

<p style="text-align: center;">5th World Water Forum - Istanbul, March 2009 Regional Report: Europe Chapter: “Basin Management and Transboundary Co-operation”</p>

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This document will constitute the chapter “Basin Management and Transboundary Co-operation” of the European regional report to the World Water Forum of Istanbul in March 2009.

Within the European Regional Process, co-ordinated by the European Water Partnership/EWP, all the draft chapters must be available by 15 November 2008.

The drafting of this chapter is co-ordinated by the International Network of Basin Organisations (INBO), with the participation of its regional networks in Europe (EUROPE-INBO), Central and Eastern Europe (CEENBO) and in the Mediterranean (MENBO).

The International Network of Basin Organisations (INBO) was created in 1994 in Aix-les-Bains (France) to facilitate exchanges between basin organisations and to mobilise the experience of the professionals of the administrations and organisations responsible for implementing Integrated Water Resources Management (IWRM) at river basin level, or willing to implement it in their countries or areas. INBO is currently present in 67 countries.

For INBO, the annual meeting of the EUROPE-INBO group is a major stage in the preparation of the World Water Forum of Istanbul. This very first draft chapter thus will be presented and discussed during the meeting of 1st October 2008 in Sibiu in Romania, in order to collect contributions from the Basin Organisations.

SUMMARY

To be completed later

INTRODUCTION

Since the 4th World Water Forum in 2006, Europe has much advanced in the implementation of basin management, especially in transboundary basins. The Water Framework Directive and the UNECE Helsinki Convention have an important and complementary role in this progress.

1. IMPLEMENTATION OF THE WATER FRAMEWORK DIRECTIVE (WFD)

1.1. The WFD principles

The Water Framework Directive (WFD) - Directive 2000/60/CE adopted on 23 October 2000 – is a framework structuring water policy in the whole European Union. With the WFD, the 27 States of the European Union undertook a common process, with the same objectives, the same methods and the same deadlines.

The ambition of the Water Framework Directive is announced in its preamble: *“Water is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such”*.

The WFD pursues 4 overall objectives on a hierarchical basis as follows:

- 1 - Protecting the environment
- 2 - Ensuring drinking water supply
- 3 - Ensuring the other uses
- 4 - Floods and droughts

Drinking water quality and the meeting of the other water demands for human activities will only be achieved through environmental protection.

Let us remind the key principles of the directive:

- Basin management:

River Basin Districts must be identified, including at the international level. A “competent authority” must be designated for each district.

- An obligation of results: good water status

The WFD sets an obligation of results (and not any more only an obligation of means): to achieve good status for surface, ground or coastal waters by 2015. Deadline extensions or the setting of less strict objectives are possible, but they must be justified and submitted to public consultation. In particular, an adapted objective (good ecological potential) can be retained for heavily modified water bodies from a hydro-morphological viewpoint.

The WFD requires improving water chemical quality, by reversing the trend to quality deterioration of groundwater and by reducing the discharges of priority substances into surface waters. The discharges must be eliminated before 2020 for substances classified as “priority and dangerous”. A first list of 33 substances was adopted including metals, pesticides and hydrocarbons (decision 2455/2001/EC of the European Parliament and the Council of 20 November 2001 drawing up the list of priority substances in the field of water and modifying Directive 2000/60/EC).

The setting of objectives and actions to be undertaken is done at the level of a basic unit: the “water body” (water volume with homogeneous physical characteristics on which urban, agricultural and industrial pressures are identical).

- Planning and programming:

For each district, planning is based on 3 key stages to be renewed every 6 years: development of a characterisation, management plan and of a programme of measures.

1° The “characterisation of the district”, accounts for the various water uses and their impacts on the water status. This characterisation takes into account the actions undertaken in the field of water and regional planning policies, in order to identify the water bodies where the environmental objectives of the directive are likely not to be achieved in 2015 (“risk of unachieved good ecological status”). The directive also requires establishing a register of protected areas, which are submitted to special protection (drinking water intakes, bathing areas, conservation of natural habitats, etc.).

The Member States must set up networks for monitoring water status. They must also carry out an intercalibration of the methods used for assessing water status, which must allow comparing the quality of the aquatic environments in the European Union.

2 A “management plan” must define the objectives to be achieved in 2015 for each water body of the district.

3° It is supplemented by a “programme of measures” which identifies the necessary actions and their deadlines. These measures are of various kinds: regulations (controls of discharges, authorisations, etc.), financial incentives, contractual tools. The measures are adapted to each river basin district and each water body, according to the encountered problems.

The WFD has the advantage of being a cyclic process, which allows continuous improvement along the 3 management cycles planned for: 2009-2015, 2015-2021, 2021-2027.

- The cost recovery principle and economic analyses:

The directive requires accounting for the water pricing methods used and the application of the principle of recovery of the costs of water utilities. This means also integrating environmental costs, taking into account the application of the polluter-pays principle. The contributions of the various economic sectors are to be identified, by distinguishing households, industry and agriculture.

Incentive water pricing should be used by the end of 2010.

The WFD strongly underlines the economic analysis at all stages: characterisation, justification of exemptions from the objectives, optimisation of the choice of investments, pricing.

- Public information and consultation:

The directive aims at increasing the transparency of water policy. It thus requires making sure of an active participation of the water stakeholders and the public in the preparation of the management plan. It defines 3 compulsory consultation periods: before the end of 2006 for the work programme, before the end of 2007 for the identification of the main water issues in the district and before the end of 2008 for the management plan.

1.2. WFD implementation at the European level: the Common Strategy

The European Commission and the Member States set up a WFD Common Implementation Strategy (CIS). It is the first time that such a thorough work has begun between Member States, after the adoption of a directive, to define the methods for its joint implementation. In practice, since 2001, more than 1,000 representatives and experts from all the Member States have worked together. This work led to the production of guidance documents which were approved by the Water Directors of the Member States. These documents are not legally constraining but they could be used as reference for the European Commission to judge the good implementation of the directive by the Member States

17 guidance documents were officially published: economic analyses (WATECO); identification of water bodies; pressures and impacts (IMPRESS); Heavily Modified Water Bodies (HMWB); characterisation of coastal waters (COAST); intercalibration; monitoring; public participation; Geographic Information Systems (GIS); reference conditions; planning process; wetlands; classification of the ecological status; intercalibration process; monitoring of groundwater; groundwater protection in water intake areas for drinking water supply; prevention and limitation of direct and indirect groundwater pollution.

Other thematic documents were also produced but they have not, at the moment, the statute of "guidance documents": identification of the river basin districts, the reporting principles, agriculture and WFD, results of the tests in pilot basins, methods for estimating environmental costs, definition of environmental objectives and concept of disproportionate cost, eutrophication, methods for building monitoring networks, hydromorphology, or even management of water scarcity.

Using the technical work carried out by the experts, the political follow-up is made by a Strategic Co-ordination Group (Deputy Water Directors) and at higher level by a Committee of the European Water Directors who meet twice a year to decide of the significant points and to approve the guidance documents.

It should be noted that this process, which, at the start, concerned the representatives of the States, was quickly extended to the implementation partners (socio-professionals, NGOs, etc). The field was also widened: initially dedicated to the WFD, the common implementation process is now interested in the follow-up of the new directives which result from the WFD (groundwater, priority substances, floods) and in the follow-up of related issues (agriculture, climate change, etc).

This original process allows the sharing of experience and good practices, developing common methods on technical issues, developing data exchanges and building a European information system, testing and validating methods, defining new water policies, integrating the WFD in other policies,... and thus, more generally, progressing in the harmonisation of the WFD implementation through Europe.

A Water Information System for Europe was created (WISE - <http://water.europa.eu>).

The priorities set for the 2007/2009 period concern:

- ecological status (intercalibration, eutrophication, harmonisation/standardisation, classification),

- groundwater (measures to be integrated into the programmes of measures, limit values for pollutants, monitoring),
- reporting (reporting principles for management plans, WISE development, compliance indicators),
- monitoring of chemical status,
- priority substances (revision of the list of priority substances, development of environmental quality standards),
- floods (exchanges of information on forecast and mapping),
- water scarcity and droughts,
- WFD and agriculture (link with the evolution of the Common Agricultural Policy),
- hydromorphology (navigation and hydropower impacts),
- environmental objectives and exemptions (concept of disproportionate cost, cost/effectiveness evaluation),
- adaptation to climate change.



1.3. Implementation at the level of the States and Basin Organisations

The national administrations and basin organisations have made significant progress in WFD implementation since 2006: administrative adaptations, data gathering and analyses, public information and stakeholders' participation, characterisations of river basin districts, building of monitoring networks, etc.

The characterisations were carried out for 2005; the monitoring networks were established for 2006. We are now in an operational phase: the management plans and programmes of measures, required for the end of 2009, are currently drawn up and submitted to public consultation. This stage is decisive for achieving the good status objectives laid down by the Water Framework Directive.

In transboundary basins, WFD implementation leads to strengthening co-operation between Member States.

Monitoring networks

As the WFD required it, the Member States established, for the end of 2006 and for all kinds of water bodies (surface, coastal, groundwater, etc.), networks for monitoring the status of water bodies, based on two distinct levels of control:

- Monitoring control: it applies to all the water bodies and aims to follow up the general status of the water bodies;
- Operational control: it applies to the water bodies for which a risk of not achieving good status by 2015 was identified. Its main objective is to follow up the evolution trend of the parameters responsible for this risk.

Thus, the Member States changed their systems for monitoring water quality and quantity: monitoring sites, sampling procedures, information feedback cycle, integrated information systems, etc.

Management plans and programmes of measures

Management plans were established based on the characterisations. The basin authorities defined the main trends of water management in the basin and worked at the level of sub-basins by involving local stakeholders. The management plans were often drawn up according to a bottom-up approach using the scale of the sub-basins with an aggregation at the level of the district.

The management plans include:

- the outcomes of the characterisations,
- a pollution assessment,
- a map of protected areas,
- a map of the monitoring networks,
- a list of the environmental objectives set for each water body (with the justifications for possible extensions of delays or less strict objectives),
- a summary of the economic analysis,
- the indication of the measures taken for public participation.

For drawing up programmes of measures, the basin authorities combined the various types of possible measures: financial, regulatory and contractual. This work increased co-ordination between the services of the State, the basin organizations, the local authorities.

The programmes of measures include:

- “Basic measures”: implementation of the “water” directives, control of water abstractions and discharges, prevention of accidental pollution, measures taken for drinking water treatment, pricing policy, etc.;
- “Complementary measures”: codes of good practices, contractual agreements, economic/taxation instruments, research and education projects, etc.

Achieving good status in 2015 often requires increasing the means devoted to the management of aquatic environments and wetlands, because the biological (biological indicators: invertebrates, plants, fish) and hydromorphological parameters (physical characteristics of rivers and wetlands, such as depth, flow, bed structure, slope and plants on the banks, bed sinuosity) are of prime importance for achieving the good ecological status set by the WFD.

Generally, this also requires increasing significantly the financial resources and mobilising specific ones, based on the “polluter-pays” principle and “user-pays” systems, while controlling the increase of the water price for the users. The impact of the programme of measures on the water price varies according to the current level of the water taxes, but an increase of the water price is however to be foreseen in most cases.

The investments needed to achieve good status are likely to be very often higher than the financial resources which can be mobilised on the first programme of measures. There the economic analyses induced by the WFD play an essential role: the costs can be spread out over two (until 2021) or three (until 2027) successive programmes of measures if they seem disproportionate. The economic studies must then justify the extension of delays.

In any event, economic studies are essential to WFD implementation. They must meet a real need: defining the objectives (especially possible needs for exemptions) and selecting the actions to be implemented within the programme of measures (cost-effectiveness analysis). In particular, assessing the cost-benefit of the measures proves to be essential to optimise the effectiveness of the programme of measures, and thus to maximise the effects of each invested euro.

In transboundary basins, significant progresses were noted with the co-ordinated development of management plans and programmes of measures (roof report for the characterisation of the districts, common catalogues of measures, co-ordinated objectives, common socio-economic indicators). Co-ordination should however continue.

Examples of measures included in programmes of measures:

- "Agricultural" measures: reducing the use of pesticides and fertilisers, protecting drinking water intakes, raising awareness and training of farmers, complying with standards for animal husbandry, reducing erosion and the transfer of pollutants to rivers, etc.
- "Sanitation" measures: building new wastewater treatment plants, increasing capacity and treatment level, repair and renewal of wastewater collection systems, storm water collection and treatment, compliance with standards as regards connections, on-site sanitation, etc.
- "Industrial" measures: treatment of hot spots, chlorinated solvents, PAH, removal of PCBs, priority substances, etc.
- "Hydromorphological" measures: restoration/protection of river banks, restoration of river sections, land acquisition (wetlands, banks), maintenance of rivers and wetlands, suppression/reduction of dams and creation of fishways, restoration of ecological continuity, etc.

Participation

With regard to the water stakeholders' participation:

Local authorities were mobilised as their role in field implementation is essential. More generally, the basin authorities organised a large participation of water stakeholders in the drawing up of the management plan and programme of measures, through dialogue committees, basin committees, local debates, etc. Indeed, it appeared paramount to involve the local stakeholders in the cost estimate of actions and the setting of the exemptions which would be necessary, in order to guarantee effective and realistic implementation of the Framework Directive.

The creation of basin committees seems very useful: these basin authorities are then associated to the decisions made by the public authorities, within procedures defining their role clearly. In particular, these basin authorities should participate in the definition of the long-term objectives and in the development of management plans, in the selection of developments and infrastructures, in the implementation of the programmes of measures and multiyear priority investments, and in defining the financing principles and in the calculation of the water taxes.

Concerning the participation of the general public:

The Member States and basin organisations had to change their practices. Indeed, if the participation of the water stakeholders is rather usual in Europe, public participation was an innovation.

The basin organisations have now organised the first two stages of public consultation required by the WFD (end of 2006 at the latest as regards timetable and work programme; end of 2007 at the latest on the significant water management issues identified in the river basin district). They are now implementing, in 2008-2009, the last public consultation on the management plan.

The first experience feedbacks show that the methods implemented are varied. Generally, the basin organisations improved their communication techniques, by working with sociologists or by better defining their objectives. Good public information, as a prerequisite to the consultation, is a key factor to success. Various information tools were used: communication campaigns with the media (TV, press, radio, Internet), booklets, mails in the mail-boxes, local public meetings, field visits to explain the functioning of a river, awareness programmes for schools, etc

For the consultation, the written answers from the public are collected either by questionnaires or via the Internet. Local meetings in sub-basins are regarded as an essential tool for information and awareness-raising.

The States had to establish suited governance: In order to ensure consistency between districts, most countries elaborated a national framework. International co-ordination was often established in international river basin districts. But experience shows that the scale of the basins (districts) and sub-basins should be favoured for implementing consultation: consultation should as local as possible with a bottom-up approach.

International co-ordination often took place in the case of international river basin districts. In some districts, the countries concerned adopted a common strategy for public participation.

These first public consultations allowed better knowledge of public expectations. Owing to the experience of the Member States (such as France), which started the general public information and consultation before the first deadline imposed by the Framework Directive, the fact of anticipating teaches lessons and allows an early population's awareness. It appeared that, compared to other topics for public consultation, water is a field which is of great interest, which is very positive for the continuation of work. It was also proven that raising the awareness of the decision makers and of the persons in charge at top level is also essential, and this for each scale of work (local, regional, national). It is also necessary to communicate in a less administrative way: to show pedagogy, to use a simple language adapted to the general public. Lastly, after public consultation, it is necessary to take care that decision-making is transparent, to explain the decisions made, to account for the results obtained.

1.4. The issue specific to EU peripheral areas (basin and overseas islands)

The basin islands cumulate morphological and climatic specificities and other singularities because of their statute and history. For example, the islands of the French West Indies encounter particular difficulties in implementing the WFD for this reason. They cannot however be dissociated from the French national territory as they are subjected to the same timetable for WFD implementation. The dispersion of these territories on the planet gives them a regional environment, far away from the situation of continental Europe.

For the basin islands surrounded by an offshore bar, it is more appropriate than elsewhere to clarify land-sea relationship. The scope of the measures to be applied to meet the WFD objectives depends on the knowledge of the coastal-island ecosystems and of the phenomena at the land-sea interface. For example, in the Martinique, this situation is exacerbated by the micro-insular context, the marked relief and the tropical climate. This specific configuration is unique on the WFD implementation territory. In addition, high urban density and the omnipresence of strong intensive monocultures that consume inputs (of which the chlordecone is not included in the list of priority substances) are as many pressures on a sensitive environment (mangroves, coral reefs). It is also important to reconcile the WFD qualitative objective with the protection of the people during extreme events. The use of reference frames adapted to the insular tropical context and of associated information systems conditions the initial assessment of the water bodies, the relevance of the provisions and measures and the evaluation of the progress made towards good status. As regards regional co-operation, there are many water programmes, but their articulation with WFD remains difficult.

It is thus deemed **necessary to adapt WFD implementation to the insular and tropical context of EU peripheral insular areas** by:

- improving knowledge of the environments and defining adapted reference frames;
- defining and implementing a framework, compatible and coherent with the WFD, for exchanges and regional co-operation with the non-EU neighbours.

2. TRANSBOUNDARY CO-OPERATION

2.1. Contributions of the Helsinki Convention (UNECE, 1992)

With 150 major transboundary rivers, 40 major international lakes and more than 100 transboundary aquifers, water resources in the region of the United Nations Economic Commission for Europe (UNECE) are characterised by their essentially transboundary nature. The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) - which is the only international legal framework in force for transboundary waters - provides a sound and reliable framework to achieve stable, long-term co-operation among riparian countries and sustainable use of the water resources and related ecosystems. The UNECE Water Convention was signed in Helsinki in 1992 and entered into force in 1996. As of August 2008, 35 countries and the European Community are Parties to the Convention.

The Convention's objectives are:

- Protection of transboundary waters (both surface and groundwaters) by preventing, controlling and reducing transboundary impacts - including impacts on human health and safety, flora, fauna, soil, climate, landscape and historical monuments or other physical structures as well as impacts on the cultural heritage or socio-economic conditions;
- Ecologically sound and rational management of transboundary waters;
- Reasonable and equitable use of transboundary waters and therefore prevention of conflicts;
- Conservation and restoration of ecosystems.

The Convention explicitly recognises the need to apply a number of basic principles such as the precautionary principle, the polluter-pays-principle, and the principle of sustainable management of water resources. It also includes two major categories of obligations.

The first, more general, obligations apply to all Parties and include licensing and monitoring waste-water discharges; setting emission limits for discharges from point sources based on the best available technology; application of best environmental practices to reduce inputs of nutrients and hazardous substances from agriculture and other diffuse sources; environmental impact assessment; development of contingency plans; setting of water-quality objectives; and minimisation of the risk of accidental water pollution.

The second category of obligations is more specific and must be implemented by Parties sharing transboundary waters. Such Riparian Parties are obliged to conclude specific bilateral or multilateral agreements providing for the establishment of joint bodies. Such bodies can be bilateral or multilateral river or lake commissions (e.g. for the rivers Elbe, Danube, and Meuse, or for the lakes Geneva, Ohrid, and Peipsi), as well as other institutional co-operation arrangements, such as meetings of plenipotentiaries, as is the case with some transboundary water agreements in Eastern Europe. These joint bodies are the framework for co-operation and joint management of the resources, set water quality objectives and other planning objectives, joint monitoring and assessment and sharing of information.

The majority of bilateral or multilateral agreements between European countries are based on the principles and provisions of the UNECE Water Convention.

The management of transboundary waters cannot be divorced from the management of national water resources. Consequently, the Convention requires its Parties to apply its principles when developing and implementing local and national policies, action plans, programmes and practices as well as transboundary ones.

Organisation and focus of work under the Water Convention

The Convention does not only exist on paper, but it is a “living Convention”: it has developed bodies responsible for the implementation of its programme of work, it aims to support Parties and non-Parties in ratifying and implementing the Convention etc.

The **Meeting of the Parties** (MOP) is the highest decision body. It meets every three years and adopts a work plan which aims to support implementation, review progress achieved and provide specific guidance to Parties. To implement the work plan and number of bodies are established: from more “political” working groups, to technical task forces.

The Water Convention’s work focuses on three main areas:

- (a) Assistance to implement the Convention in particular to countries with economies in transition;
- (b) Tools to deal with emerging issues such as climate change and payment for ecosystem services, and
- (c) Assessment of the Convention’s effectiveness and of future needs.

There are three main kinds of activities:

- (a) First of all, strategic and technical guidelines are developed, such as Guidelines on Monitoring and Assessment of Transboundary and International Rivers, Lakes and Groundwater or Model provisions on transboundary flood management;
- (b) Secondly, the Convention develops capacity-building activities. An example is the Capacity for Water Co-operation (CWC) project which is intended to strengthen the capacity of transboundary water management in Eastern Europe, Caucasus and Central Asia.
- (c) Finally, the Convention develops a number of pilot or implementation projects to develop the legal basis for co-operation, build institutions, monitoring and assessment of transboundary waters, etc.

Highlights of the current work plan 2007-2009

Impacts of climate change on water and water-related ecosystems are already measurable, thus adaptation of water management is essential. However, very few countries have developed adaptation strategies so far. In 2006, the Meeting of the Parties recognised the importance of this topic and decided to develop a Guidance on **water and adaptation to climate change** for possible adoption in 2009. The Guidance will offer specific advice on the additional challenges caused by climate change. It will provide a step-by-step framework for assessing climate change impacts on water resources, identifying adaptation measures to climate change and developing adaptation strategies and measures that take into account the transboundary context.

The first **Assessment of Transboundary Rivers, Lakes and Groundwaters** has been prepared for the Sixth Ministerial Conference “Environment for Europe” (Belgrade, 10–12 October 2007). The activity has been a major undertaking by UNECE countries - both Parties and non-Parties - and the secretariat of the Water Convention. More than 150 experts took part in it. It is the first ever in-depth report produced on transboundary waters in the UNECE region. It covers 140 transboundary rivers (most of them with a basin area over 1,000 km²) and 30 transboundary lakes in the European and Asian parts of the UNECE region, as well as 70 transboundary aquifers in South-Eastern Europe, the Caucasus and Central Asia. It describes the hydrological regime of these water bodies, pressure factors in their basins, their status and transboundary impact, as well as trends, future developments and envisaged management measures. Water sharing among riparian countries, increasing groundwater abstraction for agricultural purposes and drinking water supply, pollution from diffuse sources (e.g. agriculture, urban areas) as well as point sources (e.g. municipal sewage treatment and aging industrial installations), and the effects of climate change on water resources are among the many issues documented. Preparations for the second Assessment have already started in 2008. The second edition will put a special focus on IWRM, as well as thematic issues such as climate change, human health and water related ecosystems. It will also include institutional aspects of transboundary water co-operation. It was also agreed that the second Assessment should as far as possible cover waters shared with non ECE countries (such as Afghanistan, China, Islamic Republic of Iran and Mongolia).

This is also related to outreach activities beyond the UNECE region of the Convention linked to the amendments adopted in 2003, **to allow States situated outside the UNECE region to become Parties to the Convention**. The amendment aims to share the successful experience under the Convention to other regions and to provide for practical and sophisticated model at global level for peaceful, co-operative and integrated water resources.

Since late 2006, the **National Policy Dialogues** on IWRM pillar have been implemented in countries of Eastern Europe, Caucasus and Central Asia within the framework of the EU Water Initiative, in line with the EU Water Framework Directive, the UNECE Water Convention, and the Protocol on Water and Health. The final aim of the dialogue process is to introduce policy packages (e.g. new governmental regulations), in order to improve the implementation of IWRM. Currently, Armenia, Kyrgyzstan, Moldova and Ukraine participate in these policy dialogues with different country specific objectives. For example, in Kyrgyzstan, the current specific objective is to assist in the setting up of a River Basin Council for the Chu basin. At a later stage, the policy dialogue will also cover sustainable use of water resources taking into account climate change, the protection of water ecosystems and water-and-health issues.

The current work plan also includes **activities on ecosystem services**. The “Recommendations on Payments for ecosystem services in Integrated Water Resources Management” were elaborated in co-operation with other concerned sectors – e.g. forestry and nature conservation - and adopted at the last Meeting of the Parties in November 2006. It is planned to support the implementation of the Recommendations through capacity building and pilot projects.

Finally a number of projects are carried out in the UNECE region, driven by demands from parties and non-parties. These include projects on monitoring and assessment of transboundary rivers, lakes and groundwaters; capacity building for co-operation on dam safety in Central Asia; strengthening of the co-operation framework in the Chu and Talas rivers; development of the Central Asian Regional Water Information Base; support for the development of bilateral arrangements for transboundary management of the Timok River; support to the development of the Sava River Basin Management plan, etc.

The Convention will be opened to States outside the UNECE region. A draft guide to ratifying and implementing the Convention will be discussed at the 5th Meeting of the Parties, 2-3 October 2008 in Geneva.

2.2. OSCE work

The Organisation for Security and Co-operation in Europe (OSCE) gathers 56 States located in Europe, Central Asia and America. OSCE is the most important organisation for regional security. It deals with three security aspects: human, politico-military and economic-environmental. The promotion of integrated water resources management is one of the priority environmental activities of OSCE.

The 15th annual Forum on environmental security and sustainable development which was held in 2007 planned the creation of a Centre on drought management in Central Asia and was followed on 29-30 November 2007, by a Declaration of the Ministerial Council of OSCE on water management. This Declaration promotes strengthened co-operation between States and strengthened co-operation between OSCE, UNECE and the other international organisations in the field of water. The Environment and Security Initiative (ENVSEC) of OSCE allowed launching several transboundary co-operation projects: in the Caucasus for the Kura-Araks river basin (Georgia-Armenia-Azerbaijan) in Central Asia for the Chu and Talas rivers (Kyrgyzstan-Kazakhstan), in Eastern Europe for the Dniestr River (Ukraine-Moldova) and in South-Eastern Europe for the Sava River (Slovenia, Croatia, Bosnia Herzegovina, Serbia, Montenegro).

2.3. WFD contributions in transboundary basins

The WFD is a tremendous tool which allows overcoming cultural differences and bringing people together in spite of the language barrier (especially with pragmatic approaches). It caused new awareness of the importance and need for sharing information and experience beyond borders.

A long tradition of transboundary co-operation and water management in the new Member and pre-accession States facilitates WFD implementation. Generally, the importance and dynamism of very practical co-operation, which has already existed for a long time, remain still too little known and must be better emphasised and disseminated. The WFD is an opportunity to strengthen these kinds of co-operation.

The WFD confirmed/reinforced the role of the international commissions as platforms for international co-ordination.

The WFD provides added value to water resources management, especially in transboundary basins, for which it is a **common reference frame**.

For the **first time in history**, 29 countries were committed to jointly manage their water resources on a river basin scale. The WFD led to the **harmonisation of practices** and to the improvement of management tools between riparian countries, including with our new neighbours in the Balkans and Eastern Europe.

The WFD is a great progress in the implementation of integrated management in Europe. It is also a **tool for European integration**. A good example is the management of the Danube which involves 19 States, 10 of which being EU Member States (including 2 new ones in January 2007), 1 is an accession candidate and 8 are not members. After the multiplicity of bilateral agreements (43 treaties), the WFD allowed **integration on the river basin scale at multilateral level**.

Most managers of basin organisations agree on the fact that the WFD influenced and **improved upstream/downstream relations**. The WFD gathers the riparian States in a **community of interest**: working together to find solutions to common problems. The countries, either located upstream or downstream, have the same tasks and the same obligation to apply the WFD; they share a **joint responsibility** for the management of the river basin.

The **guidance documents** produced within the CIS gave a **common basis** for WFD interpretation and implementation.

To this institutional co-operation is added the richness of personal and informal exchanges within international and regional networks, such as those of the « Family of the International Network of Basin Organisations ».

The European Basin Organisations gathered in the EUROPE-INBO group underlined the added value of the WFD and the interest of looking further into the coherence of the methods and actions, and of providing increased resources for WFD implementation, especially in a transboundary context.

Example n° 1: Co-operation between Romania and Hungary

There is a long tradition of co-operation between Romania and the nearby States for transboundary water management, through bilateral agreements: Hungary (1986, 2003), Ukraine (1997), ex-Yugoslavia (1955), Moldova (1995), Bulgaria (1991). From now on, co-ordination is achieved through the ICPDR and WFD provisions were or will be integrated into the various agreements. Thus, the agreement of 1986 between Romania and Hungary was revised into a new agreement in 2003 whose objectives are: to achieve good water status; to prevent the degradation of the water status and to control pollution; to prevent and limit the transboundary effects of floods, droughts and accidental pollution; to develop systems for monitoring water status, to ensure sustainable use of water resources.

Management of the Körös – Crisuri pilot basin (Romania / Hungary)

The 1st Romanian/Hungarian agreement goes back to 1924. The accidental pollution of the Tisza, main tributary of the Danube, led to strengthen co-operation. The WFD created an enabling environment. The Körös/Crisuri sub-basin, main sub-basin of the Tisza, was chosen for a project financed by the French Fund for the Environment, with the aim of testing WFD implementation in 2 years, with a sub-basin approach. Co-ordination on the Tisza basin scale was led by the ICPDR: the bottom-up step of pooling the sub-basin plans led to an overall management plan for the international district of the Tisza. The project results are transferable to the other rivers shared by Romania and Hungary and to all the riparian States of the Tisza and the Danube.

Co-financed by the French Fund for Global Environment (FFEM) with a participation of 1 million euros, this project, carried out in the middle of the Tisza, main tributary of the Danube and shared by Hungary, Romania, the Ukraine, Slovakia, and Serbia, was of major interest to the region.

The project activities, carried out by IOWater under the aegis of the International Commission for the Protection of the Danube River (ICPDR), allowed true co-operation between Hungary and Romania for the creation of a management body, co-ordinating the work of the two national parts of the basin.

In a first phase, "organisational blocks" were created for data management, the introduction of mechanisms for regional dialogue, the harmonisation of the delimitation of ground Water Bodies and the monitoring of ground and surface waters, the economic analysis, from the analysis of cost recovery to the choice of the best measures to be taken, the projection of the trends up to 2015, and the organisation of accidental pollution control.

This preliminary work allowed the progressive drawing up of two international documents showing the high level of co-ordination reached by the two basin's countries at the end of the project, i.e.:

- * A Management Plan for the Körös/Crisuri, in accordance with WFD requirements;
- * A plan for the prevention of accidental pollution which was tested during an international project in June 2007.

After 2 years of work and many assignments, the following exemplary results can be underlined:

- Development of a catalogue of shared metadata;
- Creation of a website, hosted by ICPDR (www.icpdr.org), entirely devoted to the project, with the various experts' reports;
- Checking that the Objectives of Good water Status would be achieved in 2015, according to the implementation of the Programme of Measures proposed through modelling;
- Implementation of joint work aiming at harmonising the methods for sampling fish and invertebrates for the realisation of a Biological Quality Index;
- Training on quality management in the laboratories analysing the basin water and implementation of a blank quality audit;
- Testing a public consultation on significant basin issues in the two countries for preparing the national phase;
- Drafting of a detailed economic analysis of the measures planned for the project;
- Drafting of a guidance document on the implementation of the various stages of the planning process necessary for the development of the Management Plan;
- Presentation of the project results during various international meetings and design of a brochure for disseminating the obtained results.

The methodological and practical contributions of the French experts were particularly profitable to develop the new practices necessary for the Water Framework Directive implementation inside the same community legislation in a convergent way, as Hungary and Romania became members of the European Union by the end of the project

The project exceeded its initial objectives with the finalisation of one of the very first Management Plans for the Danube Basin, as required by the WFD for 2009.

Example n°...

3. RECENT DEVELOPPEMENTS IN THE EUROPEAN WATER POLICY

Groundwater

The European Union established a framework for preventing and controlling groundwater pollution, with the Directive 2006/118/EC of the European Parliament and the Council of 12 December 2006 on the protection of groundwater against pollution. The WFD adopted in 2000 announced that measures for preventing and controlling groundwater pollution were going to be adopted. This directive meets this requirement. For this reason, it is called WFD "Daughter Directive".

The "Groundwater" Directive envisages:

- criteria for assessing the chemical status of groundwater;
- criteria for identifying significant and sustained upward trends in groundwater pollution levels, and for defining starting points for reversing these trends;
- measures for preventing and limiting indirect discharges (after percolation through the soil or subsoil) of pollutants in groundwater.

By 22 December 2008, at the latest, Member States must set a threshold value for each pollutant identified in any of the bodies of groundwater within their territory considered to be at risk. As a minimum, they must establish threshold values for ammonium, arsenic, cadmium, chloride, lead, mercury, sulphates, trichloroethylene and tetrachloroethylene. These threshold values must be included in the River Basin District Management Plans provided for under the WFD. To identify any significant and sustained upward trend in levels of pollutants found in bodies of groundwater, Member States must establish a monitoring programme.

The programme of measures drawn up for each river basin district under the WFD must include preventing indirect discharges of all pollutants, in particular those hazardous substances and other substances listed in the Directive.

Groundwater protection is a priority in EU environmental policy for several reasons:

- once contaminated, groundwater is harder to clean than surface water and the consequences can last for decades;
- as groundwater is frequently used for the abstraction of drinking water, for industry and for agriculture, groundwater pollution can endanger human health and threaten those activities;
- groundwater provides the base flow for many rivers (it can provide up to 90% of the flow in some watercourses) and can thus affect the quality of surface water systems;
- it also acts as a buffer through dry periods, and is essential for maintaining wetlands.

Priority substances, environmental quality standards

The WFD lays down the objective of good chemical status of surface water to be achieved by 2015, and, for this purpose, imposes the establishment of environmental quality standards (EQS). The "priority substances" daughter directive adopted on 17 June 2008 thus supplements the WFD, by establishing environmental quality standards to limit the quantity of some chemical substances presenting a significant risk for the environment or health, in EU surface waters. These standards are accompanied by an inventory of the discharges, emissions and losses of these substances in order to check whether the objectives of reducing or stopping them are achieved. The objective is to eliminate these substances in surface water by 2018.

Marine strategy

The Framework Directive on Marine Strategy 2008/56/EC of 17 June 2008 established a framework for achieving or maintaining a good ecological status of the marine environment at the latest in 2020. Each Member State will have to draw up a marine strategy

The methods used for implementing this directive, which has been just adopted, must still be specified, especially in the seas shared with States not members of the European Union.

Floods

Between 1998 and 2004, Europe suffered over 100 major floods, causing some 700 fatalities, the displacement of about half a million people and insured economic losses totalling at least 25 billion euros.

Considering that most of the river basins in Europe are shared, action is more effective at Community level, since this allows better risk assessment and the co-ordination of measures taken by the Member States.

The Directive 2007/60/EC of the European Parliament and the Council of 23 October 2007 on the assessment and management of flood risks aims at creating a common framework for assessing and reducing the risks related to floods on the territory of the European Union for human health, the environment, property and economic activities.

All kinds of flood are concerned: floods of rivers and coastal zones, floods by runoff in urban areas or related to the saturation of drainage systems.

Prevention and management measures are organised in river basin districts, as established by the WFD. The timetable and method were conceived while following the same step as the WFD.

The "floods" directive plans 3 stages for each river basin district:

- assessment of the risks by 2011;
- development of maps of zones at risk by 2013;
- production of flood risk management plans by 2015.

When the area concerned extends on several countries, the Member States must co-operate for the development, as far as possible, of only one management plan.

Management measures must focus on reducing the probability of flooding and the potential consequences of flooding. They must cover prevention, protection and preparedness and must take account of relevant aspects, such as water management, soil management, spatial planning, land use and nature conservation. These measures must not increase flood risks in neighbouring countries unless these measures have been co-ordinated and a solution has been found among the Member States concerned.

Each management plan must contain certain components, including the level of protection, the measures planned, flood risk maps, and, in subsequent management plans, an assessment of the progress made since the last management plan was implemented.

Flood risk maps and management plans must be co-ordinated with the WFD, particularly as regards the characterisation of river basins, management plans for river basins and public consultation and information procedures.

A European working group co-ordinated by the European Commission, similar to those of the WFD, was set up. It initially will concentrate its activities on the reporting methods and the assessment of flood risk.

Example n° 1: The Loire Plan

In France, the Loire Plan 2007-2013 (on the scale of 9 French regions and of an amount of about 400 M€) aims to co-ordinate the action of flood prevention, to develop and share fundamental and operational knowledge on the scale of the Loire Basin, to enhance this knowledge in order to make the Loire a European reference for the management of a large river and its catchment area.

Example n° ...

Water scarcity and droughts

On 18 July 2007, the European Commission published a paper on drought. This paper recognises the importance of the problem and the need for undertaking European actions to use, to reform, whenever necessary, the existing tools (CAP, WFD, financing mechanisms and emergency assistance, etc.). The paper also insists on the need for setting up water saving and pricing policies accounting for the scarcity of the resource.

The Commission presents a range of possible orientations for managing the problems of water resource scarcity and drought, at the level of the EU and Member States, and quotes a certain number of good practices existing in various countries.

Following the European Council of 30 October 2007 which discussed this issue, the possibility of a new legislative instrument in the years to come was mentioned.

Agriculture

A working group of the WFD Common Implementation Strategy works on the links between WFD and agriculture. It is analysing the issues to discuss within the evaluation of the Common Agricultural Policy (reinforcement of the rural development pillar and conditionality for assistance).

Climate change

The WFD Common Implementation Strategy also extended its activities to the field of climate change. The objective is to integrate measures for prevention and adaptation to climate change into the programmes of measures planned by the WFD. A guidance document is planned for the end of 2009.

Two other important texts should also be noted:

- **The “pesticides” strategy**: adopted on 12 July 2006 by the European Commission, it aims at improving the use of pesticides, supplements the European legislation concerning their marketing and encourages the Member States to draw up a national action plan.
- **the revision of the provisions of the IPPC Directive of 1996**: the directive 2008/1/CE of 15 January 2008 related to integrated prevention and reduction of pollution replaces and renovates several pre-existent directives.

4. THE EUROPEAN NETWORKS OF RESEARCH ON INTEGRATED MANAGEMENT

It clearly appears that the Water Framework Directive strongly renews the demand for research and will result in changes in the methods for thinking, acting and planning in the field of water. This is the reason why, it is important to organise exchanges for better sharing experiments, identifying the needs and co-ordinating the future research programmes.

The co-ordination of research between the European countries from now on is facilitated by the concept of European Research Area - ERA proposed by the European Commission in 2000

ERA-Net projects allow networking the research activities of the Member States. They support the Member States and the (national and regional) managers of research programmes to set up joint activities, with a progressive integration of the activities of the involved partners:

- the exchange of information and good practices related to research planning (from the identification of the needs to the dissemination of the scientific outputs);
- the establishment of common strategic stakes between the project partners; joint activities such as the organisation of conferences, the exchange of staff;
- the launching of transnational research programmes financed from the national and/or regional programmes of the partners.

An ERA-Net project devoted to IWRM: the IWRM-Net project (2006-2010)

→ <http://www.iwrm-net.eu>



aims at setting up transnational research programmes related to IWRM.

IWRM-Net was born in August 2004 starting from this finding: the results of research deserve to be better enhanced and are not sufficiently visible for the community of potential users (decision makers, managers, elected officials, local authorities and the public even).

Today IWRM-Net gathers 20 programme managers from 14 countries of the European Union and neighbouring countries.

IWRM-Net objectives are:

- **Systematising exchanges of experiences and good practices** on the methods used for the management of existing research programmes and better sharing of their results,
- **Defining common strategies**, such as for example the assessment of the needs for research, in relation with the Framework Directive in particular, but also the practices used for disseminating and transferring the results to water experts and managers,
- **Developing joint activities** by enabling crossed participations between programmes (launching joint invitations to tender, project evaluation, etc.) up to the planning of real transnational research programmes.

During the first 18 months, the IWRM-NET partners started:

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

The first transnational research programme was launched in November 2007. Two main topics were retained: "hydro-morphological pressures/impacts on good ecological status"; water governance. Out of the 17 submitted projects, 3 were chosen for a total amount of 2 million euros. The research projects will start during the last quarter of 2008.

IWRM-Net cannot be summarised to the launching of joint research programmes. It is also:

- **The source of knowledge on IWRM-related research** in Europe (an inventory of research on IWRM was carried out, leading to a European cartography of the research programs in 13 European countries);
- **A forum to help the managers of research programmes to establish synergies between their IWRM-related research programmes** in the context of WFD implementation: regional conferences are regularly organised through Europe to identify the common needs for research;
- **An interface between research, decision makers and the managers of the water world** by way of organised conferences and the tool for managing knowledge of IWRM programmes.

The IWRM-Net network is preparing its second joint research programme, whose launching is planned at the end of 2009. The ambition is to relate the issues of long-term and short-term research.

Other ERA-Net projects deal with water issues.

- CIRCLE is interested in climate change,
- SPLASH concerns water scarcity in developing countries;
- SNOWMAN deals with soil contamination,
- SKEP more largely includes environmental issues.

Each of these projects will end between 2009 and 2010. A cycle of meetings of these ERA-Nets is planned to define a common strategy in order to maintain the various networks. The creation of an "ERA-Net" cluster is planned for the after-2010.

Other initiatives contribute to the organisation of the European research on water. We can quote for example the WSSTP (Water Supply and Sanitation Technology Platform), but also Euraqua and the SPI-Water project (Science-policy interfacing) or the project of interface group between scientist and users under the CIS process.

5. INFORMATION SYSTEMS

Integrated water management at basin level implies knowing the resources, uses and needs. The gathering and interpretation of many data are necessary to plan actions, to follow up their implementation and to evaluate their effects.

However, water data are often dispersed between several data producers and were built to meet different needs.

It is thus necessary to develop information systems at the level of basins, of transboundary basins, at the national level and European level.

5.1. Examples of basin information systems

Example n°...

5.2. Examples of transboundary basin information systems

Example n°...

5.3. Examples of national information systems

• Example n°1: The French Water Information System

In France, the structuring of data bases has progressed since the beginning of the Nineties. The needs for monitoring and reporting induced by the WFD led, in 2003, to the national Water Information System (WIS). WIS ensures **data harmonisation, exchange and access to**. It is accessible through an Internet portal: <http://www.eaufrance.fr>. This information system is led by the National Office for Water and Aquatic Environments (ONEMA).

WIS concerns **all the data useful** for overall knowledge of water resources and aquatic environments: quality, quantity, regulatory data, economic data, etc. Several data bases are connected: hydrometry of rivers and hydrology, quality of rivers and coastal waters, fish populations, piezometry and groundwater quality, economic data, shellfish breeding zones, programmes for monitoring water status.

WIS is designed for meeting **several needs** at the same time:

- monitoring the status of the water resource and aquatic environments;
- controlling activities having impacts on the status of the environment;
- drawing up master plans (SDAGEs) and programmes of measures;
- evaluating public policies, plans and programmes;
- presenting reports to the Parliament, the European Commission or to evaluation organisations (OECD, European Commission, European Environment Agency, Eurostat, OSPAR, etc.);
- informing the populations of the natural hazards to which they are exposed;
- storing the data to preserve them in a perennial way and to allow their sharing;
- organising public access to environmental information.

A **protocol** was signed in June 2003 to define the obligations of the water stakeholders as regards the production, conservation and sharing of data. It also specifies the organisation chosen at national level (national committee and co-ordination group) and at the level of each river basin (Basin data committee). Its signatories are: the Ministry of Ecology, the National Office for Water and Aquatic Environments (ONEMA), the French Environment Institute (IFEN), the 6 Water Agencies on the continent and Water Offices in overseas Departments, the International Office for Water (IOWater), BRGM, Ifremer, INERIS, EDF.

WIS architecture is based on a common reference frame, which allows easy exchanges of data between the various data producers. Interoperability between the systems is based on technical standards and common rules: data-gathering methods, principles of data base architecture, etc.

WIS enables France to meet the European reporting requirements: it is connected to the Water Information System for Europe, WISE.

• **Example n°2: ...**

5.4. The Water Information System for Europe

Europe developed a Water Information System for Europe - WISE - which compiles a significant number of data and information gathered at the European level by various institutions or organisations which, until now, were fragmented or not available. WISE is developed by the European Commission (DG Environment, Joint Research Centre and Eurostat) and the European Environment Agency. New functions are currently developed. (<http://water.europa.eu>)

WISE was initially dedicated to the WFD. It is gradually integrating other directives, including the "bathing waters" Directive, which is neither a daughter directive nor a directive abrogated by the WFD: the recent WISE developments thus lead to a true extension/harmonisation of a European information system.

WISE is developed in consistency with 2 other European initiatives:

1°) The Shared Environmental Information System (SEIS) is an environmental information system which integrates all the topics including water. The SEIS aims at modernising and simplifying the collection, exchange and use of environmental data and information. It plans the progressive replacement of the current systems, mainly centralised, by systems based on access, sharing and interoperability. The overall objective is to improve data quality and availability, to improve the definition of public policies, while maintaining the corresponding administrative loads at a minimal level

2°) Directive 2007/2/CE establishing a geographical information infrastructure in the European Community (INSPIRE) was adopted in March 2007. It contains provisions for improving accessibility and interoperability of geographical data. It is based on principles similar to those of the SEIS and its good implementation will allow correcting most current insufficiencies in the use and user-friendliness of the geographical data stored by public authorities.

5.5. Other regional information systems

Example n°1: An information system for the Mediterranean

The Euro-Mediterranean Water Information System (EMWIS) is the main tool for regional water information and knowledge exchange in the Mediterranean region. EMWIS governance is based on the participation of member countries; directed by a Steering Committee of 13 countries (Under a French presidency and Moroccan and Lebanese Vice Presidency), it is made up of Algeria, Cyprus, Egypt, France, Israel, Italy, Jordan, Lebanon, Malta, Morocco, Spain, Turkey and the Palestinian Authority) and by a Technical Committee made up of representatives from the 20 National Focal Points. EMWIS is managed by three national operators (in Spain, in France and in Italy). The success of EMWIS was recognised by the Euro-Med Water Directors and its exemplary approach inspires similar initiatives in other parts of the world (South America, Central America, Sub-Saharan Africa). A strategy of development for the next ten years was adopted by the Euro-Med Water Directors at their conference in Rome in November 2005, including the opening of EMWIS to countries around the Mediterranean not signatories of the Euro-Med agreements (Libya, Balkan countries). This strategy should lead to the progressive establishment of a "hub" of water knowledge in the Mediterranean (Mediterranean Water Knowledge Hub) networking centres of excellence contributing to the emergence and dissemination of know-how and useful data to improve Integrated Water Resources Management in the region: EMWIS current National Focal Points, National Water Information Systems, research centres and universities, "experimental and pilot projects" developed by the Countries with the possible support from European Cooperation, etc.

This "Mediterranean water data network" will give access to reliable and relevant data to support the policies of integrated resource management and risk prevention. At the regional level, it will allow facilitating the follow-up of the indicators of the Millennium Goals on water and sanitation and of those related to pollution removal in the Mediterranean and the implementation of the "water" component of the Mediterranean Strategy for Sustainable Development. The development of links between this future network and European actions (WISE/INSPIRE) is currently the subject of a complementary project.

Example n°2: The Balkan region

The BALWOIS Project "Water Observation and Information System for Balkan Countries" gathers scientists, the private sector, NGOs and decision makers of the Balkans. The project objectives are to create a network of scientists and water stakeholders, to set up a water observation and information system, to facilitate exchanges within working groups, scientific groups and events. The BALWOIS Network is currently composed of 800 researchers and experts. More than 850 scientific articles and reports are available on the Website: <http://www.balwois.com/>. The BALWOIS project organises twice a year an international scientific conference in Ohrid (Republic of Macedonia). 3 conferences were organised in 2004, 2006 and 2008. The BALWOIS project, which mobilises the community of scientists and managers of all the Balkan area, can facilitate the extension of EMWIS to the Balkans.

Example n°3: The Eastern Europe / Caucasus / Central Asia region of the UNECE

The principle of a project for a data catalogue was adopted by UNECE monitoring group within the activities of the Helsinki Convention, for the area of Caucasus/Eastern Europe/Central Asia. The implementation details are being studied.

6. THE EUROPEAN EXPERIENCE AT THE SERVICE OF BASIN MANAGEMENT

The European Union provides support to facilitate the implementation of integrated water resources management and transboundary co-operation in the non-EU countries. To that can be added bilateral assistance from the EU countries.

6.1. The European Water Initiative

The European Water Initiative (EUWI) is the political support of the European Union's contribution to the Millennium Development Goals in the water sector.

The European Union launched this initiative in Johannesburg (2002) with three priorities:

- access to quality drinking water and adapted sanitation for the poorest populations;
- sustainable and equitable management of transboundary waters;
- good co-ordination to ensure an equitable distribution between the various water users, based on good governance principles.

A strategic partnership agreement was signed by the African Union and the European Union. Its implementation in Africa is done in close co-ordination with the African Ministers Council on Water (AMCOW) and the New Partnership for African Development (NEPAD).

This initiative aims at facilitating co-ordination between donors and at making water emerge as a priority sector. It comprises five regional components, two of which are dedicated to Africa. The other regions concerned are: Central and Eastern Europe, the Mediterranean region and Latin America. Several cross components emerged: a "research" component led by the DG Research of the European Commission, a "financing for access to water" component led by the United Kingdom, a "monitoring" component led by the DG Environment of the European Commission.

One of the two African components is dedicated to IWRM. Led by France, it aims at facilitating the implementation of basin management by providing support at the national and transboundary levels. At the national level, this means helping to set up national integrated resource management plans in all the African countries. With regard to transboundary basins, support is provided to draw up co-ordinated action plans. The need for a common methodological approach and complementarity between national policy and transboundary management are emphasised.

The first five basins which were selected by the African Ministers Council on Water (AMCOW) are: Lake Chad in Central Africa, Lake Victoria with a focus on the Kagera River in East Africa, the Orange Senqu river basin in Southern Africa, the Niger and Volta river basins in West Africa.

Example n°1: Support to IWRM in the Niger River Basin (2006-2008)

Since the Declaration of Paris on "The principles of management and good governance for sustainable and shared development of the Niger Basin", signed in April 2004 by the nine Heads of State and Government of the Member States (Benin, Burkina Faso, Cameroon, Chad, Ivory Coast, Guinea, Mali, Niger, Nigeria) of the Niger Basin Authority (NBA), the various meetings of the NBA bodies confirmed NBA as a tool for regional co-operation and economic development

A "clear and shared Vision" of the Niger Basin was formulated to create an "enabling environment" for co-operation and to draw up a "Sustainable Development Action Plan (SDAP)" accepted by all the basin stakeholders.

The following work was carried out:

- * Drafting of a Water Charter;
- * Consistency of the SDAP with the national and regional processes of Integrated Water Resources Management (IWRM);
- * Preparation of the investment programme;
- * Organisation of a summit of Heads of State and of a donor roundtable.

Example n°...

From now on, EUWI is extending to Central Asia: the European Union currently develops an initiative to strengthen co-operation with the Central Asian countries in the fields of the environment and water. In the field of water, this co-operation will rely on EUWI and will be based on the IWRM principles mentioned in the UNECE Convention and the WFD.

6.2. The European Water Facility in the ACP countries (Africa, Caribbean, Pacific)

To support the implementation of the objectives defined by the European Water Initiative, the European Union launched, in 2005, a "European Water Facility" (ACP-EU Water Facility) of 500 million euros. It is the most important allocation for water and sanitation projects in the ACP countries that the European Union ever launched. Important calls for proposals were launched, opened to all the stakeholders.

The Facility is opened to proposals from governments, municipalities and organisations of the civil society, to meet the demands and the needs of the communities.

Example n°1: The AWIS project (2007-2010)

Although there is an important quantity of information in the African water sector, it is not very accessible for lack of an organised information management system.

However complete and reliable information enables the communities to facilitate decision making related to the problems affecting them, to build the capacities of the stakeholders of the water sector, to better take water into account in the policies applied by the local and national governments.

In order to meet these needs, a group of partners of the North and South proposed the building of an **African Water Documentation and Information System (AWIS)**. A genuine tool for supporting decision-making for sustainable water resources management, AWIS aims to promote and facilitate the provision of information and knowledge on water in Africa via a Pan-African Web portal. It relies on several associated local partners. The project which is financed at 70% by the Water Facility, was launched in April 2007. It is led by the Organisation for the Development of the Senegal River (OMVS).

AWIS was firstly developed and tested over three years in about ten pilot sectors in Africa. AWIS approach will then be extended to the whole African continent.

Example n°2: Performance indicators for transboundary basin management in Africa (2007-2010)

The International Network of Basin Organisations (INBO) and its regional network in Africa (African Network of Basin Organisations - ANBO) proposed to develop and field-test Performance Indicators adapted to IWRM implementation in African transboundary basins

INBO and ANBO aim to develop a method based on Key Performance Indicators to allow:

- Basin Committees to define appropriate objectives, thanks to a check-list of performance indicators;
- Basin Organisation managers designing (River or Lake) Basin Management Plans and the associated Programmes of Measures, by providing guidelines and benchmarking;
- The public and interested parties to visualise the results in their basins;
- Basin Organisation stakeholders to monitor the process of formulating Basin Management Plans and Programmes of Measures;
- Donors to assess the quality of work and the use of their funds.

In Africa, there are Basin Organisations at various development stages, but most of them are at the initial or emergent stage. It is necessary to progress on a step by step basis, to apply the performance indicators to selected pilot basins, to analyse the collected data and to share knowledge with other basin organisations through training programmes.

This approach is conceptualised for the long-term. The aim is to demonstrate how performance indicators can be useful and to build the implementation capacity of Basin Organisations.

Example n°...

6.3. The Neighbourhood policy

Born in 2002 from the will to develop a space of prosperity and stability at the borders of the enlarged EU, the European neighbourhood policy aims at strengthening political, security, economic and cultural co-operation between the EU and its new immediate or close neighbours.

Initially intended for the new neighbours to the East, then extended to the Southern Mediterranean countries (Morocco, Algeria, Tunisia, Libya, Egypt, Israel, Palestinian Authority, Lebanon, Jordan, Syria), this initiative has developed since 2003.

A new unique financial instrument - the European Instrument for Neighbourhood and Partnership - with 12 billion euros over the 2007-2013 period - was set up on 1st January 2007 for the neighbourhood policy, to replace the MEDA and TACIS programmes as well as other programmes. The Southern countries continue to receive a significant part of these financial resources with nearly 2/3 of the grants.

New forms of technical assistance were extended to the partner countries. Making laws and regulations closer and institutional capacity building are supported by mechanisms which proved to be conclusive for the transition countries which are EU members today, i.e. a specialised assistance (Technical assistance and exchange of information - TAIEX), long-term twinning agreements with the administrations of the EU Member States, at the national, regional or local level, and the participation in the Community agencies and programmes.

6.4. TWINBASIN^{XN} : twinning agreements between basins (2004-2007)

Direct exchanges seem to be the more reliable way of disseminating good practices and strengthening the human resources of the Basin Organisations. In order to build the capacity of basin organisations for managing water resources, INBO is promoting bilateral twinning arrangements, especially through the Associated Programme with the Global Water Partnership (GWP).

The TWINBASIN^{XN} project, supported by the European Commission, has aimed at facilitating these twinning arrangements, by defining a framework for action, by enabling the move of staffs between twin agencies and by capitalising the knowledge thus acquired. This initiative of the Basin Organisations has been opened to the other major stakeholders (Administrations, Universities, companies).

The project focused on the capitalisation of the acquired know-how to share it on the widest scale possible:

- guides and agreement models for arranging beneficial twinning arrangements,
- exchanges on today topics (transboundary waters, public participation, modelling, monitoring, etc.),
- scholarships to facilitate the mobility of executives between basins (0.5 to 2-month practical courses),
- tools for managing knowledge and distance training, etc.

Special attention has been paid to the relations between Basins and research to increase the dissemination of research results to the users and thus improve management according to demand.

The network gathered 150 members over 5 years (Basin Organisations, Administrations, Companies, Universities, etc.).

Results: 41 completed or ongoing twinning arrangements, more than 100 missions for the exchange of experience, involving 70 Basin Organisations from 42 countries. In particular, the representatives of the two largest basins in the world - those of the Amazon and Congo rivers – met, thanks to the project support, and signed a twinning agreement.

Lessons learned from the TWINBASIN^{XN} project:

- Twinning agreements are a powerful tool for improving the operation of Basin Organisations and implementing integrated management.
- The success of a twinning agreement and of its possible continuation is related to the commitment of the top-executives of the concerned organisations.
- The implementation of multiple twinning arrangements such as, for example, between Spain, Romania and France shows the added value of comparisons between several different national situations.
- Finally, twinning agreements have proven to be effective tools for the capacity building of stakeholders involved in Basin Organisations, with regard to technical and institutional aspects.

Website: <http://www.twinbasin.org/>

6.5. WFD: can its principles be exported all over the world?

The WFD may not be universal and cannot be exported as it is, but its approach and principles are transferable, such as public participation, the formulation of basin plans, the definition of deadlines and measurable objectives, the development of monitoring and the introduction of the cost recovery principle.

The example of the WFD is a successful example of a regional initiative which can inspire other areas in the world and which seems a factor for the dissemination of good governance principles.

The WFD very integrating approach is a driver for improving water management:

- it concerns all kinds of water resources and uses,
- it deals with qualitative and quantitative aspects (even if the latter is less present),
- it mobilises various professions (hydrologists, economists, sociologists, etc),
- it uses a great diversity of measures (regulatory, economic, etc),
- it implies transboundary co-ordination and the participation of the water stakeholders and of the civil society.

The WFD, and especially the work which was then developed by the Member States for its application, provide methods for IWRM implementation in the field: designation of proper authorities, process of planning and programming actions, public participation, assessment of the ecological status, economic analyses, etc.

Examples of WFD transfers outside the EU:

Example n°1: The Irtysh Basin (Russia/Kazakhstan)

There have been bilateral conventions between the Government of the Russian Federation and the Government of the Republic of Kazakhstan for transboundary water management since 1992. An agreement was signed in 1993 for the protection of the Irtysh Basin. The partnership protocols of 2004 and 2005 integrated the WFD principles and planned the development of a single management plan for the Irtysh. The prospects are currently to try to extend this co-operation to the entire Irtysh basin, by also involving China in this transboundary management

Example n° ...

Generally, a growing interest of the non-EU countries for basin management can be noted.

INBO has noted this through the increasing participation of representatives of these countries in its regional and world assemblies and through the increased number of requests for information and partnership concerning the application of the WFD principles. This is observed not only for the countries geographically close to Europe (Central and Eastern Europe, Caucasus), but also for the countries which are less close (Latin America, Africa).

CONCLUSIONS / RECOMMENDATIONS

SECTION TO BE COMPLETED LATER

Some ideas:

- To pass from a theoretical approach (integrated management concept) to practical and pragmatic application (objectives, deadlines, action plans, effective measures, etc.);
- To now underline groundwater management in order to make for time lost especially for the management of shared aquifers: to make the subject of groundwater pass from the scientific level to the political level (co-ordinated aquifer management, protection of groundwater for the future generations, etc.);
- To develop research on integrated water resources management;
- Capacity building;
- ...
- Crucial issue of the relationship between water and agriculture/food: which problems for Europe? which possible lessons learned for other areas?
- How can integrated management help adapting to climate changes?
- Contributions of the participation of the water stakeholders and the public;
- Problems of the implementation costs and financing (who pays what?);
- ...
- WFD contributions in a transboundary context: the success of WFD implementation in transboundary basins will certainly be the most relevant indicator to evaluate the global success of the WFD;
- EU contribution to neighbour countries and developing countries: basin management, financing mechanisms on a basin scale, governance, transparency and fight against corruption, solving of conflicts, stakeholders' participation, allocation of water resources between water uses;
- ...