latin America-the Caribbean Network (ALEC), the "Territories, Vulnerable Populations and Public Policies" Chair of the University of Limoges, the Autonomous University of Sinaloa and the Municipality of Ciudad Juárez.

It gathered representatives from academia, companies, civil society and local and national governments to initiate a multidisciplinary debate on practices and public policies that give sustainable solutions to develop the areas facing climate change.

The thematic workshops covered the following topics:

- Territories and the environment;
- Deforestation, desertification;
- Energy transition;
- Creative economies;
- Low carbon economy;
- Eco-education system;
- Gender and the environment.

INBO presented the tools of Integrated Water Resources Management (IWRM) in basins as a key means for climate change adaptation to reconcile the different uses of water, including in situations characterized by the scarcity of water resources or frequent extreme meteorological events (droughts, floods).

It also presented the **"Paris Pact on adaptation to climate change in the basins of rivers, lakes and aquifers"**. This initiative, launched by INBO on the request of the Peruvian Presidency of COP20 and the French Ministry of the Environment, Energy and the Sea (MEEM) on the occasion of the "Water and Adaptation" Day of the

COP21 in Paris, summarizes the principles and actions that should be implemented to ensure adaptation to climate change in the basins.

Basin organizations, local and national governments, companies, NGOs and donors are invited to join and commit themselves to apply these principles and actions through tangible projects, presented under the **Lima-Paris Action Agenda (LPAA)**.



"EcoCuencas"

Economic mechanisms to facilitate adaptation to climate change

Over the past 25 years, great progress was made in Integrated Water Resources Management Policy (IWRM) in Latin American basins.

However, the theme of adaptation to climate change is worth pursuing, while the countries in the region already know its effects.

Continuing the baseline scenario would lead to serious consequences, with high economic, social and environmental costs.

Faced with these challenges and to enable the use of a widest range of possible resources, it is necessary to especially develop economic management tools in basins.

Indeed, building resilience to climate change goes through securing the financing of Basin Management Plans, and thus the establishment of financial redistribution mechanisms.

In such a context and under its "WATERCLIMA LAC" program, the European Commission selected the "EcoCuencas project", coordinated by IOWater, INBO Secretariat, in December 2014.

Activities are planned over 3 years and have a budget of €2.5 million financed at about 75% by the European Union and by counterparts from the nine European and Latin American partners, to **promote the development of financial mechanisms for climate change adaptation.**

The project plans to design and develop financial tools (fees, payments for environmental services, etc.) in three strategic pilot basins that illustrate the diversity of cases encountered on the continent:

- **The Brazilian "Piracicaba Capivari Jundiá" basin (PCJ)**, in the States of São Paulo and Minas Gerais, which are experiencing a historic drought;

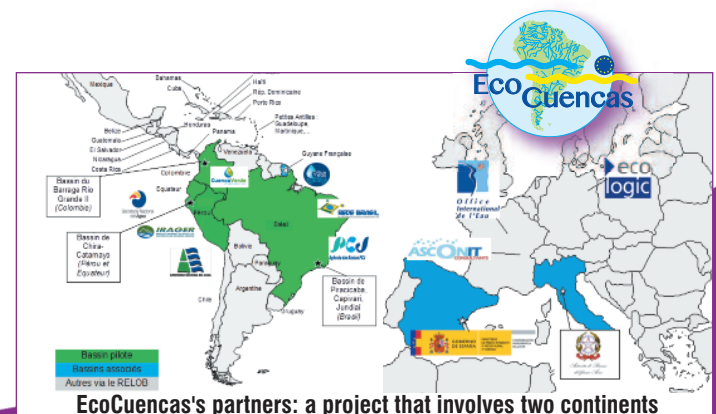
- **The "Chira-Catamayo" Basin**, located between Peru and Ecuador, underlines the challenges of managing shared resources in a transboundary context;
- **The Colombian Basin of the "Rio Grande II" dam** reservoir that supplies drinking water to Medellín.
- **The publication of a guide of good practices;**
- **The implementation of measures recommended** in the three pilot basins;
- **The dissemination of the lessons learned** during these stages.

The project includes four steps:

- 1 **An inventory of the effects of climate change** on basin water resources, taking into account existing institutional responses;

This project is based on the logic of experience sharing from the local level to the intercontinental level, with a concern of appropriation and sustainability.

www.aquacoope.org/ecocuencas



EcoCuencas's partners: a project that involves two continents

Latin America

Brazil



17th "ENCOB"

4 - 9 October 2015 - Caldas Novas - Brazil



Opening ceremony of the 17th "ENCOP"

The "National Meetings of Basin Committees" (ENCOP) are the greatest national events on water resources in Brazil.

The 17th Symposium was organized by the Brazilian Water Resources Association (ABRH), with the support of ANA (National Water Agency) and the Brazilian Network of Basin Organizations (REBOB).

It focused on "Water security and sustainable development: knowledge and management issues".

It gathered representatives of administrations, researchers and decision makers to exchange good practices of Integrated Water Resources Management (IWRM) on the basin scale.

The many sessions gave an opportunity to discuss, among other things, the progress of the National Program for the consolidation of the National Pact for Water Management (Progestão), the National Water Security Policy (PNSH), the Brazilian Atlas of pollution reduction in basins and the National Policy on Dam Safety.



More than 1,500 participants from all over Brazil

An international seminar on "accounting water resources and uses" was held as a side event to the Symposium on 24 November, in order to present the methodologies to effectively quantify the available resources and the water consumptions of different uses.

These methodologies are valuable decision making support tools to determine the allocations of water volumes attributable to these various uses and to make political arbitration.

INBO presented its experience of Integrated Water Resources Management over the World and accounting of water resource and uses.

It expressed its great interest in this event gathering almost all the Brazilian stakeholders in basin management, noting that other countries could usefully replicate this kind of event model to promote the dissemination of best practices and contribute to the mobilization of field practitioners.

www.encob.org



The PCJ Basin Agency participated in "EUROPE-INBO" Conference in Greece

Coordinator of the PCJ Agency's Information Systems, Mr. Eduardo Cuoco Leo attended the 13th "EUROPE-INBO" Conference on the implementation of

the Water Directives of the European Union, held from 21 to 24 October 2015 in Thessaloniki, Greece.

A specific workshop was devoted to the "EcoCuencas" project in which the PCJ Basin Agency is a partner of the International Office for Water, the Organization for Economic Cooperation and Development (OECD), Asconit, Jucar Basin Authority (Spain), Ecologic Institute (Germany), REBOB and Irager (Peru).

implementation of recovery mechanisms and financial incentives for investments in water management.

Ivanise Pachane Milanez

Press Bureau
PCJ Agency
ivanise@agenciapcj.org.br

www.agenciapcj.org.br

www.aquacoope.org/ecocuencas



Workshop on "EcoCuencas" project in Thessaloniki

The project particularly focuses on adaptation to climate change and the use of economic mechanisms.

"EcoCuencas" will be a crucial project for all countries concerned to exchange experiences, good practices and discuss about obstacles to the



Brazil



Experiences in desert regions inspire solutions to water crisis in the State of São Paulo



Piracicaba River overflowing - São Paulo State

Piracicaba, Capivari, and Jundiá river Basins (PCJ Basins), located in São Paulo State, are considered as pioneers in the implementation of Water Resources Management System tools in Brazil.

Structuring water policies in the region focused on managing water shortages in an area affected by high water stress.

However, a new component has been putting water resources management to the test in Brazil: the occurrence of extreme weather events.

PCJ basins, for example, went from one extreme to another in the past five years.

In 2009, the region was severely affected by heavy rains above historical averages. It resulted in floods and caused the water reservoirs to be placed on high alert due to the limit of their storage capacity.

It was quite different from the reality experienced in 2014 and 2015, when rainfall was below historical averages and the reservoirs almost dried up. It is estimated that 60% of water springs in the region had dried up.

The drought that occurred in 2014 was considered the worst extreme event of the past decades.

The situation raised the interest in technologies used in countries with arid and desert areas.

In March 2015, representatives of water services and the mayors of the cities in PCJ Basins participated in a technical meeting in which the Israeli Consulate's Economic Mission presented companies using advanced technologies in water resources management.

In October of that year, the PCJ Consortium organized the travel of a delegation to Israel.

Participants learned about the very latest in desalination technologies, prevention of losses in supply networks and reuse of treated wastewater. The delegation also participated in "WATEC".

The next step in the partnership between PCJ Consortium and Israel comprises a new technical meeting in 2016

with the companies selected by the Consortium team during "WATEC".

The PCJ Consortium has been in touch with its partners in the Brazilian Network of Basin Organizations and in "Seção Brasil" (a group of Brazilian organizations participating in the World Water Council) in search of areas interested in developing a desalination pilot project on the Brazilian coast with the support of the company that operates the Sorek plant in Israel. This initiative is aimed at promoting desalination as an alternative in Brazilian water management and in coastal regions with high water stress.

Desalination costs are currently at an average of US\$ 0.50 per cubic meter of treated water.

Murilo F. De Sant'Anna

Manager of public awareness

and communication

PCJ Consortium

murilo@agua.org.br

www.agua.org.br

Triangular cooperation in Brazil



The triangular cooperation program involving the Basin Committees of the State of Rio Grande do Sul in the far south of Brazil, the Basin Committee of the French Loire-Brittany Water Agency and the Inter-Municipal Consortium of Piracicaba, Capivari and Jundiá Basins in the State of São Paulo, allowed the realization of many activities in 2015.

A reference document comparing the current situation of water management in the three regions concerned was drafted in French and Portuguese. It will be made available online to the public in the form of sheets.

Exchange workshops enabled members of the Rio Grande do Sul Basin Committees to think, using the experience of the Loire Brittany Water Agency, about the challenges of articulating different planning scales with the organization of stakeholders to ensure the effective implementation of the planned actions.

They participated in a technical visit in the PCJ Basins and in the Rio de Janeiro State in order to know about the experiments of establishing Brazilian Basin Agencies and tax-aid mechanisms in these two contrasting contexts.

This first phase of the triangular cooperation was completed in December 2015 with a working seminar on the establishment of Basin Agencies in the Rio Grande do Sul.

The region, regrouping the Uruguay River tributaries is candidate for a pilot experiment for establishing a Basin Agency in this State.

The presentation of detailed data on the early years of operation of the French Agencies, in the 1970s, strongly interested Brazilian stakeholders facing similar issues to those encountered by

the pioneers of the French basin water management system fifty years ago.

Following these positive results, a new phase of the triangular cooperation program has just started. Comparison of experiences in the development of Basin Agencies in different Brazilian States and in the Loire-Brittany Basin will be made more thoroughly.

Technical visit to the rice grower cooperative at the São Marcos dam



Latin America

Colombia



IWRM Assessment and prospects



Lake Tota - Corpoboyaca Region

With the support of the **French Adour-Garonne Water Agency**, a cooperation program with the Colombian Government (2013-2015) focused on 3 large lines of work:

1 **Support to the implementation of the National Policy on Integrated Water Resources Management (NPIWRM)** and to the establishment of **the first Strategic Plan for the Magdalena River Basin**, the largest river basin of the country.

It also contributed to the organization of a **"Regional Environmental Council"** in the macro-basin. Financial tools were also studied to facilitate the operational implementation of the NPIWRM.

2 **Consolidation of the National Water Information System**, of which the Institute of Hydrology, Meteorology and Environmental Studies of Colombia (IDEAM) is a leading technical member.

The program highlighted the importance of the interoperability of databases and of the development of a language common to all data producers.

3 **Pollution control**, and more particularly the consolidation/updating of the decrees on the tax for water use and sanitation and the organization of industrial pollution control, topics that are respectively developed with the Ministry of the Environment and **the Regional Environmental Authority**, the **"CAR"** of Cundinamarca.

Many working sessions led to technical presentations on IWRM tools in line with the Colombian context, to training courses, to the production of reference documents supporting the proposed guidelines. These sessions involved nearly 140 officials coming from 17 Colombian organizations.

During the assessment made in March 2015, the Vice-Minister of the Environment expressed his interest in continuing this cooperation project, in the very particular context of a possible Colombia's integration into OECD.

Mauricio Bayona

Water Resources Department
Ministry of the Environment and Sustainable Development (MADS)
maubayona@yahoo.com

www.minambiente.gov.co



Peru - National Water Authority



Economic incentives for water use

In recent years, the **National Water Authority (ANA)** has developed an ambitious river basin management policy, supported since late 2012 by a new method for calculating economic incentives for water use and wastewater discharge.

As part of a project funded by the World Bank and then by the Artois-Picardy Water Agency, the International Office for Water, INBO Secretariat, advised "ANA" for the implementation of these financial mechanisms.

Thus, pragmatic elements were proposed for the implementation of the "user-pays" and "polluter-pays" principles.

How to calculate economic incentives? What economic basis to justify them to future taxpayers?

The amounts levied at national level thus increased by over 100% between 2012 and 2014.

The method for calculating economic incentives remains perfectible and should be extended to a wider range of uses.

Above all, adjustments are now needed to answer the following questions: What destination for the levied amounts?

In which financial circuits and what are the eligibility criteria?

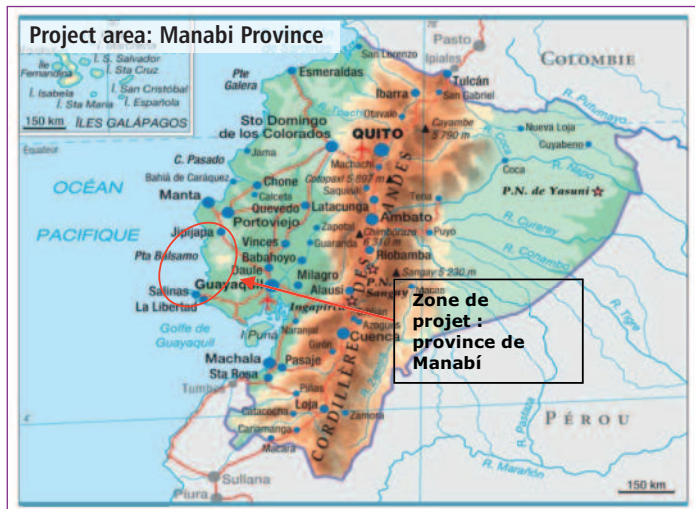
This is why the project will continue with support from the Artois Picardy Water Agency for answering these new questions.

www.ana.gob.pe





Manabí pilot River Basin District



The recent Constitution declares "a right to water for all", in which water is a strategic national heritage, for public use, unalienable, indefeasible, imperceptible and essential for life.

It also establishes a single "Water Authority" for water resources planning and management: the **National Secretariat for Water (SENAGUA)**

is thus responsible for the implementation of integrated water management policies.

The new water law, enacted on 6 August 2014, structures the territory into 9 River Basin Districts and plans the establishment of Basin Councils.

Each district is managed by a decentralized division of "SENAGUA".

On the occasion of the French-Ecuadorian Water Days in October 2014, the Adour-Garonne Water Agency (AEAG) and IOWater, INBO Secretariat, signed a cooperation agreement with "SENAGUA" for the following:

- Establishment of a pilot Basin Council and organization of an inter-ministerial technical secretariat of this Basin Council;
- Methodological support to the drafting of the Basin Management Plan;
- Participatory Review of the program funding mechanisms;
- Development of a Water Information and Data Management System.

The assignments already carried out in this context allowed:

- Interactive work with all partners of the "National Strategic Water System" to facilitate data exchange;
- Proposals for the training of stakeholders, widening the consultation circle, organizing commissions and working groups.

The strong political will and population support are major assets for the country and will facilitate achieving the objectives of this cooperation.



Ecuador is investing US \$ 1 billion in water resource management projects

The country will have to face the possible arrival of the El Niño phenomenon. With Mega hydraulic structures built by the **Public Water Company (EPA - EP)**, the country is ready to reduce the effects of the floods of the Cañar, Naranjal, Bulubulu rivers and the Grande River at Chone, Manabí Province.

The "Cañar flood control" project was inaugurated late 2015 and will protect 41,000 hectares in the provinces of Guayas and Cañar in winter, benefiting to 61,000 inhabitants.

Similarly, the "Naranjal flood control" project will be implemented to protect about 44,000 hectares usually flooded in the Guayas province. Approximately 81,000 people will benefit from this project.

The President of the Republic, Rafael Correa Delgado, inaugurated the Bulubulu Flood Control System on 21 April 2014. During its construction, this structure had already been able to reduce the effects of six floods that would have affected 41,000 hectares.

These three mega hydraulic structures were planned 20 years ago by previous administrations. Today, the National Government is building them so that they can operate in winter with the Guayas River Downstream Basin System and protect a total of 284,000 hectares, benefiting to 655,000 inhabitants.

Finally, in the Manabí Province, the Chone multipurpose structure that controls floods in this county, regulates the Grande River and the water allocation for the irrigation of 2,250 hectares.

During its construction, it already prevented eight floods during the winter of 2014-2015.

The construction of the Chone multipurpose structure ended more than 35 years of anguish for 125,000 inhabitants, who will never again suffer from the floods of the Grande River

The National Government, through the Water Secretariat, has invested approximately US \$ 1 billion in these

water resource management projects that will serve to control flooding in winter and prevent droughts in summer.

Bertha Andrade
SENAGUA
bertha.andrade@senagua.gob.ec

www.agua.gob.ec



Latin America

Mexico - CONAGUA

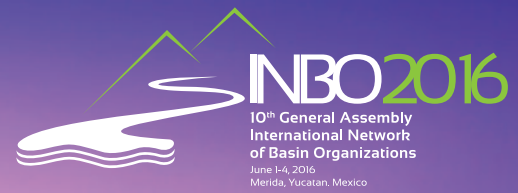
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comisión nacional del agua



SAVE THE DATE

10th GENERAL ASSEMBLY INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS

June 1-4, 2016
Merida, Yucatan. Mexico



Chichen Itzá, Yucatan >>>

It is one of the main archeological sites of the Yucatan peninsula. Important and renowned relic of the Mayan civilization. The archeological site of Chichen Itza was inscribed in UNESCO's World Heritage List in 1988.

Registration is open at:
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MEDIO AMBIENTE
Y RECURSOS NATURALES

CONAGUA
COMISIÓN NACIONAL DEL AGUA



"MEXICO+20": Mexico will host the 10th INBO General Assembly

20 years after the 1st World General Assembly, which had taken place in Morelia, Michoacan, in March 1996, Mexico will host the members of the International Network of Basin Organizations (INBO) for its 10th World General Assembly to be held in Merida, Yucatan, from 1 to 4 June 2016.

Located in the southeast end of Mexico, Merida, one of the Yucatan Peninsula main cities, is characterized for its hospitality and is offering an exceptional historical, archaeological and natural heritage.

This Assembly will take place at the invitation of the National Environment and Water Resources Secretariat (SEMARNAT), the National Water Commission (CONAGUA) and the North American Network of Basin Organizations (NANBO).

i-Welcome to Merida!

Pamela Alejandra Rojas Hernández
CONAGUA

pamela.rojas@conagua.gob.mx

www.inbo-news.org



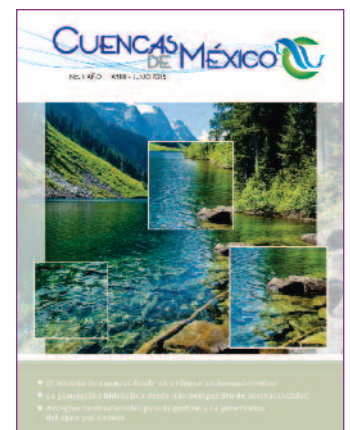
Merida

"Cuencas de Mexico" Magazine

"Cuencas de Mexico" (Mexico Basins) is an editorial project sponsored by the Central-Gulf Region Basin Councils in collaboration with the Coordination Office for Emergency Response and River Basin Councils and the Basin Councils Department of the National Water Commission (CONAGUA).

This new national journal aims to disseminate analyses on sustainable management of basins and natural resources under a holistic approach to enable the reader learn about the different basin management projects and proposed solutions.

This publication is a space for free and open discussions on all points of view, where ideas and proposals to improve the management of natural resources and social basin processes are raised.





The Cutzamala System Project was granted the "Popular Choice Award"

The World Bank Annual Water Week was held in its offices in Washington, DC, USA.

After an exhibition of more than 30 projects from around the world, the Cutzamala System Project was chosen as the "cornerstone" project of the world's water practices.

Junaid Ahmad, Senior Water Director at the World Bank handed the Popular Choice Award before more than 400 colleagues and Bank officials and other international agencies.

The prize is granted by a specialized jury panel that selects the projects allowing progress towards the Millennium Development Goals and Sustainable Development Goals.

The Cutzamala system is a complex inter-basin transfer project, built to supply water from the Cutzamala River to the Mexico City Metropolitan Area (MCMA) and to the Toluca Valley Metropolitan Area.

The World Bank jointly with the Engineering Institute of the National Autonomous University of Mexico (II-UNAM) and the Mexican Institute for Water Technology (IMTA) has carried out four project assessment missions.

Pamela Alejandra Rojas Hernández
National Water Commission (CONAGUA)
pamela.rojas@conagua.gob.mx

www.conagua.gob.mx



The Cutzamala System

Establishment of a Water Center for Latin America and the Caribbean



The development of better tools for decision-making, that combine the use of advanced technologies with capacity building and dissemination actions, is a key strategy in the effective implementation of Integrated Water Resources Management.

The Water Center for Latin America and the Caribbean at the Technological Institute of Monterrey has performed, since its creation in November 2008, relevant tasks of applied research and training, as well as collection and dissemination of information in support to Integrated Water Resources Management in the region.

With funds from the Inter-American Development Bank, the FEMSA Foundation and ITESM, a Decision-making Center for Effective Water Management is been installed.

It seeks to integrate the participation of stakeholders, through the use of mathematical models, visualization systems and participatory decision-making methodologies.

The project includes the reactivation of the LatinAqua network, and the implementation of two pilot initiatives.

The center will become a space for the development of social and technical capacities for better planning, operation and evaluation practices in the management of river basins and aquifers in the region.

Dr. Jürgen Malknecht

Water Center for Latin America and the Caribbean
jurgen@itesm.mx

www.centrodelagua.org



The Water Center for Latin America and the Caribbean at the Technological Institute of Monterrey

www.inbo-news.org

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1.50 Million visits in 2015



Evaluation of the sediment monitoring project

Sediment dynamics is an essential process of river balance, and therefore a key issue in the management of large rivers such as the Mekong.

A program for the measurement of flows and sediment transport (Discharge and Sediment Monitoring Project) was funded by the **French Fund for Global Environment (FFEM)**.

This project has received funds amounting to €800,000 for a 3-year period (2012-2014) and is usually integrated into the "Information and

Knowledge Management Program" of the **Mekong River Commission (MRC)**, also supported by other partners.

The MRC asked two experts from IOWater, INBO Secretariat, and IRSTEA to evaluate the project results.

This assessment was based on many project reports provided by the MRC and on a visit made to the main parties involved in this program: MRC centers in Vientiane, Phnom Penh, Ho Chi Minh City and WWF.

The evaluation showed that this program has contributed much in terms of training of the field teams and quality of the measurements made, even if it appears that some national agencies still lack financial resources.

www.mrcmekong.org



Cambodia



Stung Sen Basin pilot Project

The second phase of this project aims to improve Water Resources Governance in the Stung Sen River Basin, main tributary of Lake Tonle Sap, with the support of the Loire-Brittany and Rhine-Meuse Water Agencies.

The results of the first phase (2012-2014) were very encouraging and helped the Cambodian Administration, including **the Tonle Sap Authority (TSA) and the Ministry of Water Resources and Meteorology (MOWRAM)**, to make great progress in the field of Integrated Water Resources Management in the basin.

At national level, the sub-decree detailing procedures for the planning and implementation of a water resources management policy in basins was approved by the Council of Ministers in July 2015 and especially gives a framework for the official establishment of Basin Committees.

At the level of the Stung Sen River pilot Basin, the training of local representatives, selected to be part of the **Stung Sen Basin Committee**, and of the TSA and MOWRAM team continues in the stages of the planning process:

- **Definition of goals for the Basin Management Plan;**
- **Establishment of the first Program of Measures;**
- **Cost estimates and potential funding sources;**
- **Articulation between different planning levels: local, river basin district and national;**
- **Role of the various stakeholders.**

Field trips are also organized with local representatives from the entire basin to raise their awareness of the various problems encountered in urban and rural areas.

The finalization of the planning process will lead, in late 2016, to the first version of the **Basin Management Plan and Program of Measures** to be implemented in the Stung Sen Basin.

As the first phase allowed collecting a large number of data and identifying various sources of information, regularly updated by the partner services,

the TSA wants now to develop its internal capacity to manage and make the best use of these data to produce synthetic information needed for decision-making and public information.

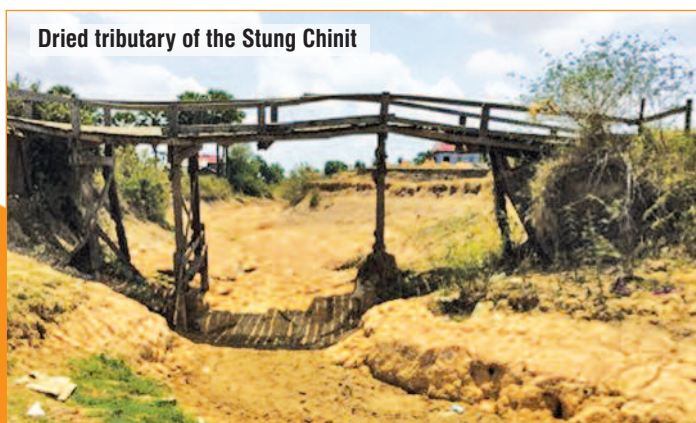
Thus the development of new layers in the Geographic Information System and the integration of the existing data into the databases are under way. This already allows:

- Facilitating statistical analysis and online visualization of hydrological data;
- Developing comparative analyses of data provided by radar imagery with field data;
- Studying possibilities of analysis for each sub basin.

Puy Lim

Tonle Sap Authority
Ministry of Water Resources and Meteorology (MOWRAM)
Puy.Lim@ensat.fr

www.tonlesap.gov.kh



Dried tributary of the Stung Chinit

Laos



Transposition of the results from the Nam Ngum pilot Basin

Phase 2 of the integrated Nam Ngum pilot basin management project was completed in October 2015.

With support from the Loire Brittany and Rhine-Meuse Water Agencies, this phase 2 consisted in drafting a guidance document recording information on the tools and methods acquired during the project and their application to the Laotian context.

The guidance document is composed of 9 "action sheets" that aim at the practical implementation of the **National Strategy for Water Resources Management (2012 - 2020)**.

The technical missions organized in 2015 helped to develop the action sheets linked to three strategic lines of work for the completion of the project:

- Definition of the organizational framework for the drafting of a strategy for each basin;
- Development of an operational Water Information System;
- Organization of data management to supply information on the basin status.

These lines of work were discussed by a panel of national and regional stakeholders in seminars organized in March and September 2015 in Vientiane.

The third phase of the project (2016-2017) aims to continue supporting the Laotian Authorities in the extrapolation to the whole country of the basin management mechanisms, successfully tested in the Nam Ngum pilot Basin.



**Workshop on Knowledge Management for river basin planning
13 March 2015 - Vientiane**

The presence of an International Volunteer, based in Vientiane (2016) then in Phnom Penh (2017), will ensure continuity of action through a permanent and direct follow-up of the project for the local and national beneficiaries.

Chanthanet Boualapha

Ministry of Water Resources and the Environment
chanthanet@gmail.com

www.monre.gov.la



Vietnam



Towards the implementation of the new water policy

The development of the second phase (2013-2015) of the Dong Nai project, initiated by IOWater, INBO Secretariat, with the support of the **French Loire-Brittany Water Agency**, has continued cooperation with the Vietnamese Authorities.

This Phase 2 focused on the training of stakeholders involved in sustainable water resources management and supported partners to build strong institutional and legal bases for the development of Integrated Water Resources Management in Vietnamese Basins.

A circular, dealing with the water resources planning method, was drafted by the Department of Water Resources Management of the Ministry (**DWRM-MONRE**) and the National Center for Water Resources Planning & Investigation (**NAWAPI**).

It specifies the nature of basin planning and the strategy for the development of 10-year plans with revision every five years, jointly with the Socioeconomic Plan of the Ministry of Planning and Investment.

The new legislative context involves the drafting of River Basin Management Plans in 3 large areas of northern, central and southern Vietnam.

Eleven priority Basin Plans should be developed by 2020, including the Dong Nai.

This action should be accompanied by the strengthening and structuring of regional teams for water resources management. These teams have young and proficient staffs.

A training session on "Water Resources Planning: Processes and Practices" was organized for them in October 2015 in Hanoi as part of VACI (Vietnam wAtEr Cooperation Initiative).

At the end of this 2-day training program, a training certificate was handed to the 60 participants attesting the acquisition of specific skills in water resources planning.

M. Le Huu Thuan

Deputy Director General
Department of Water Resources Management
Ministry of Natural Resources and the Environment
lthuan57@yahoo.com.vn

www.monre.gov.vn



Training course





French-Chinese cooperation in the Hai River Basin

China is facing many water management challenges.

To face those, the Chinese Government is developing many international cooperation activities, and, in particular, an agreement was signed on 21 December 2009 by the Chinese Ministry of Water Resources and the French Ministry of the Environment, Energy and the Sea (MEEM).

Under this agreement, **the Hai River Basin, which covers 318,000 km² and includes the municipalities of Beijing and Tianjin, was selected for the implementation of a pilot project:** It aims to test the application in China of some mechanisms for river basin management, water pollution control and ecosystem protection, which are used in France and in the European Union.

The project partners are, for the Chinese part, the Ministry of Water Resources, the Hai River Water Conservancy Commission and the Water Boards of Tianjin City Hall and Hebei Province, and for the French part, the Ministry of the Environment, Energy and the Sea (MEEM), the Seine Normandy Water Agency (AESN), the Public Sanitation Utility of Greater Paris (SIAAP), the Interdepartmental Institu-



tion of the Seine Great Lakes and IOWater, INBO Secretariat, that is in charge of the technical coordination of the project.

The first phase (April 2011 / March 2012) contributed to a mutual understanding of the operation of basin institutions and procedures and means they use in France and China.

The pilot sub-basin of the Zhou River

The second phase of the project (October 2012 - December 2015) focused on the Zhou River Basin: 2,114 km², 1 million inhabitants and 80% of the drinking water supply of the 5th most populated city of the country, Tianjin.

It was developed in three steps:

- **Support to the completion of the basin situational analysis,**
- **Establishment of a coordination group,**
- **Support to the drafting of a Basin Management Plan and a Program of Measures.**

Since October 2012, French expert missions in China have allowed an in-depth presentation of a wide range of useful technical and institutional tools for the process. Emphasis was also placed on building the capacity of the Chinese partners, who thus benefited from training sessions on Basin Management, on ecological engineering and on water quality monitoring, etc.

Finally, study tours organized in France have shown to the Chinese partners the real practices of applying successfully basin policies in the entire European Union.

All activities carried out contributed to the quick progress of the project. Thus, the situational analysis and characterization of the Zhou River sub-basin were made and presented in September 2014 at the project Steering Committee.

Based on the conclusions drawn from the situational analysis, year 2015 allowed the drafting of a Management Plan and Program of Measures to meet the major challenges of the sub basin.

Thus, at the end of phase II in late 2015, the Chinese partners integrated all tools and processes useful to achieve the development of a true Basin Management Plan.

Given the success of this French-Chinese cooperation, the partners of both countries agreed to continue this cooperation for a three year period starting in January 2016.

In the presence of the French Ministers for the Environment and International Cooperation, this agreement was signed in Paris on 2 December 2015 at **the Water Day, organized during the COP21** on the topic of adaptation and resilience to climate change.

This new phase plans an expansion of these actions to the Luan River Basin (45,000 km², 1 million inhabitants); another bigger tributary of the Hai River.

Ms. Kang Jie
Hai River Water Conservancy Commission
kangjie@hwcc.gov.cn

www.hwcc.gov.cn



Signatories of the French-Chinese agreement at the COP 21 in Paris © IOWater - C.Runel



China



The China-Europe Water Platform

The **PIANO (Policies, Innovation And Networks for enhancing Opportunities for China-Europe Water Cooperation)** project won a call for proposals of the European Framework Program for Research for 2020 (2014-2020), which aimed at promoting strategic cooperation partnerships for research and innovation between Europe and the rest of the world.

It focuses on the development of business opportunities and cooperation in research and innovation between Europe and China.

The project inception workshop was held on 9 April 2015 in Brussels.

The six components of the project were presented on this occasion. The coordinators of each component are:

- International Office for Water, INBO Secretariat,
- Technical University of Denmark, (DTU);
- University of Natural Resources and Life Sciences, Vienna - (BOKU), for two components;
- Stockholm International Water Institute, (SIWI);
- Institute for Environmental Protection and Research, (ISPRA).

Among other project partners, there are the Atkins consulting firm, the National Laboratory of Civil Engineering (Portugal), the European Water Association (EWA) and the Chamber of Commerce of the European Union in China.

The first component aims at increasing Research and Innovation in the China-Europe Water Platform (CEWP) by developing the mapping and analysis of stakeholders' networks and existing outstanding innovation projects.

European and Chinese social and professional networks (Twitter, LinkedIn, Facebook, Weibo) will contribute to the facilitation and visibility of the project.

Case studies of innovative European technologies in the water sector will also be presented.

www.project-piano.net



India



Adopting Integrated Urban Water Management in Indian Cities



Eutrophication cleaned in Panchganga River

ICLEI South Asia is implementing an European Commission funded project on Integrated Urban Water Management in Indian cities (AdoptIUWM), in partnership with ICLEI European Secretariat and Association of Flemish Cities and Municipalities (VVSG), in 2 cities of Rajasthan (Kishangarh and Jaisalmer) and 2 cities of Maharashtra (Ichalkaranji and Solapur).

As part of this project, interactions of the cities with their catchment areas are especially studied, in terms of dependence of the city on water resources located in the catchment area, as well as the impacts of wastewater discharge

from the city on catchment areas and on users downstream.

The cities were made aware of the approach to Integrated Urban Water Management (IUWM), of the water cycle in urban areas, while taking account of drinking water, wastewater and storm water

Meesha Tandon

Senior Manager, Sustainability Management
ICLEI - Local Governments for Sustainability
South Asia

meesha.tandon@iclei.org

southasia.iclei.org



Myanmar



Launching of institutional cooperation

A cooperation program has started in Myanmar with the Ministries of Environmental Conservation and Forestry (MOECFAF) and Transport (MOT) with the support of the **French Loire-Brittany Water Agency**.

Strictly speaking, there is currently no water law in Myanmar, but a **National Policy for Water Resources was promulgated in February 2014**.

The Ministry of Transport takes care of the Secretariat of the National Water Resources Committee.

Basin management experiences mainly focused on the Irrawaddy River Basin

and its navigability (MOT), and on the Inle Lake Basin and its environmental conservation (MOECFAF).

Exchanges with both Ministries allowed confirming the willingness of strengthening Integrated Water Resources Management Policy, while testing control and incentive tools for water uses, the mobilization of ad hoc funding to carry out the action plan and the development of a genuine monitoring tool for following up public policy and of an indicator / management chart system.



Fisherman on the Inle Lake

Central Asia

International EECCA NBO Conference

"Water Conservation and Effectiveness of Water Use"

21 May 2015 - Minsk - Belarus

The participants of the International Conference "Water Conservation and Effectiveness of Water Use" gathered in Minsk on 21st of May 2015 within the framework of **the Network of Water-Management Organizations (NWO) from Eastern Europe, Caucasus and Central Asia (EECCA)**, and discussed the following topical issues:

- **Growing water scarcity and security challenges;**
- **Application of high technologies in all areas of water regulation and use;**
- **Problems related to water accounting and service quality.**

The participants have agreed that the main causes of water stress are:

- ◆ Increasing water consumption as a consequence of population growth, economic development and climate change;
- ◆ Poor control of water resources;
- ◆ Weak policy coordination among water-related sectors, such as agriculture, energy and the environment;
- ◆ Lack of clear planning in many countries.

There are no clearly defined mechanisms for searching tradeoffs in case of conflicting interests of water users: agriculture, land reclamation, water transport, fishery, hydropower, etc.

At all water hierarchical levels, even if water service prices are applied, there is no real interest from the stakeholders in the use of economically-based mechanism for water distribution and use.

The participants deemed it necessary to make more efforts to counteract the factors causing water stress through common organization of water-management organizations and water users.

Solutions for better integrated water and land resources management should be based on reasonable water use by all users, with the help of decision making support system and water conservation technologies, reduction of water losses, reuse of wastewater in agriculture and industry, intensification of production of traditional and drought-tolerant crops.

The participants mentioned the Network work progress in 2013-2014, including:

- ➔ Collection of information and scientific publications: www.eecca-water.net ;
- ➔ Extension of the knowledge base on CAWater-Info portal: www.cawater-info.net ;
- ➔ Participation of EECCA NWOs' members in international events, such as the 7th World Water Forum held in Korea on 12-17 April 2015.

The participants stressed the need of taking measures for wider involvement of Basin Organizations in the network activities.

The effectiveness of Basin Organizations can be improved strongly through public involvement.

The participants thought it necessary to intensify the Network activities by:

- 1 Regularly sending messages on national events on water management and information on new publications, software, methodologies and training materials.



The participants in the Conference

- 2 Strengthening the Network's national centers, in order to create a multi-stakeholder platform for improving national water sectors.
- 3 Building a bridge between the Network's members and water and agriculture decision makers in EECCA countries.
- 4 Enhancing cooperation with national focal points of international networks and organizations, such as the Global Water Partnership (GWP), International Commission on Irrigation and Drainage (ICID) and others.
- 5 Increasing the support of the Permanent Technical Secretariat of **the International Network of Basin Organizations (INBO)** to water management organizations of EECCA countries.
- 6 Developing twinning agreements with European basins for exploring possibilities for adaptation of European Water Directives to the conditions and needs of the EECCA region.

The participants proposed to organize the Network conference in 2016 on the theme "Cultural and educational aspects of water management in EECCA countries".

This Conference was successfully organized in Almaty from 6 to 11 February with the presence of INBO Deputy Secretary General.

Finally, the participants thanked UNECE and GWP CACENA for the support and assistance provided in the organization of this Conference as well as the Russian Government for its long standing support to the Network.

Iskander Beglov

EECCA-NBO Secretariat

iskander.beglov@gmail.com

www.eecca-water.net



INBO speech

Сеть водохозяйственных организаций стран Восточной Европы, Кавказа и Центральной Азии

International Decade for Action

International Conference "Water for Life"

9 - 11 June 2015 - Dushanbe - Tajikistan



Mr. Ban Ki-moon

The UN initiative of a decade on "Water for Life" was to promote efforts to fulfill international commitments made on water between 2005 and 2015.

On the initiative of the Government of Tajikistan, an International Conference took place in Dushanbe from 9 to 11 June 2015 for reviewing the contribution of the International Decade to the implementation of the **Millennium Development Goals (MDGs)** and for drafting recommendations for new measures to be taken after 2015 for the

development and implementation of the **Sustainable Development Goals (SDGs)** related to water resources.

The event gathered 1,500 participants from over 99 countries.

The Secretary General of the United Nations, Mr. Ban Ki-moon, reminded that the results of the MDGs were mixed: the huge progress made on access to safe water was much more modest in terms of adequate sanitation, still unreachable for 2.5 billion people.

The Secretary-General called on the regional States to cooperate in the management of the transboundary resources of Central Asia. He also supported the proposal of the President of Tajikistan, Mr. Emomali Rahmon, to launch a new International Decade for Action on the topic "Water for Sustainable Development".

INBO intervened to promote river basin management, the exchange of best practices and transboundary cooperation.

Thus, during the roundtable on "cooperation for water management: a catalyst to achieve the Millennium Development Goals", **INBO called for the establishment of a Science-Policy Interface and the development of Water Information Systems at the basin level, including transboundary ones**, while

keeping in mind the need for interoperability of data provided by a myriad of producers.

On the occasion of the high-level session on regional perspectives of the implementation of the "Water for Life" Decade, **INBO** welcomed the positive role played in Europe by the Helsinki Water Convention (UNECE, 1992) and more widely by organizations working all over the world on capacity building in the water sector like the UNWater Decade Program on Capacity and the International Network of Water Training Centers.

waterforlifeconf2015.org



Kyrgyzstan / Kazakhstan



Chu Transboundary Basin

The iMoMo (Innovative Monitoring and Modeling) Consortium has, since 2014, collaborated in the Swiss Cooperation (SDC) funded activities to strengthen water data production and management in the Chu Basin in Central Asia.

The ongoing project includes three main components:

- Monitoring and processing of data by Irrigator Associations;
- Enhancing data, produced by various national and local institutions, on the status of water resources and on water abstractions for irrigation;
- Modeling for improving water availability forecasts based on a remote-sensing analysis of the snow cover.

Specific actions allowed moving towards a situation where the public and the partners can now consult online data on the status of water resources and abstractions, that are regularly made available by 5 national and local institutions of both countries, this through:

- **Web mapping** with location of monitoring stations and access to data visualization diagrams,
- **Interactive diagrams** easily available on tablet computer, especially to decision-makers, with automatic calculation of balance sheets or comparative analyses at key points;

- **Modules for downloading datasets**, for data producing partners alone.

A first quarterly newsletter, summarizing the status of resources and abstractions for the April-June 2015

period, was produced and validated during the last meeting of the Chu / Talas Transboundary Commission that congratulated the project partners and thanked the SDC for its support.



The Chu River



Central Asia

Tajikistan



Study tour to Spain and France for a Tajik Delegation

In September 2015, a study visit was organized in Spain and France for a **delegation from Tajikistan and two representatives of the World Bank.**

The delegation met the key administrations and organizations in charge of integrated water resources management, irrigation and Water Information Systems.

The visit allowed presenting the implementation of integrated basin management in the European Union, its legal and institutional bases, the methodology applied to work out Basin Management Plans, to outline the management of irrigation systems and the role of water users' associations as well as the use of economic mechanisms to ensure financing.



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Uzbekistan



Program for mitigation of the consequences of the Aral Sea catastrophe (2015-2018)

The Government of Uzbekistan adopted a comprehensive 2015-2018 program for mitigation of the consequences of the Aral Sea catastrophe, for rehabilitation and socioeconomic development in the Aral Sea coastal area (Prearalie). The document was drafted by the Ministry of Economy, Ministry of Foreign Economic Relations, Investment and Trade, and Ministry of Finance of Uzbekistan in cooperation with the Executive Committee of the International Fund for Saving the Aral Sea, and the Charity Fund for Protection of Gene Pool in Aral Sea Basin.

The International Fund for Saving the Aral Sea was founded in 1993 by the Central Asian Republics: Uzbekistan, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan, in order to solve the environmental problems in the region.

The Fund adopted three programs for the Aral Sea Basin to help the riparian countries to achieve sustainable development, improve water resources management and protect the natural environment.

At the conference in Uzbekistan in October 2014, agreements were reached on the implementation of national and regional projects for US\$3 billion to mitigate consequences of the Aral Sea catastrophe.

The program plans measures for improving the system of management, saving and rational use of resources in the region.

About US\$433.69 million will be devoted to the implementation of measures for restoration and preservation of the gene fund and health of populations living in ecological risk zones.

It is also planned to implement measures for the creation of new jobs and provision of livelihoods in order to raise the level and quality of life in the Aral Sea Basin, as well as for the restoration of ecosystems and biodiversity.

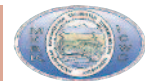
The program also envisages the modernization and improvement of infrastructure to boost socioeconomic development in the regions of Karakalpakstan and Khorezm.

Iskander Beglov
EECCA-NBO Secretariat
iskander.beglov@gmail.com

www.eecca-water.net



Uzbekistan



Capacity Building for Water Professionals



The Scientific Information Center of Interstate Commission for Water Coordination (SIC ICWC) of Central Asia included the capacity building of water professionals among its priorities and help to the countries of the region (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan) for the development of training programs and organization of seminars for experts of the water sector at different levels of the water hierarchy.

So, in 2014 - 2015, SIC ICWC developed special training programs for water professionals of the Ministry of Agriculture and Water Resources (MWA MAWR) of Uzbekistan, based on modules dealing with 10 topics (National water, Transboundary water, Integrated Water resources Management, Water accounting and measurements, Water use in Agriculture, Water Consumers Associations etc.).

Training sessions were conducted in 3 modules dealing with:

- Water resources management and basin approach (9 - 26 February 2015);
- Operation of irrigation systems and hydraulic works (16 March - 1 April, 2015);
- Improvement of irrigated lands (16 April - 2 May 2015).

The Regional Basin Water Management Administrations (BWMA) of MWA MAWR could choose in the offered training sessions the interesting themes according to the target audience and specificity of their region.

Training was delivered in 3 days: 2 days for theoretical part (lectures), the 3rd day for practical training.

All lectures were prepared and provided by experts of SIC ICWC of Central Asia.

In total, more than 600 specialists were trained during the spring 2015 training session, and about 100 experts from Water Management Organizations (WMOs) of the MWA MAWR of Uzbekistan participated to improve their professional knowledge and skills.

The SIC ICWC organized again these sessions in autumn.

Yu. Khai. Rysbekov

Scientific Information Centre of ICWC of Central Asia

yusuprysbekov@icwc-aral.uz

sic.icwc-aral.uz

10th World General Assembly of INBO Merida - Mexico - 1 - 4 June, 2016

"For better river basin management over the World"

► Wednesday 1st June 2016

09:30 **ARRIVAL OF THE PARTICIPANTS - REGISTRATION**
 Meeting of INBO Regional Networks
 17:00 Meeting of INBO World Liaison Bureau
 20:00 Welcome cocktail

► Thursday 2nd June 2016

09:30 **FIRST OFFICIAL DAY**
 First statutory session of INBO General Assembly
 11:00 Official Opening Ceremony
 12:00 Presentation of water issues and institutions in Mexico
 14:30 First topical round table: Adaptation to climate change in basins
 16:30 Second topical round table: Mandate, composition, role and means of the Basin Councils and Committees
 20:00 Official Dinner

► Friday 3rd June 2016

09:00 **SECOND OFFICIAL DAY**
 Third topical round table: Sustainable basin management: planning and funding
 11:00 Fourth topical round table: Participation of the economic sectors and citizens
 14:30 Forum of International Cooperation Organizations
 16:00 Closing of the General Assembly
 ● Final resolutions
 ● Merida Declaration
 ● Transfer of INBO World Presidency to Mexico

► Saturday 4th June 2016

08:30 **THIRD OFFICIAL DAY**
 Technical Visit - Discovery of Yucatan



CONAGUA
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To participate,
 Please register!

www.inbo-news.org



21 - 24 October 2015 - Thessaloniki - Greece

The 13th Conference of the "EUROPE-INBO" Group took place in Thessaloniki, Greece, from 21 to 24 October 2015, at the invitation of the Greek Ministry of Reconstruction, Production, Environment and Energy and the Special Secretariat for Water.

It gathered 193 participants, representatives of national administrations and basin organizations as well as of international and regional organizations and NGOs, coming from 32 countries.

The Conference allowed reaffirming that integrated water resources management in the basins of lakes, rivers and aquifers is unavoidable to ensure the preservation of this resource, face the multiple identified pressures, and to adapt to the effects of climate change.

The conference was organized around four roundtables:

① Measures for adaptation of water resources to the effects of climate change, "water" component of the COP21 in Paris in 2015 and preparation of the 2nd River Basin Management Plans (2016-2021):

Taking into account the effects of climate change requires efforts and additional resources for adaptation measures to be quickly developed and applied in national and transboundary basins.

Actions have already been undertaken for the preparation of the 2nd River Basin Management Plans and their Programs of Measures (2016-2021).

But it is clear that, for the preparation of the 3rd cycle (2022-2027) required by the WFD, it is necessary that adaptation measures be thought of when developing the River Basin Management Plan, so that they become an integral part of the latter.

Integration with other EU Directives, such as the Flood Risk Management and Marine Strategy Framework Directives, is to be entirely achieved as quickly as possible.

Natural Water Retention Measures should be introduced when taking into account the benefit that can be expected from them for the adaptation.

A multisectoral approach is essential and stronger harmonization between the Water-related Directives and the sectoral policies of the European Union should be looked for, especially regarding agriculture, energy and waterways transport.

It is also necessary to promote and formalize the signing, at the highest level of the represented Countries and

Organizations, of the "Paris Pact for adaptation to the effects of climate change in the basins of rivers, lakes and aquifers", launched on INBO initiative on the occasion of the COP21 2015 of Paris and of the official day of December 2 dedicated to "water and climatic change".

Many experiments were undertaken for adaptation to climate change: the most significant are recorded in the publication "Water and Climate Change Adaptation in Transboundary Basins: Lessons Learned and Good Practices" published by the United Nations (UNECE) and INBO and now available in French and English.

② Water governance in Transboundary Basins:

To improve governance in transboundary basins, it is necessary to strengthen the International Commissions of the corresponding Districts, that have a key role in the implementation of the EU Directives, even beyond the EU borders, and we must go towards effective implementation of United Nations conventions: the 1992 Water Convention of Helsinki and 1997 Convention of New York.

Cooperation agreements should be signed between riparian (EU or EU neighboring) countries, if they do not already exist.

The already established Commissions should be privileged tools for achieving appropriate governance, based on mutual trust, common understanding of the basin issues and accurate, accessible and shared data, and on the field practitioners' involvement on both sides of the border.

The work conducted by INBO and UNESCO within the OECD's Water Governance Initiative, may also enable progress in the governance of national and transboundary basins inside the EU and beyond, including in EU neighboring countries.

③ The financing of water policy and economic analyses:

The funding of Programs of Measures for the effective implementation of the WFD and its "daughter" Directives remains a concern for managers and is a condition for achieving the objectives.

The polluter-pays and user-pays principles and the need for cost recovery should guide the establishment of multi-year and stable financing systems that are up to the investment and operation needs in the basins.



193 participant coming from 32 Countries - © IOWater - C.Runel

"TO FACILITATE THE IMPLEMENTATION OF EUROPEAN WATER DIRECTIVES"

on the Water Framework Directive implementation



Closing ceremony - © IOWater - C.Runel

The 2nd and 3rd River Basin Management Plans should be based on a more comprehensive economic analysis of pressures on water resources and proper quantification of costs and impacts of the measures needed to comply with the WFD objectives.

This will determine the combinations of measures that have the best cost/efficiency ratio.

For such a purpose, clear and transparent methodologies should be established as well as economic research increased to better understand the cost of inaction, the disproportionate costs and have reliable cost/benefit analyses that are comparable between the Member States.

The participants underlined the need for action at European and national levels to increase the consistency of EU environmental objectives and sectoral policies, especially for agriculture and to better ensure synergy of available funding possibilities.

An effort should be made so that the financial resources available at European level and at other levels find greater use in the measures for water resources management.

The EU and Member States should also maintain a high level of financial support for solidarity with the Southern and Eastern neighboring countries, to promote better governance and the realization of investments and actions that are essential, especially in shared basins.

It is also necessary to support the development of solidarity financing for access to water and sanitation both for public health purpose and for preventing the degradation of water quality.

4 Local processes for the application of the Directives, participation of local stakeholders and public involvement:

The involvement of stakeholders and the public is crucial to improve water resources management.

Their participation since the beginning in decision-making processes need to be developed for greater appropriation of the measures of River Basin Management Plans, which implies that their access to the outcomes of monitoring and to knowledge on water should be facilitated.

It is also essential to ensure the active participation of local public and private contracting authorities and economic sectors in the WFD implementation process, as they are mainly the ones in charge of applying the recommended measures.

The participants in the conference recommended that European basin organizations and decision makers promote the development of local approaches that lay out overall goals for use, development, quantitative and qualitative protection of water resources on a suitable local scale.

Cross-border local approaches can also help to ensure the consistency of actions undertaken on both sides of the borders in the same transboundary basin.

Information sharing and harmonization, including spatial information, must go beyond the EU territory and concern all the riparian countries of the same transboundary basin, thus promoting the emergence of coordination in the development of River Basin Management Plans.

The "EUROPE-INBO 2015" conference is a new important step not only for assessing the implementation of the first cycle of River Basin Management Plans (2010-2015), but also for formulating proposals to improve the implementation of the WFD and associated Directives and better take climate change into account in the next cycles, especially for the 2016-2021 period.

While welcoming the progress made in WFD implementation, as presented by **Mr. Pavel Misiga, Chief of the Water Department of the DG Environment**, in his speech at the Opening Ceremony of the Conference, the "EUROPE-INBO" Members consider that the efforts made in the implementation of measures should be markedly increased so that all Water Bodies achieve "Good Status" within a reasonable time.

The "EUROPE-INBO" Group thanked **Mrs. Daniela Radulescu** (Romania) for the effectiveness of her Presidency (2014 - 2015).

Professor Jacques Ganoulis, Special Secretary for Water in the Ministry of Environment & Energy of Greece, was elected President of the "EUROPE-INBO" Group for the year to come, until the next conference in October 2016.

The next two EUROPE-INBO meetings will be held respectively in Lourdes, from 19 to 22 October 2016, and in Dublin in autumn 2017.



www.riob.org

4th European Water Conference

23 - 24 March 2015
Brussels - Belgium

The Environment Directorate General of the European Commission organized the 4th European Water Conference in Brussels, on 23 and 24 March 2015.

In 2015, this annual event focused on the theme "Achievements of the WFD first cycle (2009-2015)".

Representatives of the Member States, stakeholders and the European Commission, about 400 participants, discussed the following key topics:

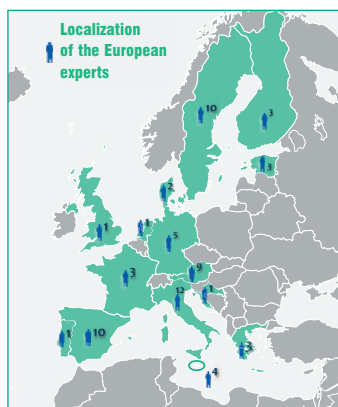
- Lessons learned from the implementation of the WFD first cycle and preparation of the second River Basin Management Plans;
- Evaluation of the implementation of Programs of Measures;
- Implementation experiences on the Floods Directive;
- The food / water / energy / navigation nexus;
- Opportunities to support water policy in the 2014-2020 funding period;
- Role of water policy in the "Green and Blue Growth" context.



Water Framework Directive



New Peer-Review Mechanism



The consortium formed by the International Office for Water (France-leader partner), the National Institute of Hydrology and Water Management (Romania) and the Mediterranean Network of Basin Organization Secretariat (Spain), is implementing the Peer Review Mechanism and taking care of its secretariat.

This project responds to the observations collected in the assessment made by the European Commission of the first 2009-2015 River Basin Management Plans across Europe. It has shown important differences between the EU Member States.

To better share the experience of the practitioners in charge of participative river basin management planning in their own country, the objective of the project is to set up and run a simple, voluntary and targeted system to allow mutual learning between peers about WFD implementation.

Following the first call launched at the beginning of 2015, **16 Receiving Competent Authorities (RCAs) from River Basin Districts located in 11 EU Countries** (Denmark, Estonia, Finland, France, Italy, Luxembourg, Malta, Norway, Poland, Spain and

Sweden) expressed their interest in having answers to some problems encountered in the implementation of their River Basin Management Plan from their colleagues in other Member States.

The Peer Review missions started in August 2015 and will continue until spring 2016.

In parallel, **over 60 experts from 15 Member States** have registered so far as candidates to carry out reviews by sending their Europass CV and profile form to the secretariat.

To join the community for mutual support on WFD implementation, please contact us:

peer.review@oieau.fr

Consult the project website:

www.aquacoope.org/peer.review

Eurostat

Improving European Statistics on Water

Eurostat, the statistical service of the European Commission, disseminates water statistics, collected every two years from the Member States in a common format and made available, free of charge, on its website.

This collection is made by the National Statistical Institutes of the Member States.

To help the national statisticians better understand the main water concepts and the rules of data aggregation for

having representative statistics, **Eurostat** offers them training sessions.

In this context, **12 statisticians from eight nationalities participated in a training course, in France from 24 to 26 June 2015**, for better understanding of the main sanitation concepts.

A field visit was organized at the Downstream Seine Wastewater Treatment Plant at the invitation of SIAAP, the Public Sanitation Utility of Greater Paris (SIAAP).

ec.europa.eu/eurostat



The statisticians, the representative of Eurostat and the trainers



Natural Water Retention Measures

The "gardened nature" at the service of water management

Following the "Blueprint" published in 2012 by the European Commission, the Natural Water Retention Measures (NWRM) imposed themselves as eco-engineering solutions, which are part of a sustainable development approach and resilience to climate change.

What are the "NWRM"?

The Natural Water Retention Measures are based on the capacities of natural or man-made ecosystems to ensure better water management.

Characterized by their multi-functionality, they may provide multiple benefits: reducing risks from floods and droughts, improving water quality, aquifer recharge and improving habitats.

A reference web platform

The project, which ended in 2015, identifies the **53 recommended eco-engineering measures** and provides answers on their implementation, their economic aspects and their biophysical impacts.

All the knowledge is available on the project website, which is now the European Reference Platform on this topic.

Many technical illustrations and information, through case studies and synthesis, as well as operational tools for decision-makers and stakeholders, are proposed.

Practical guidelines, translated into 15 languages, explicit the NWRM implementation in a coherent and



Example of green roofs

coordinated approach. They highlight the multiple benefits provided by the measures identified in the following four major sectors: **hydro-morphology of rivers, forest management, agricultural practices and urban development.**

This project shows the relevance of eco-engineering in the European strategy including many European Directives and proposes an inflection towards "green infrastructure" in future local or regional planning.

www.nwrm.eu



International Commission for the Protection of the Rhine (ICPR)

First climate change adaptation strategy

Created in 1950, the **International Commission for the Protection of the Rhine (ICPR)** can rely on a long-lasting experience of transboundary water management.

In a context of climate change, in 2007, the Conference of Rhine Ministers requested the ICPR to carry an in-depth study of scenarios for the evolution of the Rhine hydrological regime along with a complementary study on the

possible rise in temperatures of surface waters in order to develop an adaptation strategy in 2013.

In July 2011, ICPR published a common international study on the direct effects of climate change on the Rhine water regime. An international expert group modelled the consequences of climate change on the water temperature of the Rhine.

This work enabled to elaborate discharge scenarios for 2050 and 2100.

On 30 and 31 January 2013, ICPR staged a workshop on "Impacts of climate change on the Rhine River Basin", with the participation of about 80 experts.

The expected impacts of climate change were presented, possible approaches to solutions were discussed and cornerstones for an adaptation strategy were identified.

Each of the three ICPR international working groups (on ecology, water quality and water quantity) assessed the potential effects of climate change for its respective field.

The ICPR secretariat drafted the first adaptation strategy: this draft was discussed in a multidisciplinary working group and finally adopted by the Commission at the end of 2014.

In order to mitigate impacts of climate change and to adapt to it, the ICPR will use the River Basin Management Plan 2015 and the Flood Risk Management Plan 2015 for the Rhine Basin, drafted under the European Water Directives.

Adrian Schmid-Breton

ICPR

adrian.schmid-breton@iksr.de



www.iksr.org



Flood event in front of the Secretariat of the ICPR in Koblenz, January 2011 (Source: ICPR, 2011)



Europe

Spain - Catalonia



The "CONSORCI DEL TER"

Management of the Ter River and associated projects



The Illa d'Aval wetlands

The "Ter Consortium" is a public body that gathers the 60 municipalities bordering the river and those located in its catchment area from its spring in the Western Pyrenees to its mouth in the Mediterranean Sea in the Empordà.

The Consortium is responsible for the management, conservation and popularization of the natural and cultural heritage, as well as the revitalization of the territory through the Ter Trek, a bicycle touring route that allows traveling 200 km along the River: (www.rutadelter.cat).

In recent years the Ter Consortium participated in two LIFE projects, which helped rehabilitate habitats and protect sensitive species, threatened or in decline in the river spaces.

One such project, the LIFE + Natura Riparia-Ter (www.liferipariater.com) has significantly improved the forests of the Baix Ter, in four areas with significant ecological value. An important work was carried out for eliminating invasive species that are a threat to ecosystems growing in Mediterranean climate and in highly regulated rivers like the Ter.

In addition, many public awareness campaigns on the environment were conducted, involving thousands of students, riverside residents, school children and the general public.

Good management and the project success led to its recognition by the European Commission as one of the 14 best LIFE projects carried out in Europe in 2014, rewarding the efforts of the technical team, partners and institutions involved therein.

In addition, the LIFE + Natura Potamo Fauna aims to preserve several endangered species of the river wildlife such as the pond turtles (*Emys orbicularis*), some aquatic invertebrates (*Unio elongatulus*, *Austropotamobius pallipes*, *Vertigo* sp., etc.), which are bred in specific breeding centers, and then released into their natural habitats.

Finally, the Ter Consortium has, in recent years, rehabilitated the cultural heritage linked to the river space with financing from European funds, and the participation of local or regional funds.

This has restored water mills, bridges, workshops, etc., a heritage that had been forgotten over the years.

All the decided actions for the conservation of the natural and cultural heritage enabled the Ter Consortium to play a role as the reference organization in the Ter Basin and in turn to become an important vector for cultural, natural, educational and economic revitalization.

Ponç Feliu

Director- Consorci del Ter
gerencia@consorcidelter.cat

www.consorcidelter.cat



France



"GEST'EAU"

Promoting sound and sustainable water resources management



France is implementing Water Development and Management Plans (SAGE) and Environment Contracts for rivers, bays, aquifers, consistent with the Master Plans for Water Development and Management (SDAGE), elaborated for its large river basins.

Sharing Initiatives

It is essential to promote the sharing of knowledge between the stakeholders involved in these local procedures for integrated water management.

The "Gest'eau" website recorded more than 1.3 million visits in 2015.

182 description sheets on "SAGEs" and 269 sheets on Environment contracts, 6,138 documentary notes, 12 newsletters were drafted in 2015 as well as 6 testimonies of professionals involved in these local water management approaches.

The novelty: an "Experience Sharing" section reorganized per major issues, with reference documentary resources and per real action encountered on the territory.

Strengthening the facilitators' skills

The training and information needs of the facilitators of "SAGEs" and Environment Contracts were also identified.

www.gesteau.fr

France



"SANDRE"

French National Service for Water Data and Common Reference Frames Management

Establishing a common language

Given the proliferation of the information systems used and the growing need for data, the "SANDRE" was created in 1992 to simplify the exchange of these data between the various French public and private stakeholders. It thus offers a unique exchange interface and addresses the need to establish a common language between partners from the water world.

Through "SANDRE", many tools are then developed to allow the stakeholders concerned to make their information systems interoperable: dictionaries and exchange scenarios and web services, reference data, a cartographic atlas, a metadata catalogue, audits of computer systems, compliance labels, etc.

"SANDRE" is proposing more than 20,000 pages of technical specifications.

It establishes compliance labels for over 15,000 files per year and more than 30,000 interventions (taxons, substances, etc.). Its website receives more than 817,000 visits a year.

IOWater, INBO Secretariat, is entrusted with "SANDRE" Technical Secretariat since it establishment in 1992 and, now, with the support of the National Agency for Water and Aquatic Environments (ONEMA).

Adapting to the stakeholders' needs

Publishing standards for the exchange of electronic data between computers is one priority. Following the "Hackathon" in 2014, the users of the Water Information System have expressed their need for more "SANDRE" standards adapted to office automation tools.

That is why, in 2015, many new simplified exchange scenarios were specified to deal with the administrative repository, with references on barriers to flow, pollution removal work, hydrogeology, sections for flood monitoring...

With the same objective to facilitate the use of "SANDRE", a new search engine has been integrated into the "SANDRE" website.

It allows its users to perform more research into the contents of "SANDRE" repositories. Meanwhile, descriptive sheets of parameter reference frames and designations of taxons were made more attractive by adding many images.

Freely accessible on "SANDRE" website, videos tutorials were developed to show the use of "SANDRE" repositories in different situations.



Extension to other fields

"SANDRE" Technical Secretariat especially intervene for:

↳ INSPIRE



Under the European INSPIRE Directive, of which it is a contributing member to the writing of specifications on the interchange of water data.

An approximating of "SANDRE" and INSPIRE models is updated on the "SANDRE" website.

The new 'SANDRE' data dictionaries related to the administrative repository and to sections for flood monitoring are now compatible with this European Directive.

The result of this "SANDRE" / INSPIRE approximation is materialized by a new "SANDRE" product: this is a new specification document named "SANDRE" -> INSPIRE transformation scenario.

↳ Interoperability

The international "Hydrology" sub-group of the **Open Geospatial Consortium (OGC)** is interested in describing and sharing geographic data on hydrology. It produces OGC standards that are used for the dissemination of "SANDRE" reference frames.

As part of the implementation of a "data Web", a catalogue of "SANDRE" resources was established. As a barcode of a product, each "SANDRE" resource is identified by a URI (Uniform Resource Identifier) and is accessible through the address id.eaufrance.fr.

As a logical continuation, IOWater developed its Master Data Management (MDM) to manage and disseminate "SANDRE" reference frames according to this new semantic model.

Very soon, the whole web will be able to link almost automatically to "SANDRE" references frames.

www.sandre.eaufrance.fr

Innovative European Projects

In 2015, IOWater, INBO Secretariat, continued activities for the transfer of research results to political decision makers as part of the "Science Policy Interface" (SPI) Programs of the European Commission.

The experiment developed with the **City of Dublin** allowed formalizing the method to test its effectiveness in European river basins.

New European projects, launched in 2015, will start in the first half of 2016: "Afri-alliance" (water and climate change in Europe and Africa),

"Incover" (reuse of wastewater) and "Energy Water" (energy effectiveness in the treatment of industrial process water).

Researchers, public policy decision-makers and managers of water resources and aquatic environments should work better together for better water management in Europe!

ther for better water management in Europe!

ec.europa.eu/environment





Loire River Basin

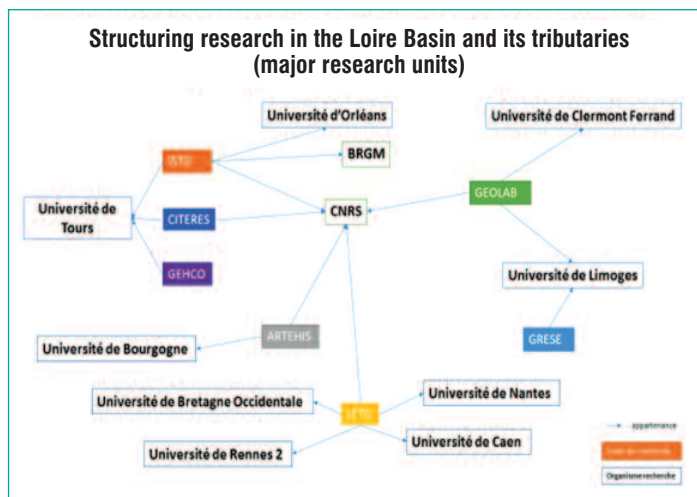
Implementation of a management chart on Research-Development-Innovation for integrated management of the Loire Basin and its tributaries

The "2014 management chart on Research-Development-Innovation (RDI) for integrated management of the Loire Basin and its tributaries" was implemented by IOWater, INBO Secretariat, on behalf of the **Loire Public Body**.

It provides an analysis of the RDI status regarding the river and its tributaries. The study focused on the structuring of research especially through the stakeholders and donors involved.

Research capacity indicators compared with bibliometric analysis indicators have shown the importance of European (ERDF) and basin funding (Loire Public Body and Loire-Brittany Water Agency).

www.eptb-loire.fr



Adour-Garonne Water Agency

Audit and evaluation of the Quality Charter for laying out sewerage pipes

The Adour-Garonne Water Agency is assessing the implementation of its Quality Charters for laying out sewerage pipes.

Work audits, carried out according to the format developed by IOWater, INBO Secretariat, were analyzed to assess the implementation of the Quality Charter used in the Agency's intervention area.

Step by step, from operating decision through design and monitoring of the work up to acceptance of the latter, the audit analysis identifies the key blocking points as well as the major successes.

The results, based on a panel of operations, representative of the sewerage pipe worksites, that were undertaken over the last three years, will propose adaptations and tools enhancing the effectiveness of the Charter and therefore the quality of the work carried out to make best use of public funds.

www.eau-adour-garonne.fr



AGENCE DE L'EAU
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France - Overseas Departments



Martinique

The Martinique Water Office, a key stakeholder in local water management and aquatic environments



Gorges of the Falaise

The Martinique Water Office (MWO) is playing a key role in the island's water management: It can adapt measures of the Water Framework Directive (WFD) to the characteristics of the Martinique territory and experiment with new techniques.

A link between local stakeholders: MWO establishes a connection between the various services and develops strategic partnerships to strengthen, rationalize and pool the environmental conservation activities.

A donor dedicated to sustainable initiatives: According to "the polluter pays" principle, MWO collects fees that allow financing conservation actions and sustainable water resources management projects.

A technical expert on Martinique major projects: By participating in the drafting of the Master Plan for Water Development and Management (SDAGE), by supporting regional planning, roadsides sources analysis or sea bathing profiles, MWO is somehow an assurance of consistency and territorial and regional solidarity, both in technical and financial terms.

MWO conducts innovative studies:

To meet the WFD objectives, it develops, with the support of research organizations, specific bio-indicators for the rivers and marine environments. It also adapts technologies to overseas conditions, especially with the "Attentive" project, winner of the National ecological engineering Grand Prix in the wastewater and rainwater treatment category. This project aims at adapting water sanitation technologies using wetland plant filters.

Finally, MWO deals with current topics such as social and innovative water pricing and drafts documents where efficiency measures and the cost of achieving good water status are analyzed through the prism of saving economy.

It informs and raises awareness of the public and school children on the importance of water and aquatic environments conservation.

It processes data on water and aquatic environments through the Water Observatory, a genuine partnership tool for collecting, recording and enhancing the data made available to all stakeholders, the general public, water professionals and decision makers.

It shares knowledge across borders: MWO exports its experience and expertise in its regional environment. The Overseas Mangroves and Wetlands Relay Center, created in partnership with the Guadeloupe Water Office, the Environment, Land and Housing Department, the Coastline Conservatory, the National Agency for Water and Aquatic Environments and the MWO is a first step taken in setting a "Basin-islands" Network.

Martinique Water Office

Fax: 0596 63 23 67

contact@eamartinique.fr

www.eaumartinique.fr

The Reunion Island

Flood warning in tourist areas

During the austral summer, from December to March, the climatology of the Island is usually characterized by tropical storms and cyclones with rainfall that may reach record values.

The highly branched river system with a steep slope is facing intense floods which specific rates of runoff that are among the highest in the world, with Taiwan and Hawaii.

To know how to protect the population; the government developed a monitoring policy combined with simultaneous weather warnings.

But a more insidious threat remains... The flash floods outside the hurricane season are much localized and of the stormy kind, whose development and

propagation times are very short (a few minutes).

It is advisable to limit these risks by local preventive ALERT.

The St Gilles ravine on the outskirts of a heritage trail, was equipped with the following devices:

- **A flood monitoring station**, when upstream flooding exceeding a danger threshold occurs, sends a SMS and e.mail to the concerned Civil Security personnel, four hours before the arrival of the flood-front to the tourist site,
- **2 automatic machines**, installed at public entry points of the path, also receive a SMS and activate a flashing light (or siren) on time,

- **A computer process** for intuitive use via mobile Web

This type of equipment and services, efficient and inexpensive, can save lives!



François Bocqué

HYDROREEX-EIRL

contact@hydroreex.com

www.hydroreex.com



An automatic machine installed at a public entry point of the path





Lake Prespa



Towards international water cooperation

Shared by Albania, the Former Yugoslav Republic of Macedonia and Greece, Prespa Lake is a globally recognized hotspot of ecological significance and biodiversity.

Following an initiative of NGOs (Society for the Protection of Prespa and WWF-Greece) and international organizations (Ramsar and MedWet), the three riparian States decided in 2000 to create **the Transboundary Prespa Park** for the environmental protection and sustainable development of the region.

This transboundary cooperation includes the following actions: international meetings of water authorities, creation of a working team for transboundary water management and the development of a water monitoring system

streamlined with the national water monitoring systems of the three countries.

The signing of an Agreement on the Protection and Sustainable Development of Prespa, has been pending since 2010, leaving water cooperation over this water body suspended.

However, Transboundary cooperation was maintained over the past five years due to the mobilization of local stakeholders and non-governmental organizations, such as municipalities, national park authorities and local NGOs that have encouraged information exchanges between the Basin countries and have collaborated in water monitoring activities.



In spring 2015, local and regional NGOs joined forces for an assessment of the main water challenges, the development of a joint vision and the carrying out of activities for the promotion of Integrated Water Resource Management in Prespa.

In Prespa, the activation of non-state stakeholders is proving decisive in paving the way for institutional cooperation and enhancing transboundary water governance.

Daphne Mantziou
Society for the Protection of Prespa
spp@spp.gr

www.spp.gr

Switzerland



First Lemman Lake Meeting

2 October 2015 - Geneva - Cologny - Switzerland

INBO participated in the first Lemman Meeting organized in Geneva by the Bank of Geneva (Swiss subsidiary of "Caisse d'Epargne Rhône Alpes") on the topic **"The Lemman and Rhone facing climate change"**.

This event was organized in partnership with the University of the Alps, the Living Mountain Foundation and the European Foundation for Sustainable Development of the Regions (FEDRE).

The meeting, facilitated by the journalist Marjorie Thery, was attended by Stephanie Paix, President of the Bank of Geneva, Christian Lefaix, CEO of Lemman Bank and Claude Haegi, President of the European Foundation for Sustainable Development of the Regions (FEDRE).

Organized before the Paris COP21 on Climate, the event allowed discussing water sharing and its economic conse-

quences for Geneva and the Lake Lemman area in relation to climate hazards and Mr. Jean-François Donzier, INBO Secretary General, presented operational solutions for adapting to climate change in due time. He also called for the signing of the **"Paris Pact on adaptation to climate change in the basins of lakes, rivers and aquifers"** before the COP21.



Address of INBO Secretary General



Central and Eastern Europe

Ukraine



Water Management in Ukraine

Ukraine is a Party to the Convention on Protection and Use of Transboundary Watercourses and International Lakes

which is a basis for bilateral Agreements on water management issues with all neighboring countries.

The National Environmental Strategy for 2020 and the Program for the Development of Water Management and Environmental Rehabilitation of the Dnieper River Basin up to 2021 have already been drafted. However, the current legislation of Ukraine only partly complies with the provisions of the EU Water Directives, and after signing the Association Agreement with the European Union, the Ukraine has an obligation of harmonizing its national legislation with that of the EU.

Code of Ukraine for the application of the integrated basin water management principle, and is working on the EU Directives implementation, especially on the Basin Management Plans to be established in accordance with the Water Framework Directive (WFD) of 2000.

Iryna Ovcharenko

State Agency of Water Resources of Ukraine
irsawr@scwm.gov.ua

www.scwm.gov.ua



The State Agency of Water Resources, which closely cooperates with neighboring countries and international organizations, has drafted, with the Ministry of Ecology and Natural Resources, amendments to the Water

The Dnieper in Kiev



Former Yugoslav Republic of Macedonia



Institutional capacity building and improvement of legislation for water resources management

A 2-year technical assistance project for capacity building of the Ministry for the Environment of the Republic of Macedonia for the development of legislation on water was financed by the European Union.

The project especially focused on:

- The improvement of the legislative framework for water resources management in the Republic of Macedonia;
- The development of the first elements of a Basin Management Plan for the Vardar River.

A thorough analysis of the Macedonian legislation on water management was carried out to identify disparities with the obligations of the various European water-related Directives.

Recommendations for amending existing laws were proposed and the missing texts in secondary legislation were drafted.

Before their adoption by the Parliament, the Ministry for the Environment required a regulatory impact assessment of the proposed new texts.

The five initial elements developed by the project for **the Vardar River Basin Management Plan** include:

- Establishment of an official list of the Basin Water Bodies with definition of their typology;
- Characterization of the identified Water Bodies;
- Identification of pressures on Water Bodies and identification of those at risk;

- Inventory and mapping of protected areas;
- Development of a new Monitoring Plan.

One of the project priorities was the training and capacity building of the Ministry's water department staff.

Many training courses of short duration were implemented, as well as training handbooks presenting the methodology used at the different stages of the preparation of the Vardar River Basin Management Plan.

Ylber Mirta

Head of Department for Waters, MoEPP
l.mirta@moepp.gov.mk

www.moepp.gov.mk



Final project meeting



Europe - The Mediterranean

EMWIS

SEMIDE
EMWIS

Better management of knowledge on water in the Mediterranean area

Improving water knowledge for adaptation to climate change

The Mediterranean region is particularly vulnerable to the effects of climate change on water resources.

The preparation of adaptation plans requires good knowledge and regular monitoring of water resources and of their uses.

In such a context, **the project of a Mediterranean Water Knowledge Platform was retained as a solution at the MedCop21** and presented as a Mediterranean proposal for the climate conference of Paris in December 2015 (COP21).

This platform, which was **certified by the Union for the Mediterranean in 2014**, is also a key element of the Water Strategy Action Plan for the Western Mediterranean region (5 + 5), adopted at ministerial level in March 2015.



Union pour la Méditerranée
Union for the Mediterranean

<http://upm-eau.net>



Earth observation and information sharing

The Earth observation satellite programs allow considering new possibilities for knowledge of water resources and environments.

Operational services are being developed.

The recent **Hydrospace** workshop, organized in September 2015 at the **European Space Agency**, helped to make an assessment.

Such operational applications will be validated by the SWOS project as regards wetlands or river basins.

EMWIS is participating in this wetlands observation satellite system project to incorporate the needs of water resource managers in connection with the EU Water Directives.

At the same time, the European neighborhood countries are preparing the implementation of **Shared Environment Information Systems (SEIS)**.

In coordination with the European Environment Agency, **EMWIS** provides technical support, to Morocco in particular, for interoperability and common reference frames, to Algeria for the architecture of the information system and to Israel for environmental accounting of polluting emissions into water.

Technological innovations to meet the Mediterranean challenges

EMWIS is getting mobilized in several European projects to develop technological solutions to respond to the challenges of sustainable water management in the Mediterranean.

The **OpIRIS** project is working to improve irrigation efficiency thanks to online expert systems to help irrigation planning.

The **WEAM4i** projects aim to develop automated irrigation management systems for farms.

Given the scarcity of the resource, the reuse of treated wastewater is becoming mandatory, but it is necessary to make use of efficient and economically viable processes, tested by the

demEAUmed project for the tourist sector, in particular.

The **SAID** project proposes a homogeneous decision-making support system that integrates all the necessary parameters for optimizing the management of large hydraulic structures to meet all needs in a river basin.

The **ANADRY** project proposes a cheap and effective process for treating the sludge of wastewater treatment plants for its reuse as fertilizer without any health risk or for energy production.

Eric Mino
EMWIS TU
e.mino@semide.org



www.emwis.net



The Mediterranean

Algeria



The National Agency for Integrated Water Resource Management - AGIRE

In December 2014, the **Integrated Water Resource Management Agency (AGIRE)** was officially established to develop this water management approach by carrying out missions for the orientation, facilitation, coordination and evaluation of the **River Basin Agencies (ABHs)**.

Supervised by the Ministry of Water Resources and the Environment, **AGIRE's** main tasks are to:

- Perform all surveys, studies and research related to the development of Integrated Water Resources Management;
- Develop and coordinate integrated water information systems at national level;
- Contribute to the development, evaluation and updating of medium to long-term sectoral development plans;

- Contribute to the management of incentives for water saving and the preservation of water resources quality.

Furthermore, **AGIRE** carries out the tasks of a public service entrusted to it by the State, the contracting authority, in collaboration with the River Basin Agencies.

These tasks include in particular:

- The gathering and processing of data and indicators related to quantitative parameters characterizing water resources and natural environments and their uses.
- Technical operations for the delimitation of the natural water public domain particularly the wadis and natural water bodies.

El Hammam wasi at Bouhanilia



- The drafting of all documents and the implementation of all information and awareness campaigns, addressing various categories of users, on water saving and quality conservation.

AGIRE

dq@agire.dz

www.agire.dz



Support to the National Observatory of the Environment and Sustainable Development (ONEDD)

The **National Observatory of the Environment and Sustainable Development (ONEDD)** is an element of the system implemented by the Algerian State to assess environmental policy as part of the **National Environmental Strategy (NES)** and the **National Action Plan for the Environment and Sustainable Development (PNAEDD)**.

France was chosen for the implementation of an institutional twinning project to support "ONEDD", in partnership with Austria and with funds from the European Union.

An important component deals with the architecture of shared Information Systems and interoperability.

Indeed, the **Environmental Information System of Algeria (EIS)** is primarily a pooling system for consistent management of environmental data produced by many operators.

To launch the system, the twinning project covers a few pilot areas for sustainable management of: water resources, industrial pollution, coastal and marine environments, natural resources and solid waste.

www.onedd.org



Algiers



The Mediterranean

Morocco



Free speech

Poisoning of groundwater in Moroccan arid areas: Case of the Drâa Basin



The Drâa Valley

The Moroccan arid areas are known for their surface and ground water resources scarcity because of a dry climate characterized by a low precipitation level with very high evaporation.

But, the climate challenge is not the only problem that threatens the availability of water in these southern arid areas: **an intensive mining activity has significant consequences in the region.**

The water used by the local population of south Morocco, especially in the Drâa Basin, comes from alluvial groundwater tables which are fed by wadis coming from the anti-atlas mountains running into the Drâa river through mouths called "Foums" that in turn supply the Drâa Valley.

The water transported by these wadis crosses several geological formations and mining sites, leaching harmful trace metals into soil and water.

The propagation and concentration of heavy metals are highly linked to the physicochemical conditions of the environment, which control the transfer of pollutants from the soil and

surface water into deep groundwater tables.

Because of scarce precipitations and high evaporation, there is a risk of rising heavy metal concentrations in the aquifers used by local population.

The soil and water pollution by heavy metals has serious effects on the environment and public health.

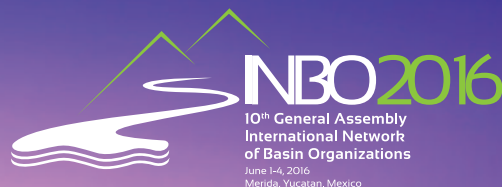
Mohammed El Wartiti
Mohammed V University
wartiti@hotmail.com

www.fsr.ac.ma

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The use of GIS for preventing flood hazards

In order to establish flood hazard maps of the Guelmim city (south of Morocco), an assessment of the physical characteristics of the Assaka Basin and of the Sayed and Oum Laachar wadis sub-basins proved to be of prime importance.

At the end of 2014, the Assaka Basin and its main tributaries the Sayed and Oum Laachar wadis were affected by flooding which caused significant human and material damages.

The methodological approach is based on the use of an ArcGIS Geographic Information System and spatial hydrological models, HEC-GeoDozer and

HEC-GeoHMS, for the processing of a Digital Terrain Model (DTM) to extract the physical characteristics of both sub-basins.

The data obtained will provide an important basis for the elaboration of a hydrological model, an easy tool for decision-makers for the development of the Sayed and Oum Laachar wadis and flood prevention.

The result of the GIS processing is a spatial hydrologic database for the very dense hydrographic network of the two sub-basins.



The Assaka River

Mohammed El Wariti

Mohammed V University

wartiti@hotmail.com

www.fsr.ac.ma



Royaume du Maroc

Université Mohammed V - Agdal
Rabat

An ambitious project for Governance and Integrated Water Resources Management



The Ourika Valley in Morocco

The "Governance and Integrated Water Resources Management in Morocco" project was prepared by the Water Department of the Delegate Ministry in charge of Water at the **Ministry of Energy, Mines, Water and the Environment (MEMEE)** of the Kingdom of Morocco, to benefit from the European experience in order to advance its mission of water resources management and coordination of **River Basin Agencies**.

France was chosen as the leader of this twinning project in partnership with Spain and Romania and Austrian experts.

Since 1995, Morocco has had a Water Law that constitutes the legal basis for water policy and that allowed, firstly, to establish the principles of Integrated Water Resources Management and, secondly, to institutionalize water resources management at river basin level and the "user pays" principles.

A new water law is being prepared and will benefit from the experience acquired in the implementation of the Water Framework Directive (WFD) in the three EU Member States.

The project will allow:

- Improving River Basin Management Plans through a pilot experience in the Sebou Basin;
- Establishing a national program for regulatory convergence in the water sector.

This 2-year project of great importance for the entire Moroccan water sector has been implemented since October 2015, with the support of the French Water Agencies, BRGM, the International Office for Water, INBO Secretariat, and the main Spanish and Romanian public institutions working on the WFD in their respective countries.

www.inbo-news.org

All information
is available
on the Web



www.inbo-news.org

1.50 Million visits in 2015



The Mediterranean

Tunisia



Nebhana Basin

Support to Integrated Water Resources Management (AGIRE) in central Tunisia



The Nebhana dam

Tunisia has committed itself to the principles of Integrated Water Resources Management (IWRM).

The Water Balance and Planning Authority (BPEH) of the Tunisian Ministry of Agriculture, Water Resources and Fisheries (MARHP) is working on the implementation of this policy.

On behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), the "Deutsche Gesellschaft für Internationale Zusammenarbeit" (GIZ) supports the "BPEH "

in this endeavor through the "AGIRE" (Support to IWRM) project, which focuses on the Kairouan Governorate.

The AGIRE's first phase aims at establishing a water resources planning and monitoring mechanism for the Nebhana Basin.

This pilot initiative is being implemented in the post-revolutionary context and is in line with the new Tunisian Constitution, which guarantees access to water and endorses a decentralization process.

In this light, the project supports the **Local Authority for Agricultural Affairs (CRDA)** in Kairouan to implement the following activities:

- The establishment of a dialogue platform via a "Water Forum" in which all stakeholders focus on water resources management in close collaboration with public authorities;

- The development of a decision making support tool via the WEAP (Water Evaluation And Planning) software;
- Awareness-raising activities for stakeholders (water users, decision-makers and media) with a special focus on the young and women;
- Capacity building for MARHP's national and regional teams.

To supplement this process, GIZ is implementing activities complementary to "AGIRE": thus, a first Forum will take place in 2016 to gather water users and decision-makers of Central Tunisia and a first decision-making support tool will be developed by the services of the regional authorities, including the CRDA.

Guy Honoré
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
guy.honore@giz.de

www.giz.de

Public water resources management policies for agriculture and rural development

The business Consortium "Louis Berger / IOWater / SCET / CCM Consulting", led by Louis Berger was selected to implement **the Program for Support to Public Policies on water resources management for agricultural and rural development (PAPS-Water) in Tunisia, funded by the European Union.**

A long-term expert is mobilized for 2 years on the topic of capacity building for Tunisian stakeholders in the field of IWRM.

12 organizations under the responsibility of the Ministry of the Environment and the Ministry of Agriculture are involved.

The activities undertaken in this project are:

- Development of training plans for the capacity building of the Ministry's staffs working in the water sector;
- Mobilization of research - development in support to the PAPS-Water;
- Dissemination through seminars targeting the staffs of Local Authorities for Agricultural Affairs (CRDA) and private experts.

- Training and skills transfer in the field of communication, including the development of a communication strategy and a communication campaign for the National Water Supply Company (SONEDE) and the Agricultural Training and Popularization Agency (AVFA).





End of the twinning project on the European Bathing Water Directive



Cleopatra's baths in Hierapolis, Turkey

Launched in January 2013, the bathing waters twinning project with Turkey was completed in June 2015.

It was coordinated by IOWater, INBO Secretariat, on behalf of the French Ministry of Social Affairs and Health, in collaboration with the Italian Minoprio Foundation,

mandated by the Regional Council of Lombardy, and GIP Inter.

The overall objective was to reduce bathing-related risks to public health, through the integration of the provisions of the new European Directive 2006/7/EC into Turkish legislation and introducing innovations to strengthen monitoring.

This twinning project involved 35 specialists from French and Italian administrations and institutions that carried out more than 170 assignments on all the health and environmental aspects of bathing.

Capacity building of the Ministry of Health and Turkish Public Health Institution as well as of provincial laboratories and other Ministries and partners was developed and their assignments updated according to the innovations introduced by the new European Directive.

The twinning project especially helped to:

- Prepare a new classification system for bathing areas;
- Develop bathing areas profiles of their vulnerability to pollution, and an action plan to improve water quality;

- Collect health and environmental data;
- Globally monitor bathing areas, including the implementation of monitoring programs, public information and crisis management, especially in case of the development of cyanobacteria and toxic algae;
- Improve the technical capacity of test laboratories.

A major training program was conducted for executives from the Ministry of Health, Public Health Institution, Provincial Health Departments and partner Ministries and Institutions.

www.thsk.gov.tr

Training of trainers on WFD implementation and development of River Basin Management Plans in Turkey

The General Directorate for Water Management at the Ministry of Forestry and Water Affairs prepared 25 Action Plans for Basin Protection that, by 2023, should be converted into WFD-compliant River Basin Management Plans.

Turkey has established Basin Management Committees for its 25 river basins.

In this context, an EU technical assistance project, in which IOWater, INBO Secretariat, contributed to support the Turkish Leader WYG, due to its former long cooperation with the Turkish authorities on water management, was undertaken to:

- Train the future Turkish trainers on WFD implementation and the development of River Basin Management Plans;
- Build capacities and ensure the proper operation of the Basin Management Committees.

The training courses were held from October 2014 to May 2015 with the participation of 57 representatives of various public authorities, universities and NGOs.

During the training, 9 international training experts provided more than 80 hours of training on the WFD and River Basin Management Plans for a total of 177 men-days.

In this training program, more than 30 hours of interactive "role play" sessions were also carried out and 30 presentations on the EU's experiences in WFD implementation and development of Management Plans were provided as well as 30 hours of exchanges between trainers and participants in plenary sessions. Some field visits were also organized in Turkey.

www.ormansu.gov.tr



Training of trainers



Middle East

WATEC

8th International Exhibition and 5th International Conference on Water Technologies and Environmental Control

13 - 15 October 2015 - Congress Center - Tel Aviv - Israel

"WATEC Israel" is a biennial three-day exhibition taking place at the Israel Trade Fairs & Convention Center in Tel Aviv.

The 8th edition gathered 160 exhibitors and nearly 10,000 visitors from 90 countries.

The professional conference is the core of WATEC on issues such as drinking water production, wastewater treatment, membrane technology, water supply systems and sewerage systems, desalination and other "non conventional" water resources.

INBO Secretary General, Mr. Jean-François Donzier, was invited to give a keynote address on Integrated Water Resources Management in river basins.

His presentation especially concerned transboundary water management in a context of climate change in arid countries. He presented the "Paris Pact on adaptation of water resources in the basins of rivers, lakes and aquifers" which is open for signature as part of the COP21 of December 2015 in Paris.



<http://watec-israel.com>

Israel - Palestine - Jordan



EcoPeace Middle East

A Regional Master Plan for Sustainable Development in the Jordan Valley?

EcoPeace Middle East, (formerly known as Friends of the Earth Middle East) is a unique regional organization made up of Israeli, Palestinian and Jordanian environmentalists. With its partners, the Stockholm International Water Institute (SIWI), the Global Nature Fund (GNF), and the Royal HaskoningDHV, it published its first "Regional Master

Plan for Sustainable Development in the Jordan Valley".

This first NGO report for the Jordan Valley, from the Sea of Galilee to the Dead Sea, was developed using a regional approach and focused on 7 strategic objectives: Pollution Control, Sustainable Water Management & River Rehabilitation, Sustainable Agriculture,

Jordan River Basin Governance, Ecological Rehabilitation, Sustainable Tourism & Cultural Heritage Development, and Urban & Infrastructure Development.

It identified 127 specific regional and national projects in relation to these strategic objectives, with a total investment value of 4.58 billion USD until the year 2050.

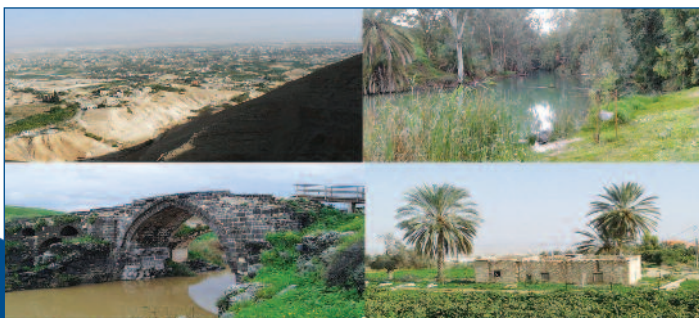
In addition, EcoPeace, together with Levant Consulting LLC, developed a Regional Investment Strategy. This NGO report provides the first building block for developing national and regional investment strategies, proposed measures to advance the implementation of its Master Plan including recommendations, the identification of no-regret actions and proposals for staged implementation.

The investment strategy reviews potential sources of public, private, and international financing for a short list of 26 identified priority interventions in Jordan, Palestine and Israel, to act as a catalyst for regional cooperation and development of the Jordan Valley.

Investment profiles were developed for 8 priority pilot interventions in the field of water, environment and pollution control.

Gidon Bromberg
EcoPeace Middle East
info@foeme.org

www.foeme.org



Regional NGO Master Plan for Sustainable Development in the Jordan Valley

Final Report - June 2015



Lebanon



Physical and chemical parameters study in dry season on the Nahr Al Bared River



Ras el Ain

With the aim to estimate the environmental status and to detect the signs of pollution in dry season in the Nahr el Bared River at the North of Lebanon in the region of Akkar, several physical-chemical parameters have been studied.

A surface water analysis was run monthly for a period of 7 months, from April 2013 till October 2013, on 7 stations that extend from Ras el Ain in the East, to the Mediterranean Sea in the West.

During this period, the temperatures were those usually noted in the Lebanese surface waters.

Salinity varied spatially and temporally due to the low water level in the river.

Significant fluctuations of ionic concentrations were observed in most of the stations and during the period of this study.

Concentrations of calcium, magnesium, sulfates and of carbonates were measured during the whole period.

Nitrate concentrations changed from one station to another, reacting to agricultural activities.

Heavy metals concentrations were under the limit of the method of detection by atomic absorption spectrophotometer.

Dunia Bouaoun

University of Lebanon, Faculty of Sciences II
Chemistry Department, Fanar
Bouaoun_dunia@yahoo.fr



Jordan



Study tour to France

Upon the request of the Jordanian Ministry of Water Resources and Irrigation (MWI), IOWater, INBO Secretariat, organized a study tour, in France from 17 to 22 May 2015, on the system used for managing water and its scarcity, for a Jordanian delegation of senior officials, led by the Secretary General of the MWI, H.E. Basem TELFAH.

The delegation went to Orleans to examine the methods used for the participatory and operational management of the Beauce aquifer.

The study tour is part of a program established with the MWI, thanks to funding from the German Cooperation Agency, GIZ.



Ministry of Water & Irrigation



The Jordanian delegation was received at the French Ministry of the Environment

"EUROPE-INBO 2016": the "Cirque de Gavarnie" upstream of Lourdes



"EUROPE-INBO 2016"

For the implementation of the European Water Directives



Lourdes - France 19 - 22 October 2016

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The website of basin management over the world



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 - Asia - NARBO
 - Brazil - REBOB
 - Central Europe - CEENBO
 - Eastern Europe, Caucasus, Central Asia - EECCA-NBO
 - The Mediterranean - MENBO
- "EUROPE-INBO" :
European Water Directives implementation
- Handbooks for Integrated Basin Management
- The World Water Forums of Daegu-Gyeongju 2015
and 2018 in Brasilia
- COP21: "Paris Pact on water and adaptation to climate change"

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Secretariat: International Office for Water
21, rue de Madrid - 75008 PARIS - FRANCE
Tel.: +33 1 44 90 88 60 - Fax: +33 1 40 08 01 45
Mail: secretariat@inbo-news.org
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