

A comparative study of international and EU policies on transboundary aquifers

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Abstract: Establishing sustainable water cooperation and integrated management throughout the world seems to be the best way to remedy water management issues, in particular through the promotion of Integrated Water Resources Management (IWRM). Legally speaking, different instruments coexist at international and EU levels, and the question often arises to which extent cooperation between States is effective to adequately manage water resources and how binding agreements are interconnected. This paper reviews four legal instruments operated at international or EU levels, namely the UN Convention on the Law of the Non-navigational Uses of International Watercourses, the UN Law of transboundary Aquifers, the UNECE Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Use and the EU Water Framework Directive.

Riassunto: Il modo migliore di risolvere i conflitti nella gestione dell'acqua sembra essere quello di sviluppare, a scala globale, la cooperazione per l'uso sostenibile e la gestione integrata, soprattutto tramite la promozione di azioni di Gestione Integrata delle Risorse Idriche (IWRM, acronimo inglese). In termini meramente legali esistono differenti strumenti di gestione; il punto è quanto sia efficace la cooperazione fra Stati al fine di gestire le risorse idriche in maniera adeguata ed anche quanto siano interconnessi gli accordi vincolanti di cooperazione. Questo lavoro revisiona quattro strumenti legali operativi a scala globale o dell'Unione Europea. Nello specifico essi sono: la Convenzione delle Nazioni Unite sulle vie d'acqua internazionali, la Legge delle Nazioni Unite sugli acquiferi transfrontalieri, la Convenzione di Helsinki della Commissione Economica delle Nazioni Unite per l'Europa (UNECE) sulla protezione ed uso delle vie d'acqua transfrontaliere ed, infine, la Direttiva Quadro sull'acqua dell'Unione Europea.

Keywords: UNESCO, transboundary aquifer, EU policies.

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Introduction

“Fierce national competition over water resources has prompted fears that water issues contain the seeds of violent conflict. If all the world’s people work together, a secure and sustainable water future can be ours”¹. This quote from Kofi Annan, former Secretary-General of the United Nations, reflects the reality and the complexity of water issues.

Firstly, water has to be conceived in an interdisciplinary and multisectorial context because its related features involve, for instance, environment, health, agriculture, economy, law or policies. These aspects reveal the multidimensional character but also the significant value of water. For a long time, water has been pumped and exploited as if it was an inexhaustible resource. Moreover, water, or rather its abundance or scarcity, may generate conflicts or natural events leading to possible disasters such as floods, landslides, droughts or diseases. It is worth noting that 90% of extreme events leading to disasters in the 1990s were water related². Therefore, water issues are complex matters mixing various issues such as human right and economic considerations (water as a precious asset and common property) and needs of risk reduction of extreme events, and as such it becomes a global matter.

As stated by the Director-General of UNESCO, Ms Irina Bokova, “We live on a planet increasingly worried by the impact of global

1 http://www.un.org/waterforlifedecade/transboundary_waters.shtml

2 http://www.archive.cap-net.org/iwrm_tutorial/2_1.htm

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changes on water. A planet where competition over this vital resource rises exponentially as population grows, land uses change, urbanization increases and climate varies. It is true that the amount of water we have on our planet has been the same for thousands of years. However, the number of users and uses has multiplied exponentially and it will continue to do so. As a net result of this, the per capita water availability is ever diminishing dramatically. We have over time, designed political borders to organize our lives and our societies. By doing so we crossed the courses of hundreds of rivers, lakes and aquifers and created automatically and in most cases permanently, hydrological, social and economic interdependencies between societies living on various sides of those frontiers.”

In this context, the International Hydrological Programme of UNESCO has created 276 transboundary river basins and we have so far counted 274 transboundary aquifers (J-L Martin, UNESCO). More than 45 percent of the globe’s surface is covered by transboundary basins and more than 90 percent of the world’s population lives in countries which share their water resources with neighbouring countries. In such settings competition over this vital resource is natural and sometimes leads to serious tensions between different groups of users.

Secondly, as a factual point of view, the former Special Rapporteur of the International Law Commission, Mr. Yamada, recently reminded us that “97.5% of the water on earth is seawater” (Yamada, 2007) and that only one third of the 2.5 % remaining is freshwater “available for human consumption”. In addition, representing more or less 98% of this latter, groundwater “constitutes the largest reservoir of fresh water in the world” (Margat, 2008) and is “the most extracted natural resource in the world” (Eckstein, 2007). Thus, water may remain at the surface, get stuck in glaciers or even stay hidden under ground.

If water may lead to “national competition” or even “violent conflict” as regards to its use as a resource, it has also been recently apprehended from an environmental and even ecological point of view. The international community organized conferences, fora and world summits in order to discuss the complex water issues and formulate recommendations to better tackle water-related problems. For instance, in June 1972, the United Nations set up the “Conference on the Human Environment” in Stockholm, then, in 1992, a Conference in Dublin led to a “Dublin Statement on water and sustainable development” leading to significant outcomes such as “Guiding Principles”³ or an “Action Agenda”. Finally, what can be considered as a turning point was the Earth Summit held in Rio de Janeiro in 1992 which established for instance the “Agenda 21” or “the Rio Declaration on Environment and Development, the Statement of Forest Principles”.

Hence, establishing sustainable water cooperation and integrated management throughout the world seems to be the best way to remedy water management issues. In other words, promoting Integrated Water Resources Management (IWRM) is indispensable in order to achieve effective and coherent cooperation. IWRM can be defined as a “process which promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner

without compromising the sustainability of vital ecosystems and the environment”⁴. The IWRM’s general principles, which emerged in the early 1980’s and were crystallized and officially formulated in 1992, provide a powerful basis for water management in the context of a strategic framework (Mostert et al., 1999).

However, in most cases, basic cooperation between States is not sufficient to ensure optimal water management. Non-binding instruments, like a declaration for instance, do not oblige States to adopt specific behaviour by establishing assessment process or management plans for instance. Thus, law is considered as a fundamental step for good water governance (UNECE, 2004). The concept of water governance is quite recent and refers to the range of political, social and economic, and administrative systems that are in place to regulate the development and management of water resources and provision of water services at different levels of society (Global Water Partnership, 2002). This concept hence tries to encapsulate water challenges by apprehending them with a holistic approach.

When transboundary water is managed with the right tools, it paves a safe way towards sustainable and peaceful developments from every angle: social, economic, political, cultural and ecological. And the benefits that accrue from cooperation over water go far beyond the management of the resource itself.

Achieving genuine and efficient cooperation over water resources guarantees good quality and adequate quantity of water for everyone and is thus, a mark of respect and justness. Sharing water resources also means sharing serious responsibilities. Water is indeed the *sine qua non* for a long list of human rights such as the access to food, good health, development, and the wellbeing of human souls.

In this context, it is interesting to study, from a legal point of view, what are the legal regimes governing water and how water-resource management is regulated. Then, a simple but crucial question arises: to what extent is cooperation between States an essential tool for the protection, preservation and management of water governance? And to what extent law, and more precisely, binding agreements are inescapable for an effective and coherent cooperation between States in water management?

This review addresses these questions through a comparative study between four legal instruments: the Convention on the Law of the Non-navigational Uses of International Watercourses (21/05/1997), the UN Assembly Resolutions 63/124 (11/12/2008) and 66/104 (09/12/2011) on The Law of transboundary Aquifers and its annexed Draft Articles, the Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Use (17/03/1992), the EU Directive 2000/60/EC of the European Parliament and of the Council Establishing a Framework for Community action in the field of water policy (23/10/2000).

The first part of the paper presents the four instruments, according to a general background, to their parties and to their legal status. The second part analyzes these instruments through a comparative study, which is developed toward three themes: “a structural comparison”, “a thematic comparison” and “compatibility and possible overlaps”.

Presentation of The Four Existing Legal Instruments

The aim of this first part is to fully understand the scope and the importance of the four instruments, by studying them separately. Therefore, the analysis will be divided in three sections: 1) Background, 2) Parties and 3) Legal status.

3 There are four guiding principles: 1) Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment; 2) Water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels; 3) Women play a central part in the provision, management and safeguarding of water; 4) Water has an economic value in all its competing uses and should be recognized as an economic good.

4 <http://www.gwp.org/en/The-Challenge/What-is-IWRM/>

The Convention on the Law of the Non-navigational Uses of International Watercourses (21/051997)

Background

Qualified as the “first global water law” (Gupta, 2008), the Convention on the Law of the Non-navigational Uses of International Watercourses (UNWC) was signed in New York on 21 May 1997 (UNWC, 1997). It symbolises the continuous work of several United Nations (UN) bodies: the International Law Commission (ILC), which set up the Convention’s draft, the Sixtieth Committee (Legal) of the General Assembly (UNGA or GA), where the text was negotiated with States and the General Assembly, which encouraged the work and adopted the text on 21 May 1997.

In short, the Convention is the result of close cooperation and “current effort” (Eckstein, 2007) moved toward a common priority: “the protection, preservation and management related to the uses of those watercourses and their waters” (UNWC, 1997). In order to achieve this target, these three bodies worked and crossed several steps together. However, expert’s knowledge and experience were crucial for establishing the scientific part of the Convention.

These different steps are described in a supplementary report (UN, 1974) submitted by the Secretary-General pursuant to General Assembly resolution 2669 (XXV)5.

Parties

Legally speaking, the involvement of the Parties is major and crucial. Indeed, the Parties have a key role in determining the “personality” of a Convention. It is indeed the States “which have consented to be bound by the treaty and for which the treaty is in force”⁶, which represent the Treaty. With regard to the UNWC’s Status⁷, there are 29 participants, 16 of them signed the Convention, and twenty-four ratified it (Table 1).

Legal Status

As a generic term, a convention can be defined as a formal binding agreement between States which will create legal obligations. In this respect, the legal status of the UNWC is the principal concern of the Convention, because it is still not ratified by enough States. Indeed, as a factual point of view, the Convention has not yet entered into force.

Combining the Vienna Convention on the Law of Treaties (UNWC, 2007) definition of “entry into force”⁸, the UNWC’s provisions⁹ and its Status, there are 24 Parties to the Convention, and

therefore, the Convention is not in force and, *a fortiori*, it is not yet a binding instrument.

The UN Assembly Resolutions 63/124 (11/12/2008) and 66/104 (09/12/2011) on The Law of transboundary Aquifers and its annexed Draft

Background

Legislation on transboundary aquifers at an international level has been, until recently, extremely poor. It is in order to “fill the gap” and to provide an international legal framework for groundwater resources that, scientists, water experts and lawyers from all over the world worked on the draft articles formulated by the International Law Commission (ILC) annexed to the UNGA Resolution 63/124 on The Law of transboundary Aquifers (UN, 2008). These draft articles can be defined as “a set of international rules governing the utilization, management and protection of transboundary aquifers and aquifer systems” (Berhmann and Stephan, 2010).

The resolution was adopted the 11th December 2008 and, like in the preparation of the UNWC, the ILC played a major role. The Commission, the GA and the Governments can be seen as a triangular interrelationship, where close cooperation is fundamental.

Finally, a new Resolution 66/104 of 9 December 2011 on the Law of transboundary aquifers was adopted by the General Assembly. This new resolution encourages the International Hydrological Programme of the United Nations Educational, Scientific and Cultural Organization, whose contribution was noted in resolution 63/124, to offer further scientific and technical assistance to the States concerned. In addition, it decides to include in the provisional agenda of its sixty-eighth session the item entitled “The law of transboundary aquifers” and, in the light of written comments of Governments, as well as views expressed in the debates of the Sixth Committee held at its sixty-third and sixty-sixth sessions, to continue to examine, inter alia, the question of the final form that might be given to the draft articles

Parties

According to legal definitions, the UN resolution is a non-binding instrument. A resolution is “the decision of a meeting of any assembly, such as the United Nation General Assembly” (Law et al., 2009). Indeed, the UNGA composed of all 193 Members of the UN, “is the main deliberative, policymaking and representative organ of the United Nations”.

There are no Parties, because the instrument does not require ones, it only requires a majority of vote which constitute a whole. The term “Parties” can be defined as States who are “involved in some transaction” (Law et al., 2009). Therefore, we can see that there is an exchange between two or more States, which is not the case with the resolution.

Legal Status

According to the legal dictionary, “a resolution, strictly speaking, has no binding effect on either the Security Council or the UN as a whole. Academics have treated such resolutions as containing a kind of “soft law” (Law et al., 2009). Therefore, the UN draft articles are not obligatory for States.

However, it is important to stress that the draft articles are part of the process, that is to say that it is the beginning of a long procedure. According to the ILC’s¹⁰ describing its functions, the Commission’s

5 <http://daccess-dds-ny.un.org/doc/RESOLUTION/GEN/NR0/349/34/IMG/NR034934.pdf?OpenElement>

6 See the Vienna Convention, Art.2: http://untreaty.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf

7 Status of the Watercourse Convention as of the 18 July 2011. http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-12&chapter=27&lang=en#1

8 See supra note Article 19 “A treaty enters into force in such manner and upon such date as it may provide or as the negotiating States may agree, (...), as soon as consent to be bound by the treaty has been established for all the negotiating States. When the consent of a State to be bound by a treaty is established on a date after the treaty has come into force, the treaty enters into force for that State on that date, unless the treaty otherwise provides (...).”

9 See UNWC, Article 36: “The present Convention shall enter into force on the ninetieth day following the date of deposit of the thirty-fifth instrument of ratification, acceptance, approval or accession with the Secretary-General of the United Nations.”

10 See art. 16-21: http://untreaty.un.org/ilc/texts/instruments/english/statute/statute_e.pdf

Tab. 1 – *Parties to the UN Watercourse Convention*

<u>Participants</u> <u>(29)</u>	<u>Continents</u> <u>(4)</u>	<u>Signature</u> <u>(16)</u>	<u>Ratification/Acceptance</u> <u>Approval/Accession</u> <u>(24)</u>
Syrian Arabic Republic	Asia	11 August 1997	2 April 1998
South Africa	Africa	13 August 1997	26 October 1998
Venezuela (Bolivarian Republic of)	South America	22 September 1997	
Luxembourg	Europe	14 October 1997	
Finland	Europe	31 October 1997	23 January 1998
Portugal	Europe	11 November 1997	22 June 2005
Jordan	Asia	17 April 1998	22 June 1999
Germany	Europe	13 August 1998	15 January 2007
Paraguay	South America	25 August 1998	
Côte d'Ivoire	Africa	25 September 1998	
Norway	Europe	30 September 1998	30 September 1998
Hungary	Europe	20 July 1999	26 January 2000
Netherlands	Europe	9 March 2000	9 January 2001
Yemen	Asia	17 May 2000	
Tunisia	Africa	19 May 2000	22 April 2009
Namibia	Africa	19 May 2000	29 August 2001
Lebanon	Asia		25 May 1999
Sweden	Europe		15 June 2000
Iraq	Asia		9 July 2001
Qatar	Asia		28 February 2002
Libyan Arab Jamahiriya	Africa		14 June 2005
Uzbekistan	Asia		4 September 2007
Spain	Europe		24 September 2009
Guinea-Bissau	Africa		19 May 2010
Nigeria	Africa		27 September 2010
Greece	Europe		2 December 2010
France	Europe		24 February 2010
Burkina Faso	Africa		22 March 2011
Morocco	Africa		13 April 2011

work is a two stages approach: first, “Progressive Development of International Law” and then “Codification of International Law”. The draft articles represent the first stage, whereas the second stage would lead to a binding instrument, a Convention for instance.

The Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Use (17/03/1992)

Background

The Convention on the Protection and use of Transboundary Watercourses and International lakes was signed in Helsinki on 18 March 1992 (UNECE, 2009). It establishes a “framework for cooperation” between the member countries of the United Nations Economic Commission for Europe (UNECE) on “the prevention and control of pollution of trans-boundary watercourses by ensuring rational use of water resources with a view to sustainable development” (Figure 1).



Fig. 1 – The geographical scope of the UNWC

Covering more than 47 million square kilometers (Wouter and Vinogradov, 2003), the UNECE is a “pan-European organization”, created in 1947 and composed of 56 countries. It provides “analysis, policy advice and assistance to governments” and also “sets out norms standards and conventions to facilitate international cooperation within and outside the region”.

By firstly adopting the Convention, the countries of the UNECE “have taken unprecedented steps to ensure that their common waters are used reasonably and equitably” (UNECE, 2009); and then by taking a holistic approach, i.e. looking at water management issues as part of a whole system, the Convention’s main goal is to provide a “landmark agreement” in order “to protect and ensure the quantity, quality and sustainable use of transboundary water resources”.

From a historical point of view, regulation on transboundary watercourses in the “old continent” region is not recent. Since the early 19th century (Wouter, 2006), agreements and treaties were settled and legal basis was strengthening during the Second World War period, by the adoption of “legal regimes for peace and commerce, establishing (...) cooperation, the demarcation of borders, and the establishment of a number of regional river basin commissions”. Non-binding instruments also emerged during the late 1960s and early 1970s (Wouter and Vinogradov, 2003) under the hospice of the UN-

ECE, e.g. the “Declaration of Policy on Water-pollution Control”, in 1986, and the “Declaration of Policy on Prevention and Control of Water Pollution” including transboundary pollution, in 1980.

Parties

According to its Status, there are 39 participants, 26 signatures and 38 Parties to the Helsinki Convention. Two continents are represented: Europe and Asia (but the three States representing Asia are sometimes considered as being part of Europe) and all the participants ratified the Convention, except one country, the United Kingdom (UK). Moreover, some Member States of the European Union are not Parties to the Convention, namely Cyprus, Ireland, Malta and the UK (Table 2 and Figure 2)



Fig. 2 – The geographical scope of the 1992 Helsinki Convention

Legal Status

The legal path of the Helsinki Convention can be qualified as “normal” because it followed the ordinary steps of international law: signature, ratification and entry into force. Indeed, it was signed, and then ratified by enough States, i.e. at least sixteen States, to enter into force. According to article 26.1¹¹, we can date its entry into force on the 6th October 1996.

Furthermore, amendments to the Convention have been decided in November 2003 (but still not in force), where Parties decided to modify articles 25 and 26 in order to strengthen cooperation which “contributes to peace and security and to sustainable water management”¹².

Article 25 which deals with “Ratification, acceptance, approval and accession” originally accepted States to be Parties to the Convention under the condition of being “States Members of the UNECE as well as States having consultative status with the UNECE”.

Now, a third paragraph has been inserted allowing “Any other State (...) that is Member of the United Nation may accede to the Convention upon approval by the Meeting of the Parties”. Then,

11 “This Convention shall enter into force on the ninetieth day after the date of deposit of the sixteenth instrument of ratification, acceptance, approval or accession”

12 *Amendments to articles 25 and 26 of the Convention*, the Parties to the Convention on the protection and use of Transboundary watercourses and International lakes, 28 November 2003. Also available on internet: <http://www.unece.org/env/documents/2004/wat/ece.mp.wat.14.e.pdf>

Tab. 2 – Parties to the 1992 Helsinki Convention

<u>Participants</u> <u>(39)</u>	<u>Continents</u> <u>(2)</u>	<u>Signature</u> <u>(26)</u>	<u>Ratification/Acceptance</u> <u>Approval/Accession</u> <u>(38)</u>
Albania	Europe	18 March 1992	5 January 1994
Austria	Europe	18 March 1992	25 July 1996
Azerbaijan	Asia		3 August 2000
Belarus	Europe		29 May 2003
Belgium	Europe	18 March 1992	8 November 2000
Bosnia and Herzegovina	Europe		3 December 2009
Bulgaria	Europe	18 March 1992	28 October 2003
Croatia	Europe		8 July 1996
Czech Republic	Europe		12 June 2000
Denmark	Europe	18 March 1992	28 May 1997
Estonia	Europe	18 March 1992	16 June 1995
European Union	Europe	18 March 1992	14 September 1995
Finland	Europe	18 March 1992	21 February 1996
France	Europe	18 March 1992	30 June 1998
Germany	Europe	18 March 1992	30 January 1995
Greece	Europe	18 March 1992	6 September 1996
Hungary	Europe	18 March 1992	2 September 1994
Italy	Europe	18 March 1992	23 May 1996
Kazakhstan	Asia		11 January 2001
Latvia	Europe	18 March 1992	10 December 1996
Liechtenstein	Europe		19 November 1997
Lithuania	Europe	18 March 1992	28 April 2000
Luxembourg	Europe	20 May 1992	7 June 1994
Netherlands	Europe	18 March 1992	14 March 1995
Norway	Europe	18 Sep 1992	1 April 1993
Poland	Europe	18 March 1992	15 March 2000
Portugal	Europe	9 June 1992	9 December 1994
Republic of Moldova	Europe		4 January 1994
Romania	Europe	18 March 1992	31 May 1995
Russian Federation	Europe	18 March 1992	2 November 1993
Serbia	Europe		27 August 2010
Slovakia	Europe		7 July 1999
Slovenia	Europe		13 April 1999
Spain	Europe	18 March 1992	16 February 2000
Sweden	Europe	18 March 1992	5 August 1993
Switzerland	Europe	18 March 1992	23 May 1995
Ukraine	Europe		8 October 1999
United Kingdom of Great Britain and Northern Ireland	Europe	18 March 1992	
Uzbekistan	Asia		4 September 2007

the modification brought to article 26 “Entry into force” is directly addressed to the Parties. Therefore, these modifications are politically oriented and show clearly the open-mindedness of the UNECE States.

The EU Directive 2000/60/EC of the European Parliament and of the Council Establishing a Framework for Community action in the field of water policy (23/10/2000)

Background

The Directive “2000/60/EC establishing a framework for Community action in the field of water policy”, or “Water Framework Directive” (WFD), was adopted by the European Parliament and the Council on 23 October 2000 (European Commission, 2000).

The WFD considers water as a “heritage which must be protected, defended and treated as such”. Therefore, it establishes a detailed framework for water management, by providing “an umbrella for the implementation of the various instruments of European Union water policy” (European Commission, 2000).

Thus, it can be defined as a detailed and ambitious text, because it “puts forward a challenging legislative framework by establishing environmental objectives for all waters to be achieved by the end of 2015” (European Commission, 2000) and because it updates, consolidates and supersedes a large number of water-related EU Directive.

The WFD is the major piece of EU water legislative framework and as such relies on the effective implementation of a number of existing policies which are listed in its Annex VI as “list of measures to be included within the programmes of measures” (covering various directives dealing with e.g. bathing waters, wastewaters, nitrates, pesticides etc.). With the adoption of the “daughter groundwater directive” 2006/118/EC (European Commission, 2006), it may be considered that the EU groundwater framework “reached its climax” as all elements are now in place for an effective protection of groundwater resources in Europe.

1. As a brief summary, the WFD calls for the achievements of three broad goals (Barraqué, 2003):
2. To rehabilitate, protect and enhance the quality of the aquatic environment by 2015 (i.e. 15 years after its adoption).
3. To adopt an efficient economic policy, and approach full cost recovery from water users,
4. To make water policies more transparent, and develop public information and participation.

Parties

According to its essence, a Directive cannot, legally speaking, have Parties. The possibility of having Parties will garble it. A Directive is neither a Contract nor a Treaty between the European Union and Member States; there are not mutual obligations between these entities (Figure 3).

Legal Status

According to the Treaty on the Functioning of the European Union and particularly to article 288, a Directive is a “legal act” of the EU which “shall be binding, as to the result to be achieved, upon each Member State to which it is addressed, but shall leave to the national authorities the choice of form and methods.” In other words, it mixes mandatory objectives with a flexibility given to Member States regarding its implementation.



Fig. 3 – *The geographical scope of WFD*

According to a legal dictionary, a Directive is “addressed to one or more Member States and require them to achieve (by amending national law if necessary) specified results. They are not directly applicable (...) it cannot therefore impose legal obligations on individuals or private bodies, but by its direct effect it confers rights on individuals against the state and states bodies, even before it has been implemented by changes to national law, by decisions of the European court.” The WFD is therefore an obligatory text which needs to be respected and implemented by Member States.

The transposition of such legal instrument into national laws characterizes the EU’s system: it obliges each Member State to translate EU’s law Directive’, general rules and objectives but leaves them “the choice as to how to attain them”. In addition, it demonstrates the possibility of managing water resources in the context of river basin management plans coordinated at EU level and beyond (e.g. in the case of international river basins such as the Danube).

COMPARATIVE STUDY

A structural comparison

The structure can be seen as the architecture of a system. This study particularly focuses on the international system and the regional system, as two geographical entities. Although the Helsinki Convention emanates from a UN body, the Economic Commission for Europe, its vocation is to create a regulatory framework at a regional level.

Thus, this section will compare two structures: the international and the regional systems.

The United Nations system

Background

The United Nations as an international organization has been created in 1945. Its founding treaty is the UN Charter signed the 26 June 1945 which entered in force on 24 October 1945. The 193 Member States are committed “to maintaining international peace and security, developing friendly relations among nations and promoting social progress, better living standards and human rights”. In order to achieve this aim, the UN has six principal organs: a General Assembly, a Security Council, an Economic and Social Council, a Trust-

eeship Council, an International Court of Justice and a Secretariat.

In order to “promot[e] the rule of law at the national and international levels [which] is at the heart of the United Nations’ mission” and according to international law, the UN has a law-making capacity, principally through treaties and resolutions. This capacity is merely attributed to the two main UN organs: the General Assembly (GA) and the Security Council.

On one hand, the GA, the main deliberative organ, may, among other powers, “discuss (...) make recommendations”, “call the attention of the Security Council”, “initiate studies”, “receive and consider annual and special reports”. On the other hand, the Security Council, has “primary responsibility for the maintenance of international peace and security”, and may “formulate plans”, “call upon the parties to settle their dispute” or for instance, “investigate any dispute”¹³.

These powers are mainly formulated through resolutions, which can be defined as “the decision of a meeting of an assembly, such as the UNGA (...) but strictly speaking, it has no binding effect on either the Security Council or the UN as a whole. Academics have treated such resolutions as containing a kind of “soft law” (Law et al., 2009).

Finally, Resolutions can be identified by its three possible receivers/recipients (Virally, 1956): UN organs (intern resolutions), Member States and alien entities. According to doctrine, a resolution can be defined as an “invitation to observe a determined behaviour, addressed by an international organ to a recipient” (Wouter, 2006).

13 See GA’s and Security Council’s powers in Chapters IV and V of the UN Charter, available at: <http://www.un.org/en/documents/charter/index.shtml>.

Brief Comparison at the international level

It is interesting to observe that although the UNWC and the Draft Articles emanate from the same bodies, some disparities may be highlighted. From a formal point of view, the Convention is older and longer. Paradoxically, they have the same legal status: there are not yet binding. However, the Draft Articles, as we will see later, could become a Treaty, meaning that they would become a legally binding instrument.

Then, the Convention has a larger field of application than the draft articles. This latter concentrates solely on transboundary aquifers or aquifer systems, whereas the Convention has been established to apply to international watercourses (Table 3).

The European Union system

Background

The European Economic Community (created in 1957) has become the European Union (EU) under the Maastricht Treaty in 1992, and is a “unique economic and political partnership between 27 European countries”. It is an integrated regional organization which, via its Member States and Institutions and through the prism of shared values, establishes common policies and obligatory legal framework.

In order to achieve its objectives (European Commission, 2000), like for instance promoting economic and social progress, the EU has its own Institutions and decision-making process which involves generally three main Institutions: The European Commission, the European Parliament and the Council of the European Union.

These bodies work together in order to develop laws and to ensure their proper implementation. There are different legal instruments,

Tab. 3 – *Parties to the 1992 Helsinki Convention*

	<u>The UN Watercourses Convention</u>	<u>The UN draft articles on the Law of transboundary aquifers</u>
<u>Legal instrument</u>	Treaty	A Preamble and 19 articles, annexed to a UNGA Resolution.
<u>Current status</u> (status as at 8/8/2011)	Signed on 21 May 1997 - Not in force	Adopted on 11 December 2008 - Non-binding
<u>Structure</u>	<ul style="list-style-type: none"> ▪ Preamble ▪ 7 Parts (37 articles): <ol style="list-style-type: none"> 1. Introduction 2. General principles 3. Planned measures 4. Protection, Preservation and Management 5. Harmful conditions and Emergency situations 6. Miscellaneous provisions 7. Final clauses 	<ul style="list-style-type: none"> ▪ Preamble ▪ 4 Parts (19 articles) : <ol style="list-style-type: none"> 1. Introduction 2. General principles 3. Protection, Preservation and Management. 4. Miscellaneous provisions
<u>Scope / Application</u>	<ul style="list-style-type: none"> ▪ International watercourses and of their waters <p>The uses of international watercourses for navigation is not within the scope of the present Convention except insofar as other uses affect navigation or are affected by navigation.”(Article 1)</p>	<ul style="list-style-type: none"> ▪ Transboundary aquifers or aquifer systems. <p>(Article 1)</p>

which are identified in the Treaty on the Functioning of the European Union. According to Article 288, “the institutions shall adopt regulations, directives, decisions, recommendations and opinions”. Regulations, directives and decisions are binding whereas recommendations and opinions are not. Therefore, the first three instruments oblige Member States to apply EU’s laws and not to impede their good implementation and application. If these rules are infringed, penalties are set up and the Commission and the Court of Justice of the European Union will directly intervene in the procedure.

Brief Comparison at the regional level

As we can observe, the UNECE and the WFD are two instruments which show important similarities. Firstly, they were created more or less ten years ago, which makes them quite recent. Then, they are both intended to be of general application and seem to be dense, although the WFD is more detailed technically speaking. Moreover, the two instruments are binding and both have developed ramifications at local level (Table 4).

Table 5 provides a general comparison of the international and the regional levels.

A thematic comparison

Domains

The domain has a significant role because it determines the field of application of the regulatory framework which the act aims to implement. It answers to simple, but crucial questions: What is governed by the act? To which area is it applied? And, alternatively, what is not concerned by the act?

Then, the domain, or scope, is however a general concept which can be apprehended by different manners; but according to specialists, the term “scope” refers to the “geographical and functional application of a legal instrument” (Rieu-Clarke et al., 2008). In this section, the scope will be studied throughout the whole water system.

In the general water context, the domain of the legal act is particularly important because water is a multidimensional concept and it can be read through a lot of different prisms. Therefore, it “requires interdisciplinary expertise and scientific inputs” (Wouter, 2006) and the scope must be explicitly mentioned, because it establishes the types of waters which are covered by the law.

Seeing the four instruments, it is interesting to see the different

Tab. 4 – *Comparison at the regional level*

	<u>The Helsinki Convention</u>	<u>The WFD</u>
<u>Legal instrument</u>	Treaty	Directive
<u>Current status</u>	In force since 6 October 1996	In force since 22 December 2000
<u>Structure</u>	<ul style="list-style-type: none"> ▪ Preamble ▪ 3 Parts (28 articles) <ol style="list-style-type: none"> 1. Provisions relating to all Parties 2. Provisions relating to riparian Parties 3. Institutional and final provisions. 	<ul style="list-style-type: none"> ▪ Preamble ▪ 26 articles
<u>Scope / Application</u>	<ul style="list-style-type: none"> ▪ Transboundary watercourses (GW is included in the Convention) ▪ International lakes. (Preamble)	<ul style="list-style-type: none"> ▪ Inland surface waters ▪ Transitional waters ▪ Coastal waters ▪ Groundwater. (Article 1)

Tab. 5 – *Comparison between the international and regional levels*

<u>The International level</u>	<u>The Regional level</u>
<u>Similarities</u>	
<ul style="list-style-type: none"> ▪ Two international organizations: United Nations Organization and the European Union. ▪ Created at the same period: after the Second World War, ▪ Adopted legal instruments relating to water regulation since the early 1990’s. 	
<u>Differences</u>	
<ul style="list-style-type: none"> ▪ Two non binding instruments ▪ Issue which can be explained with the fact that States are more powerful, because cooperation is preferred to integration – importance of sovereignty. Therefore it creates a sort of dependence. UN constantly leans on State’s discretionary decisions. ▪ Submission to States’ will would weaken the need for an effective water regulation. ▪ Thus, law has to comply with politics. 	<ul style="list-style-type: none"> ▪ Two binding instruments ▪ More integrated organization, where States accept to delegate certain powers to the EU, which have a considerable power to create binding rules. ▪ More efficient in practice. ▪ Thus, law becomes a kind of weapon against Member States’ tendency to reject regional or international obligations.

approaches taken by the drafters (Table 6).

Firstly, the approach of Draft articles is limited to transboundary aquifer, while the other three instruments have a more general approach, with a peculiarity for the WFD, which develops more its scope, by referring to all types of waters.

Secondly, the words – watercourses, aquifers, lakes or waters – are completed by adjectives such as: international, transboundary, system, inland, transitional and coastal. These adjectives aim to precise the scope of the instrument. Therefore, for instance, all EU's waters are covered by the WFD, whereas, under the UNWC, only the uses other navigation are regulated with the exception of international watercourses for navigation.

Moreover, although the UNWC contemplates protection and preservation, by using the terms “Uses” and “Utilization”, the UNWC and the Draft Articles seem to adopt a utilitarian approach, whereas the other instruments focus on “protection”. According to some specialist, “utilization” is a “broader concept that also considers the mechanism and methodology of use” (Eckstein, 2007), while “use” relates more specifically “to the purpose to which the resource is employed”. The concept of protection reminds that the Helsinki's Convention “seeks to address the water-related problems” (Wouter, 2006) and therefore adopts an “ecosystem approach, regulating not only the utilization of transboundary waters, but all activities that may influence the conditions of those waters”, whereas the UNWC and the WFD adopt a basin wide approach.

Furthermore, the Draft Articles introduce a new concept (Yamada, 2010) in paragraph (b) which “recognizes the unique characteristics and fragility of aquifers in relation to surface bodies of water, and considers activities undertaken above around an aquifer that could adversely impact that aquifer” (Eckstein, 2007). Therefore, according to the Special Rapporteur, activities other than utilization of aquifers (...) must be regulated”.

Principles

Principles can be defined as the moral scope of the legal instrument. Coming from international customary law or from other legal act for instance, general principles constitute a real pillar, as important as domains or planned measures (Table 7). When following the Convention's or Directive's objectives and measures, Parties have to act in accordance with these general obligatory rules.

According to the table, there is a difference from the formal point of view. The three UN instruments have a special part called, either “General Principles” (UNWC and the Draft Articles) or “General Provisions”, whereas the WFD provides that “Common principles are needed in order to coordinate Member States' effort” (European Commission, 2000), “for water quantity, overall principles should be laid down for control”, and “Member States shall take account of the principles of recovery of the costs of water services, including environmental and resource costs”. General principles are recalled in the recitals of the directive, making references to the EU treaties.

Then, comparing the UNWC' principles and the Draft Articles ones, we can note that the concept of sovereignty have been introduced by the ILC. It seems that there was a real “need to have explicit reference (...) on the sovereignty of States over the natural resources within their territories” (Yamada, 2010). Indeed, the elaboration of this Article was divided between two guidelines, but it is finally the “positive formulation” that was adopted: Article 3 “reflects the proposition that an aquifer State has sovereignty over the portion of a transboundary aquifer or a transboundary system located within its territorial jurisdiction” (Yamada, 2010). As we can see, sovereignty is not absolute, it is limited by the State's territory. Moreover, the last article, article 19 on “Data and information vital to national defence or security” provides that although State shall “cooperate in good faith”, “nothing in the present articles obliges a State to provide data or information vital to its national defence or security”. Finally,

Tab. 6 – Scope of the four existing instruments

<u>UNWC</u>	<u>Draft Articles</u>	<u>Helsinki Convention</u>	<u>WFD</u>
<p><u>Uses of international watercourses</u> and of their waters for purposes other than navigation and to measures of protection, preservation and management related to the uses of those watercourses and their waters.</p> <p>The uses of international watercourses for navigation is not within the scope of the present Convention except insofar as other uses affect navigation or are affected by navigation.</p> <p>(Article 1)</p>	<p>(a) <u>Utilization of transboundary aquifers or aquifer systems;</u></p> <p>(b) Other activities that have or are likely to have an impact upon such aquifers or aquifer systems; and</p> <p>(c) Measures for the protection, preservation and management of such aquifers or aquifer systems.</p> <p>(Article 1)</p>	<p>The <u>protection and use of transboundary watercourses and international Lakes.</u></p> <p>(Preamble)</p>	<p>The <u>protection of inland surface waters, transitional waters, coastal waters and groundwater.</u></p> <p>(Article 1)</p>

Tab. 7 –Principles contemplated by the four existing instruments

<u>UNWC</u>	<u>Draft Articles</u>	<u>Helsinki Convention</u>	<u>WFD</u>
1) Equitable and reasonable utilization and participation 2) Obligation not to cause significant harm 3) General obligation to cooperate 4) Regular exchange of data and information 5) Relationship between different kinds of use.	1. Sovereignty of aquifer States 2. Equitable and reasonable utilization 3. Obligation not to cause significant harm 4. General obligation to cooperate 5. Regular exchange of data and information 6. Bilateral and regional agreements and arrangements	1) When taking appropriate measures, Parties shall be guided by the following principle: <ul style="list-style-type: none"> - the precautionary principle - the polluter-pays principle - water resources shall be managed 2) Riparian Parties shall cooperate in the basis of equality and reciprocity. 3) Application of the Convention shall not lead to the deterioration of environmental conditions nor lead to increased transboundary impact. Emphasis on prevention, control and reduce any transboundary impact, water or environmental pollution.	General principles are recalled in the recitals of the Directive, making references to the EU treaties

the concept of sovereignty is addressed by the Helsinki Convention in article 8 “Protection of information” by stipulating that “the provisions of this Convention shall not affect the rights or the obligations of Parties in accordance with their national legal systems and applicable supranational regulations”.

Moreover, the UNWC and the Draft articles have similar principles, so it shows that there is a real influence and that “the Draft Articles follow and build on the provisions found in the UNWC” (Eckstein, 2007); for instance, the principle of equitable utilization among States sharing the same resources is “identical as in the case of the UNWC” (UNWC, 2007), although the two concepts are quite different (Yamada, 2010).

Furthermore, the Helsinki Convention introduces an environmental approach by “incorporat[ing] and regulat[ing] the application of basic principles of environmental law” (UNECE, 1992).

Finally, the obligation not to cause significant harm to other Aquifer States, like equitable and reasonable utilization, this principle is regarded as a fundamental principle of international law. It is based on the Latin maxim “*Sic utere tuo ut alienum non laedas*” (Law et al., 2009), which obligates states not to use or allow the use on their territory of another State (Eckstein, 2007)

Concepts

Most of the time, legal vocabulary is complex and sometimes difficult to understand for non lawyers. Combined with scientific knowledge and requirements, it needs to be explained and clarified. Thus, drafters of the four instruments were particularly careful to make this jargon at the same time precise, relevant and easy to understand.

Therefore, for the purpose of each instrument, key concepts are explained and each document has a different approach. Firstly, the UNWC’s definitions are quite general and focus on the term watercourse. Then, not surprisingly, aquifer is the central word of the Draft Articles, whereas the Helsinki Convention is more diversified. The latter concentrates on “transboundary waters” and “Parties”.

Paradoxically, the four instruments have, more or less the same

aims and purposes but do not adopt the same approach for definitions, regarding their scope (Table 8). The only exception is for the word “aquifer” defined as “a permeable water bearing geological formation underlain by a less permeable layer and the water contained in the saturated zone of the formation” by the Draft Articles and characterizes by the WFD as “a subsurface layer or layers of rock or other geological strata of sufficient porosity and permeability to allow either a significant flow of groundwater or the abstraction of significant quantities of groundwater”. It is interesting to stress that “it is necessary to include the geological formation in the definition of aquifer” (European Commission, 2000). Therefore, a holistic approach is adopted “in order to preserve proper functioning of aquifer”.

This accuracy shows the crucial and needed contribution of water experts; because this conceptualization of natural resources will affect the implementation and application of the legal instrument.

Moreover, the EU Directive is more comprehensive regarding definitions by defining forty one terms “for the purpose of this Directive” (European Commission, 2000). On the one hand, this wide range of definitions translates the multidisciplinary function of water issue, and on the other hand how the Directive covers a considerable number of domains. For instance, the WFD defines terms like “body of groundwater”, “priority substances”, “environmental objectives” etc.

Planned Measures

Planned measures are the application of the text’s spirit. It is indeed through concrete and effective actions that the act can live and develop itself. Looking at the four instruments, it is clear that there are common stages for managing water resources and executing planned measures. However we will see that there are some differences.

Similarities

Before introducing effective and concrete measures, a preliminary work needs to be done. This is why a first stage has been introduced and three of the four texts refer to the concept of “identification”

Tab. 8 – Terminology used by the four policy instruments

<u>UNWC</u>	<u>Draft Articles</u>	<u>Helsinki Convention</u>	<u>WFD</u>
1) Watercourse 2) International watercourse 3) Watercourse State 4) Regional economic integration organization (Article 2) 5) Pollution of an international watercourse (Article 21) 6) Management (Article 24) 7) Emergency (Article 28)	1) Aquifer 2) Aquifer system 3) Transboundary aquifer 4) Aquifer State 5) Utilization of transboundary aquifers or aquifer systems 6) Recharging aquifer 7) Recharge zone 8) Discharge zone (Article 2) 9) Emergency (Article 17)	1) Transboundary waters 2) Transboundary impact 3) Party 4) Riparian Parties 5) Joint body 6) Hazardous substances 7) Best available technology (defined in Annex 1) (Article 1)	41 definitions which can be classified through different themes: - Types of waters - Water bodies - Basin approach - Different kind of status - Environmental approach (Article 2)

e.g. under the Draft Articles, the terms “Aquifer Status shall identify the recharge and the discharge zones of transboundary aquifer (...) that exist within their territory” (UNWC, 2007). The same term is used by the WFD: “Member States shall identify the individual river basins lying within their national territory” or “all bodies of water used for the abstraction of water intended for human consumption” (European Commission, 2000). This delineation is actually one of the milestones of the directive, namely its article 3 (identification of river basins and assignments to specific districts) and its article 5 and related annexes (including the delineation of “water bodies” which are identified as reporting units).

Under the UNWC there is a similar measure which aims to prepare planned measures, called “notification”. Therefore, “before a watercourse State implements or permits the implementation of planned measures (...) it shall provide (...) notification (...); such notification shall be accompanied by available technical data and information”.

Finally, the UNECE does not organize this preliminary approach; but it treats directly with “bilateral and multilateral cooperation”, “consultations” or “joint monitoring and assessment” (UNECE, 2004).

In this respect, this phase permits to establish a kind of “identity card” of the water resource. States have to locate the river, the lake or the transboundary aquifer for instance, and then analyse it in order to set out a profile. Once every resource covered by the scope of the legal text is identified, the second stage can begin: the execution of planned measures.

These measures are qualified differently depending on the text. For instance, they are called “mutually agreeable measures” (UNWC, 2007) under the UNWC, or “appropriate measures” under the Draft Articles. However, the common idea is the necessary cooperation among States, leading to several measures. For instance, the UNWC, under its objectives of protecting and preserving the ecosystems of international watercourses and the marine environment, requires States to “set joint water quality objectives and criteria” or “establish techniques and practices [or] lists of substances”. As for Parties of the UNECE, they shall “develop, adopt, implement and as far as possible, render compatible relevant legal, administrative, economic, financial and technical measures” (UNWC, 2007).

Finally, because water is a natural resource and because it is difficult to anticipate situations of danger such as floods, there is a

common feature about abnormal circumstances. The UNWC and the Draft Articles define this as “emergency situations”. Under both texts, affected States shall, as rapidly as possible, “notify other potentially affected States and competent international organizations (...) take all practicable measures necessitated by the circumstances to prevent, mitigate and eliminate harmful effects of the emergency” (UNWC, 2007). The Draft Articles emphasise on cooperation; article 17 provides for instance that “States shall provide scientific, technical logistical and other cooperation to other States experiencing an emergency.

Then, the UNECE establishes “warning alarm systems” (UNECE, 2004) between Riparian Parties. This latter shall “without delay, inform each other about any critical situation that may have transboundary impact (...) set up, where appropriate, and operate coordinated or joint communication, warning alarm systems (...) [which] shall operate on the basis of compatible data transmission and treatment procedures and facilities”.

Regarding the WFD, planned measures are embedded into the stepwise policy implementation of the directive, i.e. its article 11 and related Annex VI, which requests Member States to develop and operate programme of measures by the end of 2012 in order to achieve the environmental “good status” objectives by 2015 (Figure 4).

Differences

One of the main differences is the reference to “Public information” and the settlement of disputes.

Public information is stipulated in the Helsinki Convention and the WFD. They respectively ask States to “ensure that the information on the conditions of transboundary waters, measures taken or planned to be taken (...) and the effectiveness of those measures is made available to the public” (UNECE, 2004). The WFD foresees that Member States “shall encourage the active involvement of all interested parties in the implementation of this Directive (...) and for each basin river basin district, they publish and make available for comments to the public” (...) allow at least six months to comment in writing on those documents in order to allow active involvement and consultation” (European Commission, 2000).

The fact that only regional regulation introduces this type of measure can be explained by the difficulty to set up public information at international level. Hence, at a smaller scale and in practice, es-

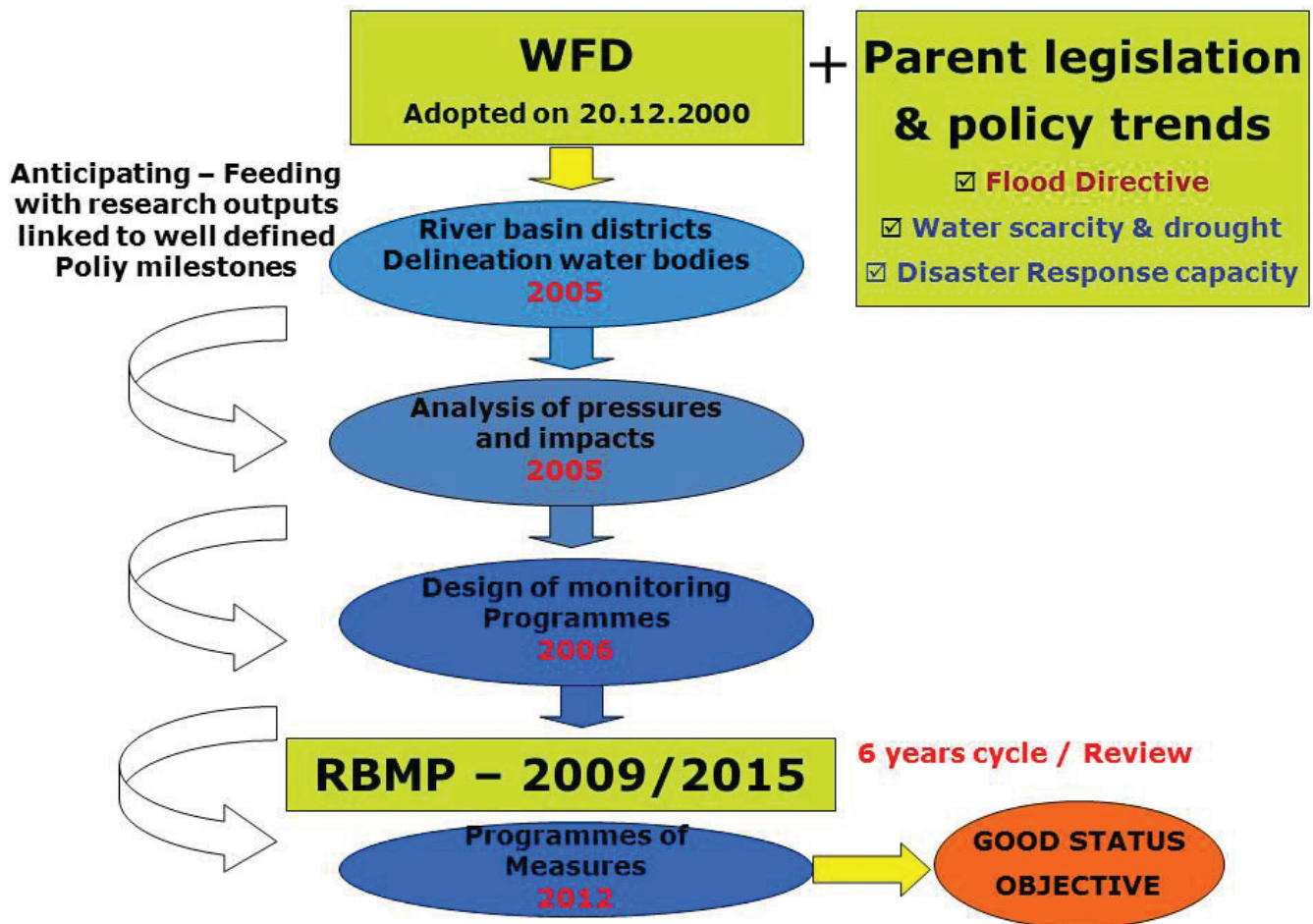


Fig. 4 – Policy milestones of the WFD.

tablishing a kind of dialogue between the public and expert seems easier at a regional level.

The settlement of dispute is also an important difference because it translates what separates the European Union law from international law. For instance, the UNWC and the UNECE -the Draft Articles do not refer to it – set up a procedure of settlement of disputes concerning “the interpretation or application of the present Convention” (UNWC, 2007). Both Conventions refer to ordinary settlement of disputed set up by international law, like for instance negotiation or arbitration. However, under the UNWC the procedure is more detailed and complicated, for example the establishment of a Fact-finding Commission is the common solution; whereas under the Helsinki Convention, the International Court of Justice and arbitration are the normal ways to resolve disputes.

WFD characteristics

As described in Figure 4, the WFD is based on specific milestones and operational steps which have to be undertaken by the Member States. With regard to groundwater, the directive stipulates that Member States shall implement the measures necessary to prevent

or limit the input of pollutants into groundwater and to prevent the deterioration of the status of all bodies of groundwater. In this context, Member States have to protect, enhance and restore all bodies of groundwater, ensure a balance between abstraction and recharge, with the aim to achieve good groundwater (chemical and quantitative) status by 2015, following definitions given in Table 9. These requirements include a range of derogation clauses which can be found in paragraphs 4 to 8 of Article 4 of the directive.

The Directive also requires the implementation of measures necessary to reverse any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order to progressively reduce groundwater pollution. Under this Directive, the framework for groundwater protection imposes on Member States to:

- Delineate groundwater bodies within River Basin Districts to be designed and reported to the European Commission by Member States, and characterise them through an analysis of pressures and impacts of human activity on the status of groundwater in order to identify groundwater bodies present-

ing a risk of not achieving WFD environmental objectives (following vulnerability studies as required in the “pressures & impact analysis”, see Figure 4). This characterisation work had to be carried out in 2004-2005 and reported to the European Commission.

- Establish registers of protected areas within each river basin districts for those groundwater areas or habitats and species directly depending on water, which had to be carried out in 2004-2005. The registers have to include all bodies of water used for the abstraction of water intended for human consumption and all protected areas covered by the Bathing Water Directive 76/160/EEC, vulnerable zones under the Nitrates Directive 91/676/EEC and sensitive areas under the Urban Wastewater Directive 91/271/EEC, as well as areas designated for the protection of habitats and species including relevant Natura 2000 sites designated under Directives 92/43/EEC and 79/409/EEC. Registers shall be reviewed under the River Basin Management Plan (RBMP, see below) updates. In this context, vulnerable zones are defined as “all known areas of land in Member States territories which drain into the waters affected by pollution and waters which could be affected by pollution and which contribute to pollution”. For these vulnerable zones, action programmes are required under the Nitrates Directive to reduce pollution caused or induced by nitrates and prevent further pollution”.
- Based on the results of the characterisation phase, establish a groundwater monitoring network providing a comprehensive overview of groundwater chemical and quantitative status, and design a monitoring programme that had to be operational by the end of 2006.
- Set up a river basin management plan (RBMP) for each river basin district which include a summary of pressures and impact of human activity on the groundwater status, a presentation in map form of monitoring results, a summary of the eco-

nomic analysis of water use, a summary of the programme(s) of protection, control or remediation measures etc. The first RBPM has been published in March 2010 (after a public consultation done at the end of 2008). A review is then planned by the end of 2015, and every six years thereafter.

- Take account of the principle of recovery of costs for water services, including environmental and resource costs, having regard to the economic analysis conducted under Article 5 of the WFD, and in accordance with the polluter pays principle.
- Establish a programme of measures for achieving WFD environmental objectives (e.g. abstraction control, prevent or control pollution measures), which has to be operational by the end of 2012. Basic measures include, in particular, controls over the abstraction of groundwater, controls (with prior authorisation) of artificial recharge or augmentation of groundwater bodies (providing that it does not compromise the achievement of environmental objectives). Point source discharges and diffuse sources liable to cause pollution are also regulated under the basic measures. Direct discharges of pollutants into groundwater are prohibited subject to a range of provisions. The programme of measures has to be reviewed and if necessary updated by 2015 and every six years thereafter.

Compatibility and possible overlaps

International water policies, as we saw, can be complex and have a wide field of application. This is due to their multidisciplinary and multisectoral character which has to take into account a considerable number of factors in order to be effective and well implemented.

In this context, we may now examine in first instance how the four instruments articulate, work together, and secondly, analyze the impacts of the WFD and the Helsinki Convention towards non-EU Member States.

The relationship between the four instruments

Tab. 9 – *WFD definitions relevant to groundwater*

Ref. WFD	Good status
Good quantitative status (Annex V.2.1.2)	The level of groundwater in the groundwater body is such that the available groundwater resource is not exceeded by the long-term annual average rate of abstraction. Accordingly, the level of groundwater is not subject to anthropogenic alteration such as would result in: (a) failure to achieve the WFD environmental objectives for associated surface waters, (b) any significant diminution in the status of such waters, and (c) any significant damage to terrestrial ecosystems which depend directly on the groundwater body. Alterations to flow direction resulting from level changes may occur temporarily, or continuously in a spatially limited area, but such reversals do not cause saltwater or other intrusion, and do not indicate a sustained and clearly identified anthropogenically induced trend in flow direction likely to result in such intrusions.
Good chemical status (Annex V.2.3.2)	The chemical composition of the groundwater body is such that the concentration of pollutants do not exhibit the effects of saline or other intrusions (as determined by changes in conductivity) into the groundwater body, do not exceed the quality standards applicable under other relevant Community legislation in accordance with Article 17 of the WFD, and are not such as would result in failure to achieve the WFD environmental objectives for associated surface waters not any significant diminution of the ecological or chemical quality of such bodies nor in any significant damage to terrestrial ecosystems which depend directly on the groundwater body.

The fact that several legal texts imply fostering cooperation between States may contribute to this complexity. In other words, one of the main targets of each text, i.e. cooperation, could actually lead to possible legal overlaps or contradictions that should be addressed properly.

The aim of this third part is hence to study the degree of “connection” between the UNWC, the UN Draft Articles, the Helsinki Convention and the WFD, in case of a dual application; and to examine whether these instruments may work in a harmonised way or whether there is an encroachment between them.

As summarised in Table 10, each instrument provides special requirements to its Parties regarding other legal instrument(s) which can be used and implemented in parallel. While cooperation may lead to effective harmonisation, the relationship between different texts regulating the same areas could be on one hand compatible or even complementary, and on the other hand, conflicting.

The UNWC and the Draft Articles on the Law of transboundary aquifers

According to some experts, there is a “compatibility of material rules”, because the UNWC “has served as the basis for negotiations on the Draft Articles” (Berhmann and Stephan, 2010). However, their relationship “will need to be determined at some point”, because it is not impossible that contradictions arise. The Special Rapporteur Yamada proposed the inclusion in the Draft Article of a draft article 20, dealing on “the relation to other conventions and international agreements” (UN, 2008). However, this proposal was considered by the drafting Committee as “premature”, “linked to questions concerning final form” but also it was criticized “for not saying much and leaving a lot to implication”.

Moreover, in 2008 the Report of the International Law Commission noted that the question of the priority of the Draft Articles over the UNWC was tackled. Some members considered that “such presumption of priority was merited because of the nature of the present articles as a special regime in dealing with aquifers” whereas other members “observed that it may not always be the case that the provisions of the draft articles would have priority”.

The first opinion applies the principle of “specialia generalibus derogant” which means that special obligations may depart from general rules. In other words, in considering two or several legal texts, the more specific requirements, precise will prevail above the general ones.

However, it is important to remember that firstly, the UNWC is not yet in force and secondly that “the UNGA is to make a decision (...) on the status of the draft articles”(UNWC, 2007). Therefore, the relationship between the two instruments still remains uncertain to date and will probably be defined more closely.

The UNWC and the WFD

Keeping in mind that UNWC has not yet been ratified by enough States, let’s however examine if conflicts could arise with EU’s water-regulations.

It is stated that once in force, “the UN Convention would not replace or compete with the EUWI (EU Water initiative)¹⁴ – which by the way is not an EU law - (...) rather, [it] would serve as a le-

gal framework to strengthen the policy and institutional arrangements that are needed to enable the equitable use and development of shared freshwater resources, as well as to promote transboundary integrated river basin management in partner counties and regions” (UNWC, 2007).

Therefore, UNWC’s provisions would not contradict EU’s laws, but it “would provide a framework by which to promote and measure better water governance through strengthened regional and sub-regional cooperation”.

Moreover, the entry into force of the Convention will have a direct influence toward Member States’ policy because it would bring “positive outcomes that would derive to the EU and its Member State from the convention’s entry into force and implementation”.

Furthermore, the entry into force of the UNWC “would help achieve the key water-related objectives (...) by contributing to enhanced transboundary freshwater management in non-EU members, in particular developing countries”. The UNWC could serve as a “platform” for the EU and Member States “to share their knowledge and experience in implementing the WFD with the rest of the world”.

In addition, the WFD makes an explicit reference to the UN Convention as “a basis for establishing common rights in Transboundary Rivers and a framework for the management of international river systems.”

Finally, the compatibility between the two texts may be illustrated by an example: before France ratified the UN Watercourse Convention on the 24 February 2010, a French deputy¹⁵ considered that “the WFD and the EU’s laws in general are more stringent and restricting than the Convention; therefore, it does not reconsider France’s obligations”. However, the ratification of the Convention represents an “opportunity for the French cooperation” and “a tool in favor of peaceful water geopolitics” (UNWC, 2007).

The UNWC and the Helsinki Convention

These two documents seem to be compatible and even complementary: “they are different, but each serves an important role in promoting the effective management of transboundary waters” (Brels et al., 2008).

According to some authors, they are “in harmony with each other” (Brels et al., 2008) and the entry into force of the UN Watercourses Convention would provide a “broader, more flexible instrument to deal with transboundary water issues at the global level” (Wouter and Vinogradov, 2003).

In other words, both Conventions are designed “at the global level and supplement each other, with the ultimate goal of improving global freshwater governance” (Brels et al., 2008) and it is logical to recognize their coexistence.

Finally, because European countries are “already subject to stricter provisions under the WFD and the ECE Convention, ratifying the Convention does not represent an additional burden”. On the contrary, it would “further EU’s share responsibility for the codification and development of international water law, as well as reflect its member states’ commitment to sustainability and improved global environmental governance” (UNWC, 2007).

The WFD and the Helsinki Convention

By pursuing “very similar objectives”, the Helsinki Convention and the WFD are considered to be complementary. Indeed, “it is not accidental that the preamble of the WFD specifically refers to

14 Launched in 2002, the main goal of EUWI is to “create the conditions for mobilising all available EU resources (human & financial), and to coordinate them to achieve the water-related [Millennium Development Goals](#) in partner countries”. For more information : <http://www.euwi.net/>

15 Jean Glavany, deputy at the “Assemblée Nationale” and member of the Commission of Foreign Affairs.

Tab. 10 – *Requirements for the Parties*

<u>UNWC</u>	<u>Draft Articles</u>	<u>Helsinki Convention</u>	<u>WFD</u>
<ul style="list-style-type: none"> - Affirming the importance of international cooperation and good-neighbourliness in this field - Recalling also the existing bilateral and multilateral agreements regarding the non-navigational uses of international watercourses. (Preamble) <p>+ Article 3 “Watercourse agreements”. See Annex</p> <p>+ Article 4 “Parties to watercourse agreements”. See Annex</p>	<ul style="list-style-type: none"> - Affirming the importance of international cooperation and good-neighbourliness in this field - Emphasizing the need to take into account the special situation of developing countries - Recognizing the necessity to promote international cooperation. (Preamble) 	<ul style="list-style-type: none"> - Emphasizing the need for strengthened national and international measures - Commending the efforts already undertaken by the ECE Governments to strengthen cooperation, on bilateral and multilateral levels (Preamble) - The provisions of this Convention shall not affect the right of Parties individually or jointly to adopt and implement more stringent measures <p>+ Article 9 “Bilateral and multilateral cooperation” between riparian parties. See Annex</p>	<ul style="list-style-type: none"> - This directive: <ul style="list-style-type: none"> ▪ Should provide a basis for a continued dialogue and for the development of strategies towards a further integration of policy areas. ▪ Can also make an important contribution to other areas of cooperation between Member States. (par. 16 Preamble) - The Community and MS are party to various international agreements containing important obligations (...) the directive is to make a contribution towards enabling the Community and Member States to meet these obligations. (par. 21 Preamble) - Coordination between Member States and non-member States - This directive is to contribute to the implementation of Community obligations under international conventions on water protection and management notably the Helsinki Convention. (par.35 Preamble) - Full implementation and enforcement of existing environmental legislation for the protection of waters should be ensured. (par. 53 Preamble) - Purpose of this Directive (...) achieving the objectives of relevant international agreements, including those which aim to prevent and eliminate pollution of the marine environment. (Article 1)

the ECE Water Convention as an instrument “containing important obligations” for the Community and its members” (Wouter and Vinogradov, 2003).

Finally, the Helsinki Convention has also “inspired the principles and approaches of the EU Water Framework Directive” (UNECE, 2004).

These two instruments will be analysed more deeply according to their aim to develop a water-regulatory framework addressed to non-EU/ECE countries in the light of cross-border cooperation requirements that are established in order to create a uniform and coherent legal framework.

The WFD and the Helsinki Convention, as water-regulation developers

Europe, as a geographical and political body, succeeded in promoting effective water policies through a cross-boarder dialogue. This is mainly due to the WFD and the Helsinki Convention’s policy making spirit. This cooperation translates the concept of water as a common property.

The WFD, as a well-known reference

The EU Directive is addressed to the 27 Member States of the EU. What about riparian States which share a river for instance with a, or several, Member State(s)? Does the WFD apply? And does the Directive influence non-European and non-riparian countries?

In this section, three types of situations are analysed: 1) Riparian State sharing water with an EU Member State, 2) Candidate country to the EU required to adapt its legislation and its administrative functioning in order to pretend to be part of the EU; 3) Non-European countries which could benefit from WFD’s provisions through the establishment of close cooperation in international associations and programmes.

➤Riparian States

The WFD specifically includes non-EU countries in its working process. Firstly, Article 3 (5th paragraph) states that “where a river basin district extends beyond its territory of the Community, the Member State or Member States concerned shall endeavour to establish appropriate coordination with the relevant non-Member States”.

Secondly, Article 13 of the WFD requires Member States to coordinate the establishment of river basin management plan when an international river basin district is falling “entirely within the Community”; it also organizes the case of an international river basin district “extending beyond boundaries of the Community”. In this situation, “Member States shall endeavour to produce a single river basin management plan, and, where this is not possible, the plan shall at least cover the portion of the international river basin district lying within the territory of the Member State”.

Therefore, riparian States are indirectly involved in the WFD’s application, i.e. Member States have, from a technical and administrative point of view, to install a real dialogue with its neighbour(s). It should be noted that the coordination of international river basin management plans is a legal requirement when it concerns intra-EU countries, while this cooperation is recommended with non-EU riparian countries (with hence different legal binding implications).

➤Candidate countries and the obligation to demonstrate their motivation

The process of enlargement of the EU requests that “candidate countries have to demonstrate that they will be able to play their part fully as members”.

Candidate countries, such as Croatia, Turkey or Iceland for instance, have thus to draw up an “Action Plan”. Basically, this document sets out “what it will do, and when, to bring its administration and judiciary up to the level required for EU accession”. This Action Plan is extremely important because it will enable the European Commission to assess the candidate country’s motivation, capacity and seriousness to become an EU-member. Progress reports are established in order to follow the candidates’ work.

In the water context for instance, the Commission considers that in Croatia, for the period 2009-2010, “there has been little progress in the water sector. The new Water Act and Act on Water Management Financing have not been enacted yet (...)”. Moreover, Turkey has a very bad assessment because “there has been no progress in the area of water quality. The overall level of alignment remains low. The institutional framework for water management is not organized on a river basin basis.”

These reports show how EU’s enlargement issue is strict and also that candidate country have to prove that they are capable to endorse EU’s policies, legislation and objectives.

➤Non-European countries and international cooperation

The WFD, as a legislative and political reference, can launch international cooperation with different bodies and through different tools.

Article 1 of the WFD, makes reference to “relevant international agreements” and Article 11 (4) “Programmes of measures” requires Member States to “adopt further supplementary measures in order to provide for additional protection or improvement of the waters covered by the Directive, including in implementation of the relevant international agreements referred in Article 1”.

It is hence possible to see elements of the WFD legislation in non-European countries. This is due to real consideration brought to natural resources issues and more particularly to water issues. For instance, external policies of the EU aim to promote “sustainable development policies” in the Mediterranean Region and in Central and Eastern European Countries (REF). It shows a “strong desire to promote a sustainable development policy”.

➤Supporting research

Complementing this, the EU Treaty includes provisions to undertake research at EU level in a large array of sectors, including water. The EU Research Framework Programmes provide a scientific and technological basis for industry and promote research activities in support of other EU policies. To this end, Framework Programmes are designed to help solving problems and responding to major socio-economic challenges faced by society. The Research Framework Programme (FP) is the European Union’s main instrument for funding research and development. In this context, the European Commission has been supporting research on water since several years through its successive Framework Programmes (FP) for Research and Technological Development (RTD) (Quevauviller et al., 2005). The FP aims to foster scientific excellence, competitiveness and innovation through the promotion of better co-operation and coordination. It also aims to produce advances in knowledge and understand-

ing, and to support the implementation of related European policies. The FP is implemented through open 'calls for proposals' and successful projects are selected after an evaluation procedure carried out with the help of external independent experts.

➤ *Cooperation with international programmes*

Finally, international cooperation can be expressed through collaboration with international organizations, such as with UNESCO. Indeed, the Working Group on groundwater under the Common Implementation Strategy (Grath et al., 2008) of the WFD "is collaborating with the International Hydrological Programme (IHP) of UNESCO to exchange information and ensure that the good recommendations on good water management practices are disseminated worldwide".

International associations are also involved in this international cooperation: the International Association of Hydrologists, Eurogeosurveys, etc (Quevauviller, 2008).

The Helsinki Convention, as a bilateral and multilateral agreements promoter

As noted before, the Helsinki Convention's central aim is "to strengthened local, national and regional measures within the UNECE region to protect and ensure the quantity, quality and sustainable use of transboundary water resources" (UNECE, 2004).

The preamble and Article 9 "Bilateral and multilateral cooperation" in part II "provisions relating to Riparian Parties" strongly require Parties to "enter into bilateral or multilateral agreements". Moreover, the scope of these agreements is not very limited because article 9 provides that "these agreements or arrangements shall embrace relevant issues covered by the Convention, as well as any other issues on which the Riparian Parties may deem it necessary to cooperate".

It is true that today, the Convention is seen as a point of reference. There are several legal texts which were highly influenced by the Convention. For instance the Danube River Protection Convention (1994) "applies the Convention's provision in a specific sub-regional context". A "particularly fruitful collaboration" is developing among the five countries bordering the Tisza River (Hungary, Romania, Serbia, Slovakia and Ukraine) and Central Asia is also covered by the Convention's influence, because there is a project on dam safety (UNECE, 2004).

These basin-specific agreements have been concluded under the Convention's auspices. Its influence have been "particularly useful since the break-up of the former Soviet Union in helping countries in Eastern Europe, the Caucasus and Central Asia to draw up agreements regulating the waters which the creation of new international boundaries have made transboundary".

Furthermore, it also helps for "facilitating negotiations", by establishing a real "network of experts" and providing an "advisory service". Therefore, there is a real "proliferation of basin-specific agreements concluded in accordance with its Part II" (UNECE, 2004).

Finally, in 2003, the Convention was amended in order to allow countries outside de UNECE region to access to the Convention. This initiative works on "expanding the Convention's influence" (Wouter and Vinogradov, 2003).

The study of the four instruments illustrates the worldwide concern on the protection and the preservation of water resources, which requires cooperation as an essential tool to tackle the challenge of the increasing complexity of water-resources management in the context of regulations of transboundary and shared water-resources.

Significant similarities, disparities and specificities were highlighted. The study revealed that there are different ways of promoting and implementing Integrated Water Resources Management and effective related legal frameworks. The comparison between both international and regional instruments is a perfect illustration of similarities in their elaboration and objectives, whereas their existence and concrete application are extremely different.

Firstly, it is worth remembering that the question of the legal status of two of the four instruments remains uncertain. Indeed, the UN Watercourse Convention is not yet in force because it has not been ratified by enough States to date; and the UN Draft Articles on the Law of transboundary aquifers is not yet binding because it did not reach its final form. The Water Framework Directive, as part of European Union's system, is one step ahead because it does not give Member States any margin in terms of objective achievement (with few exceptions related to well justified exemptions) nor allow them to proceed with any modifications. The European Commission looks closely at Member States achievements as illustrated in the "fitness check" recently released at the 3rd European Water Conference in May 2012. A more thorough assessment will be carried out when results of river basin management plan will be made available (in 2016).

Secondly, and as a consequence of what has been just observed, the way international law, and particularly United Nations' system, is operating appears to slow down legal procedure. The UN's sovereign equality of all its Members principle involves a long-term legal process, which sometimes is never achieved. That is why regional cooperation appears to be the best way to fulfill IWRM's provisions, water-resources protection principles and objectives.

Therefore in order to tackle drawbacks in the implementation of the legal framework at international level which can be extremely damaging, various organizations attempt to create programmes in specific domains. The Internationally Shared (transboundary) Aquifer Resource Management (ISARM), led by UNESCO's International Hydrological Programme, is a perfect illustration of a "multiagency cooperative program" (Puri and Aureli, 2005) which has launched "a number of global and regional initiatives". An example of the results achieved by ISARM is the Atlas of Transboundary Aquifers: Global Maps, Regional Cooperation and Local Inventories (available at <http://www.isarm.net/publications/324>).

Other initiatives are developed in the framework of international agreements between the EU and developing countries, e.g. twinning projects between river basins located in Europe and in non EU-countries. These initiatives present the advantage of developing effective regional cooperation programmes even if they are not falling under international law, as well as reinforcing international network that will later benefit to law implementation.

However, it could be interesting to have an international Convention on water-resources management ensuring a full complementarity with existing binding regulations such as the WFD, and at the same time, developing binding agreements at regional levels to ensure an effective implementation of these rules.

CONCLUSIONS

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