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Environmental Technology & International Affairs



# Analysis of the Water Framework Directive of the European Union and its implication for establishing an international framework

A Master's Thesis submitted for the degree of  
"Master of Science"

supervised by  
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Vienna, 11 June 2012

## Affidavit

I, **Bernadette Serro**, hereby declare

1. that I am the sole author of the present Master's Thesis, "Analysis of the Water Framework Directive of the European Union and its implication for establishing an international framework", 47 pages, bound, and that I have not used any source or tool other than those referenced or any other illicit aid or tool, and
2. that I have not prior to this date submitted this Master's Thesis as an examination paper in any form in Austria or abroad.

Vienna, 11.06.2012

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Signature

## Acknowledgements

*To the one who gave me wings to fly  
And not breaking them.  
(Flying alone is no fun)  
So join me towards the sun!  
by me to the one*

I would like to express my gratitude to my parents and my two beloved triplet sisters Christine and Stefanie, as without them I would neither have come into existence nor would I be the kind of person I am now. I gratefully acknowledge their considerable financial support, besides their constructive criticism and emotional backup throughout the years.

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## Table of contents

<b><u>1</u></b>	<b><u>SCOPE OF STUDY .....</u></b>	<b><u>1</u></b>
<b><u>2</u></b>	<b><u>CONTEXTUAL BACKGROUND INFORMATION .....</u></b>	<b><u>2</u></b>
2.1	INTERNATIONAL DEVELOPMENTS ON THE SAFEGUARD OF AQUATIC ECOSYSTEMS.	2
2.2	WATER POLICY IN THE EUROPEAN UNION .....	4
<b><u>3</u></b>	<b><u>METHODOLOGY .....</u></b>	<b><u>6</u></b>
<b><u>4</u></b>	<b><u>DATA PRESENTATION.....</u></b>	<b><u>6</u></b>
4.1	PRECONDITIONS FOR ENVIRONMENTAL POLICY .....	6
4.1.1	CHANGES IN THE PERCEPTION OF THE ENVIRONMENT.....	7
4.1.2	REACTIONS BY POLICY MAKERS .....	9
4.2	NEGOTIATING OVER A COMMON DIRECTIVE FOR AQUATIC ECOSYSTEMS.....	11
4.2.1	SHIFT IN POWER DURING THE DECISION MAKING PROCESS.....	12
4.2.2	STAKEHOLDERS INVOLVED IN THE PREPARATION OF THE WFD .....	13
4.2.3	ADOPTED BUT NOT DONE YET – AN ITERATIVE PROCESS .....	15
4.3	AUTHORISED LEGISLATIVE INSTRUMENTS SUPPORTING WATER POLICY .....	16
4.3.1	THE WATER FRAMEWORK DIRECTIVE (DIRECTIVE 2000/60/EC) .....	16
4.3.1.1	The meaning of the wording .....	16
4.3.1.2	Key articles making the difference .....	16
4.3.2	AMENDMENTS AND RELATED ACTS .....	23
4.4	IMPLEMENTATION OF THE DIRECTIVE IN THE MEMBER STATES .....	25
4.4.1	TRANSPOSITION INTO NATIONAL LAW .....	26
4.4.2	PRACTICAL IMPLEMENTATION: ORGANISATION OF INSTITUTIONAL CAPACITIES .....	26
<b><u>5</u></b>	<b><u>DISCUSSION: ELABORATING KEY RECOMMENDATIONS AS A BASIS FOR AN INTERNATIONAL FRAMEWORK.....</u></b>	<b><u>34</u></b>
<b><u>6</u></b>	<b><u>CONCLUDING REMARK.....</u></b>	<b><u>39</u></b>
	Bibliography .....	41
	List of tables and figures.....	47

## **List of acronyms**

CM	Council of Ministers
COMMPS	Scheme for combined monitoring-based and modelling-based priority setting
DG	Directorate-General
EC	European Commission
EEA	Environmental European Agency
EP	European Parliament
EU	European Union
NGOs	Non-governmental organisations
TEC	Treaty establishing the European Community
TFEU	Treaty on the Functioning of the European Union
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
WB	The World Bank Group
WFD	Water Framework Directive
WWAP	World Water Assessment Programme

## **Abstract**

Even though the debate to develop international water quality guidelines on aquatic ecosystems show is not new, yet the international community did not see any achievements in the past. Recent developments, however, show that indeed progress is made as the United Nations Environment Programme (UNEP) initiated a scoping study early in 2011 which should lead to the desired outcome of launching international water quality guidelines for aquatic ecosystems by 2016. For the purpose of the development of an international framework, the study should disclose key recommendations of already existing guidelines of aquatic ecosystems, as for example those of the European Union (EU). The centrepiece of European legislation on water policy is the Water Framework Directive (WFD), which entered into force in 2000. By many critics it has been seen as too far-reaching and the tendency to be too broad, and as a consequence of the latter impractical and unfeasible neither to manage, nor to monitor its compliance. Here, on the basis of extensive literature research, although not exhaustive, we will outline the development process of establishing the framework, present the structure of the legislative documents themselves, and evaluate implementation compliance, i.e. the transposition into domestic law and some of the practical implementation measures, in order to judge if the critical voices had been proven right. Above all the findings, key recommendations were elaborated for the development of an international policy framework for aquatic ecosystems. Those were found throughout the whole policy cycle, amongst them the recognition of the role of the citizen and the consumer, the political will, as well as the increasing importance of stakeholders. The framework requirements are mainly restricted by sufficient financial means for institutional and enforcement capacities during the whole implementation cycle, as well as for data collection and monitoring systems in order to derive a sound data and knowledge base. By linking these findings with actual events and up to date discussions on the Union's stage, we aimed to underline the importance of these key elements. Having regards to the Union's diverse and complex constitution of member states, and its unique form of multinational governance, we see the derived key recommendations applicable to be considered for an international framework for aquatic ecosystems.

## 1 Scope of study

Despite the recognition by the international community of the importance of functioning aquatic ecosystems as declared in the Agenda 21 (UNCED, 1992), no effective international legal instruments, nor a common and cohesive policy framework, hence, no information nor regulatory systems on a global scale are yet to be seen in place. However, many countries, in particular those with sufficient financial and institutional capacities, are seeking to comply with the international agreed commitments and thus, have reformed their policy agendas from the early 1990s onwards. Amongst such *pioneer countries*<sup>1</sup> are those that form the European Union (EU) which had elaborated a very comprehensive and challenging water policy framework, i.e. the Water Framework Directive (WFD) (EC, 2000). WFD is a legally binding document which came into force on 22 December 2000 and will serve as a prime example in this thesis. The research question will investigate if established and implemented guidelines of the Union can act as stimulus for an international framework. The objective of the thesis is to elaborate key recommendations on the basis of the WFD for the development of an international framework.

With reference to Wouters (2006), the Union's water policy seems justified to be taken as a *prime example* for analysing and elaborating key recommendations for an international framework. Wouters (2006) compared the Helsinki Convention (1992), the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses (1997; not in force yet), and the WFD (2000) them with regards to matters related to scope, substantive rules, procedural rules, institutional mechanisms, and dispute prevention and compliance monitoring, and concluded that from a water law perspective the European legal regime on the sustainable management of water resources through ecosystem protection and pollution prevention is deemed to be promising with regards to application in an international context. Here, it must be emphasised that the UNEP has launched a scoping study on

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<sup>1</sup> A pioneer country in this context is understood as a country which has developed an environmental policy for aquatic ecosystems, and has put it into practice.

evaluating existing guidelines of *pioneer countries* in order to establish an international framework, planning to launch them by 2016. Yet, this shall not be the focus of this paper.

The following chapter aims at giving background information and clarifying keywords to bring the thesis in a comprehensive context. The third chapter will deal with the methodology of the thesis, i.e. primary and secondary literature. In the fourth chapter, retrieved data will be presented and applied in response to the research questions and the objective. This chapter is comprised of four subchapters which will cover the conditions necessary to start up negotiation on environmental policies, the negotiation process over the WFD itself, the legislative instruments supporting water policy in the Union, and the implementation of the WFD in domestic legislation of member states. This will be followed by the presentation and discussion of the results, in particular screening for similarities and elaborating on possible key recommendations for establishing an international framework for aquatic ecosystems. The final chapter will conclude and provide an outlook for relevant developments in the future in the context of current international developments to address global water quality challenges.

## **2 Contextual background information**

### **2.1 International developments on the safeguard of aquatic ecosystems**

There is a vast variety of national, bilateral and international treaties in existence at the moment with varying emphasis on substance and procedures on water resources management. Major milestones with regards to international framework conventions<sup>2</sup> will be given here.

One of them is the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses (UN, 1997) which was adopted on

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<sup>2</sup> A framework convention by essence provides principles and rules which are subject to application and adjustments on a case to case basis.



21 May 1997, yet not in force. The framework convention establishes principles and rules of universal applicability governing shared freshwater resources. It was triggered by two prior resolutions; resolution 1401(XIV) (UN, 1959) on 21 November 1959 whether to determine if transboundary freshwater resources are subject for codification, and resolution 2669 (XXV) (UN, 1970), entitled *Progressive Development and Codification of the Rules of International Law Relating to International Watercourses* adopted by the General Assembly on 8 December 1970. In the context of this study we consider this convention crucial as its principles and rules are coherent with the WFD. McCaffrey (2008) emphasises on the importance of the framework convention, even though not yet ratified by a sufficient sufficient number of parties, by showing its influence on other agreements, e.g. the Revised Protocol on Shared Watercourses of the Southern African Development Community of 7 August 2000, as well as a reference to a ruling of the International Court of Justice, e.g. Gabčíkovo-Nagymaros Project case (I.C.J. Reports 1997, paragraph 85).

The other milestone for safeguarding transboundary watercourses and international lakes was the Helsinki Convention (1992) enacted on 24 July 1995 as Council Decision 95/308/EC, between member countries of the United Nations Economic Commission for Europe (UNECE). The riparian parties agreed to undertake all appropriate measures to prevent, control, and reduce any transboundary impact, and emphasises on the precautionary and polluter pays principle, under the umbrella of sustainable development. The main focus of the pan-European treaty was on the protection and use of shared rivers and lakes, an emerging necessity in the wake of economic development which culminated in a large number of wealthy, industrial countries with a high economic throughput and environmental burden.

Water by essence is an issue in many other treaties, such as the Stockholm Convention (1972), the Rio Declaration (1992) or the United Nations Millennium Declaration (2000), to name but a few.

Joint efforts are made by the international community, where the UNEP took the lead role to initiate a scoping study for investigating key elements of existing water quality guidelines of aquatic ecosystems of many different countries. For this

purpose, the UN-Water established the Thematic Priority Area on Water Quality at the World Water Week in Stockholm in 2010. Further developments are on its way, with the goal to launch the guidelines in 2016 (Yillia, 2011).

## **2.2 Water policy in the European Union**

An exhaustive chronology of the milestones on the legislation by the Union on water is given in by Kaïka et al. (2003) and Page et al. (2003), which is given in a brief summary as follows. Different focus had been put forward during the establishment of the legislation, which allows for discerning between three different waves of legislation.

The first wave or building bloc of European water policy, can be seen as the offspring of European legislation on water, and purely focused on water quality objectives, generating water quality standards for drinking water originating from surface and groundwater, e.g. the surface water directive (1975) and the drinking water directive (1980). In 1991, policy makers were no longer to disregard the emission-impact correlation on waters, thus, amending the water legislation by four new directives, that is to say the Urban Waste Water Management Directive (1991), the Nitrates Directive (1991), the New Drinking Water Directive (1991), and the Directive for Integrated Pollution and Prevention Control (1996), all of them featured by applying the emission limit value approach. In 1998, the Drinking Water Directive was updated and included clarification on earlier legislation and improved public access to information on environmental matters, coinciding with the Aarhus Convention.

The centrepiece of European legislation on water policy, however, is the WFD. The tedious negotiations with many steps forward and backward, finding consensus but also compromising, very well outlined above, are reflected by the timely length of the process, spanning from mid-1995 to the end of 2000. The original idea from developing a more global water policy emanated from the Environment Committee of the Parliament and the Council of Environmental

Ministers, who put forward a formal request to the Commission in mid-1995. Soon the Commission communicated on the willingness, put forward an initiative (EC, 1996), and drafted a preliminary proposal (EC, 1997) which was based on the principles of *The Fifth Environmental Action Programme* (EC, 1993), and swiftly circulated and launched the opening of consultation. The consultation process culminated in a two-days Water Conference in May 1996, which was attended by some 250 delegates, amongst them consumers being sent as representative from member states, the industrial and agricultural sector, the water supply sector, authorities and enforcement agencies, as well as environmental organisations. On the basis of the acquired enlightenment, the Commission communicated a more formal proposal (EC, 1998) to the Parliament and the Council, which eventually was adopted in 1997, and thus, formally opened the ordinary legislative procedure, yet with an unprecedented course of the process which will be delineated in the following chapters. On 22 December 2000, the WFD was published as Directive 2000/60/EC in the official gazette, initiating the process of transposing the directive into national legislation within three years. Within the following nine years, the directive had been amended by four legislative acts under ordinary legislative procedure, described below.

Besides the Helsinki Convention (1997) which is a complementary legislative instrument to the WFD mentioned in the previous chapter, already existing treaties and principles of treaties were incorporated into the WFD. The Esbjerg Declaration (1995) and the Convention for the Protection of the Marine Environment of the North-East Atlantic or OSPAR Convention (1992; combination of Oslo and Paris Convention, 1972 and 1974, respectively) govern the cessation of discharges of hazardous substance and zero emission of priority hazardous substances, respectively. In later chapters, we will also emphasis on the application of the principles of public participation (Aarhus Convention, 1998), precautionary and polluter pays principles (Rio Declaration, 1992).

The WFD is not seen to be definite nor is it inerrant. Evaluating the results of its first implementation cycle is a prerequisite to provide the legally required full review and possible revision of the directive by 2019. At the time being, the

Commission seeks to complete the intercalibration exercise, and at the same time to evaluate the results of the first implementation cycle with releasing a prospected report in November 2012. Following debates on several levels, ENDS Europe reported that despite some flaws in the implementation process due to lack of definition as in the case of the environmental flow, or enforcing capacities, the legislative instrument of the WFD as such, is considered to be comprehensive enough to safeguard Europe's aquatic ecosystems. We will address some of current issues at a later stage of this study.

### **3 Methodology**

Upon time constraints, the methodological scope of this study focused mainly on screening and analysing existent literature on the subject. Therefore, the findings of this thesis are based on an extensive literature research and collection, although not exhaustive, yet with a broad selection of open-source information. The articles stem from scientific journals as well as up-to-date newspaper articles in order to reflect current issues in the field of water policy in the Union. Strategic reports published by the Commission, Committees of the Parliament, as well as those of some member states and countries outside of the Union, other Union affiliated organisations, and selected environmental stakeholder organisation were also included in the data base. Above all, authorised legislative documents of the Union serve as the legal basis of this work. The references which build the basis of this work are enlisted in the bibliography.

### **4 Data presentation**

#### **4.1 Preconditions for environmental policy**

Before we start digging deeper into the motivational forces of the formation and development of water policy in the Union, we would like to introduce the reader to a more general model of environmental policy formation.

An issue is to be put on the political agenda when three conditions coincide, according to a model described by Vig et al. (2006). The first prerequisite must be sufficient evidence that a problem exist. Secondly, a set policy options must be available for managing the issue at hand, of course subject to adjustments. Thirdly, the political climate, more specific, the willingness to act is unconditional. Under critical times when all of the three conditions are met, any party involved in the policy agenda process may jump on board and try to influence the policy in its favour.

A general description of a policy cycle is given by the same scholars with particular regards to environmental policies from the 1970s to the twenty-first century in high industrial countries. In short, a policy cycle encompasses five perpetual and integrated stages, i.e. policy formulation, policy legitimization, policy implementation, policy evaluation and policy change. In the scope of this study, we will focus on the first three stages with regards to the WFD, and insinuate a little on the last two. However, as we provide an overview of European water policy in the past as well, one may see change in that policy area upon evaluation and in fact a not irrelevant external pressure, i.e. the public. Thus, we agree with Vig et al. (2006) that a policy cycle is shaped by orchestrating long-term forces, i.e. of socio-economic and technological as well as political nature, and short-term forces, such as fluctuation in the political climate, i.e. domestic or Union-wide elections, or environmental accidents. With this common understanding at hand, we can now go further and disclose the nature of these forces which lead to a different perception of valuing aquatic ecosystems, and thus directly shaping water policy.

#### **4.1.1 Changes in the perception of the environment**

The philosophical motivation demanding environmental water guidelines has its beginnings in a changing socio-economic and political environment, both mutually influenced by technology advancement. At the beginning of the 1970s, an increasing number of societal groups in developed countries expressed their discomfort and made the broader public aware of the multiple benefits of a

functioning environment (Dietz, et al., 1988). Such movements, however, seemed to stagnate, well recognised by scholars of public policies (Downs, 1972) . One of the most famous works recognising that natural resources on the planet are finite and that social and economic conduct of human beings are depending on a functioning environmental system, was *The Limits to Growth* by Meadows et al. and saw a huge commercial success with follow up works (Meadows, et al., 1972).

Within the wake of socio-economic progress, two phenomena were observed in countries with high welfare standards and high developed institutional capacities. First, a shift from government to governance was observed, a development which manifests itself in a rising influence of un-elected hence, non-governmental bodies on the legislation process (Kaïka, 2003). Such non-governmental organisations (NGOs) may send representatives originating from the private sector or from civil society's bodies in order to lobby for their interests. The Aarhus Convention (UNECE, 1998) signed in June 1998 and entered into force in October 2001, stayed abreast of changes by granting the public rights regarding access to information, public participation, and access to justice, in governmental decision making processes on matters concerning the local, national, and transboundary environment. The Union is amongst those ratified, whereas the WFD is one of the first directives where its principles had been applied throughout the whole policy cycle, yet emphasis was different throughout the stages and member states. In the chapter that follows, we will further differentiate between different levels of public participation, i.e. consultation or direct involvement in decision making.

Second, the citizen, formerly perceived as influencing policy by its suffrage, transformed into the role of a consumer, well observed by Kaïka (2003). By doing so, it extended its area of influence across the borders of an ordinary citizen, as in the same time trade with other countries allowed to consume extraterritorial products. Only recently, these new acquired powers are perceived by the consumer itself, but the importance given to it as such is often neglected. We will focus more on the role of the society as citizen or consumers, later on, when we distinguish between water as a public or private good.

This multiplication of actors was acknowledged by policy makers, leading to a decentralisation of power centres and a multiplication of institutions. The acceptance grew that social capital by facilitating social cohesion within and across societies, plays a pivotal role in economic and sustainable development (WB, 2011). On this note, Woolcock brings it to the point arguing that

[...] the relations within and between social groups at different levels of society shape the prospects for sustainable, equitable growth and just, participatory governance. (Woolcock, 1998)

On that note social capital is understood as a rucksack of assets, containing formal and informal norms, relationships and the “culture” of social interaction between social actors (Kaïka, 2003) facilitating collective action for mutual benefits (Woolcock, 1998).

Above all, the public started to be dissatisfied with unrestricted pollution of watercourses, which is still an issue of public concern nowadays according to a survey (DG Environment, 2012) published in March 2012, requested by Directorate-General (DG) for Environment and co-ordinated by DG for Communication. The survey also reveals the public demand for action concerning water scarcity issues, and request more information and commits support to act at the Union level.

#### **4.1.2 Reactions by policy makers**

From the mid-1970s onwards, policy makers started to respond, in the beginning to alleviate only certain water-related grievances such as the provisions for safe drinking water. It becomes apparent that it would fall short to believe that environmental policy is purely made for the environment. Primarily, environmental policies are designed to serve the purpose of the survival and development of human beings living in a specific environment. This concept of thought emerged in the mid-1980s, where dealing with environmental risks, i.e. environmental threats to human health and safety, first found its place in policy agendas (Dietz, et al., 1988). Thus, we would like to emphasise shortly on the uniqueness of environmental policy. We

agree with Dietz et al. (1988) that, unlike other policy areas, the government must hold up high legitimacy in environmental policy areas. The rationale behind is that sound environmental policy safeguards a citizens health and development, in which any shortfall will eventually result in dismissal of the government. Another unique feature stems from the fact that environmental policies deals with natural resources. Water, a natural resource, can be classified along the entire rivalry-excludability-matrix of private to public goods, as this very much depends on the quality and quantity of the water consumption pattern of the users, time scale of consumption, the location, and other external factors having an effect on the quantity and quality of water, such as ramifications of climate change. This makes environmental policy, in particular water policy, a very dynamic field of governance at a local, national, and international level.

In the 1990s, post clean-up measures were not deemed to be sufficient, in particular cost-efficient anymore. It was the time of the emergence of precautionary and preventive measures underpinned by not only safeguarding human health and safety, but also reverting damages caused by humans to the environment. Notwithstanding that the underpinning motivation was not an altruistic move to protect ecosystem services<sup>3</sup>. Rather environmental policies were tailored to guarantee functioning sources, sinks and services of a certain ecosystem at its least costs, ideally by payment of costs by polluters. The perception of the fact that natural resources, in particular water, is not constrained to boundaries imposed by states, and varies in quantity and quality for downstream users, became more prominent as water usage by many different parties increased. From this ideological concept at hand, a combined and integrated approach in the water policy agenda found its place. By doing so the approaches for environmental quality standards and emission limit values were combined into one directive paying regard that concerns on water quality cannot disregard groundwater protection and emission controls, as well as a completely new institutional set-up was created for river basin management, relaxing

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<sup>3</sup> An ecosystem is a functional unit, namely an interacting complex of the living and non-living environment. Ecosystem services are understood to provide the conditions as well as processes to sustain and fulfil human life. The categorisation of the ecosystem services is determined by their functionalities within a system, namely sources (*provisioning services*), sinks (*regulation services*) and services (*cultural services*). (Serro, 2011)



the concept of conventional borders. Another novelty introduced by the integrated approach was the linkage between physical planning, i.e. the environmental impact assessment, and water resource planning (Kaïka, 2003).

The progressive changes in the philosophical motivation of protecting aquatic systems are enshrined in the past and current legislation, which will be discussed in the following chapters. Having said this, the legislative documents discussed here, and their successful implementation and compliance, both of which are very much dependent on the extent of financial and institutional capacities, reflect the perception of which values societies in a democratic elected system, grant to the functioning of aquatic ecosystems.

## **4.2 Negotiating over a common directive for aquatic ecosystems**

The process of developing the WFD was striking in the sense of the extent and type of actors involved. One must discriminate between them according to their differential legitimate power status, just as the power balance between the institutions of the Union was subject to change during the policy making process itself. Here, we distinguish between the stakeholders who had the potential to participate in the consultation process, i.e. addressing their interests to their respective national ministries, to the Parliament and to the Commission directly, and those who had an active role in the decision on the directive, i.e. the Council of Ministers and the Parliament, while the Commission mediated and regulated this process. Furthermore, we will disregard those interest groups who had the potential to participate in the consultation process but did not have the necessary physical structures, to voice their opinion effectively.

The most striking features in the development process of the WFD compared to earlier legislation procedures were the greater influence of the Parliament on the decision making process, i.e. co-decision power together with the Council of Ministers, and the greater influence of non-governmental organisations (NGOs) on the consultation process. This resulted in a thorough process of consultation by the

Commission, a tedious process of co-decision between the Parliament and the Council of Ministers with opposing position on substantial matters, and concluded in a conciliation process. The unique concept and text of the WFD reflects the very complex decision making process of the before mentioned. We will describe this very unique process, and reflect upon them in greater detail in the following paragraphs. Anticipatory, Kaïka et al. (2003) revealed three clusters of interest upon strong opposing opinion were held by the different parties involved, namely the issues over hazardous substances, full cost pricing and the length of the implementation process.

#### **4.2.1 Shift in power during the decision making process**

This subchapter deals with the shift in the power balance between the Council and the Parliament, and is a brief summary of the works by Kaïka (2003). The opening of development process of the WFD was initiated by the Commission according to the ordinary legislative procedure<sup>4</sup>. When the first session of readings and amendments started, the first conceptual discrepancies became visible between the Parliament and the Council. In January 1998, the Commission then decided to actively involve NGOs in the process of amendments; an unprecedented action which followed a further amendment (EC, 1998) dealing with the content of Annex V. In summer 1998, the Parliament reveals substantial differences over the proposed directive, an expected answer to the Council's faux pas regarding the adoption of the directive even before the Parliament had given it a first reading. As the Parliament was very well aware of the change in the upcoming legislative procedure from the 01 May 1999, when the Amsterdam Treaty entered into force, shifting the power balance between the Council and Parliament in favour for the latter, i.e. the cooperative procedure was repealed by the co-decision procedure, the Parliament

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<sup>4</sup> **Article 192(1) TFEU** [*ex Article 175(1) TEC*]

The European Parliament and the Council, acting in accordance with the ordinary legislative procedure and after consulting the Economic and Social Committee and the Committee of the Regions, shall decide what action is to be taken by the Union in order to achieve the objectives referred to in Article 191.

**Article 294(1) TFEU** [*ex Article 251(1) TEC*]

Where reference is made in the Treaties to the ordinary legislative procedure for the adoption of an act, the following procedure shall apply.

decided to procrastinate its first readings. In the meanwhile, informal conciliation talks between the Parliament, the Commission and the Council of Ministers took place. In summer 1999, however the legislative process was again delayed by elections of the Parliament, after it had its first reading in February accepting most of the amendments made by the Committee to the initial Commission's draft. Meanwhile, the Commission accepted many amendments made by the Parliament, however, the Council reverted to the political agreement of June 1998. Nevertheless, in winter 1999 the Committee re-tabled its proposed amendments and gave it a second reading in February 2000. Most of the amendments were accepted by the Parliament, however the Council did not. Hence, in May 2000, the first conciliation round was opened, which was followed by a second one in June, finally reaching a compromise. In September 2000, the directive was formally approved in the plenary session of the Parliament and by the Council of Ministers.

Obstacles hampering a smooth decision making process could have been avoided but we consider that they had been put in place purposely as a tool of political manoeuvre. For example, despite opposing positions on substantial parts of the directive between the Council and the Environmental Committee of the Parliament, procedural misbehaviour by the Council, as insinuated in the former paragraph, was seen as an arrogant way of conduct, i.e. announcing the production of final text before first reading by the Parliament (Kaïka, et al., 2003). The reaction by the Parliament was to procrastinate its reading until the Amsterdam Treaty entered into force on May 1<sup>st</sup>, 1999. The Amsterdam Treaty substantially changed the former co-operative legislation procedure into a co-decision procedure between the Council and the Parliament. In addition, Kaïka et al. (2003) reported constructive abstentions practiced by members of the Council.

#### **4.2.2 Stakeholders involved in the preparation of the WFD**

Kaïka (2003) states that the invitation by the Commission for participation, i.e. launching the open call, had the simple rationale to avoid conflict further down in the implementation process of the directive. Apart from the open approach to

consultation, another striking feature of the process was the intended transparency of it. The Directive 90/313/EEC on Access to Environmental Information stipulates the dissemination of information on environmental issues throughout the Union.

This is one of the key elements why the WFD is comprehensive and, thus challenging, as it led to a massive involvement of a large number of stakeholders during the consultation process, yet after, during the process of amendments on behalf of the invitation by the Commission (Kaïka, et al., 2003). Having said this, the NGOs had access to draft legislation and stood in close personal contact with civil servants of the Commission (Kaïka, et al., 2003). In practice, they acted as consultants to the Commission on the regulatory regime of the directive, in particular the amendment of Annex V, arguing for a stricter regime juxtaposing the lenient position held by many member states.

Even though the tools for communicating information homogenously was theoretically in place, practically, dissemination and consequently, participatory involvement in the decision making process was indeed not homogenously distributed throughout the stakeholder parties interested (Kaïka, 2003). Having said this, it is important to understand that even though any party could have had the possibility to participate, only those who had interest into playing a certain role in the process, voiced their opinions. However, Kaïka (2003) pointed out that those groups interested did not participate with “equal weapons” due to their difference in capabilities, i.e. the geographical proximity to the “power centre” in Brussels and the financial resources to maintain and operate its functions. Power centre should not be confused in the sense of central decision making, as in fact the structures of the Union are guaranteeing a decentralised decision making by distributing its powers to the Council, the Parliament and to a different extent to the Commission itself. Note that the Commission, however, holds the striking right to initiate the process. It rather describes that those groups who have the structural resources to hold a bureau in Brussels, do have a physical advantage in receiving information as well as practicing lobbying to the decision makers (Kaïka, 2003).

Stakeholders involved were environmental NGOs, local authorities and public water supply sector, of which were represented by their respective ministers at the European Union level, consumer organisations such as private water industry, the chemical industry as well as the agricultural sector. Positions and opinions varied not only among the member states depending on their domestic policy of the water sector, but also between the aforementioned stakeholders. Kaïka (2003) delineates their positions and the respective lobbying. In addition, the positions of member states can be found in national strategy papers of water policy, and must be investigated on a case to case study which will exceed the scope of this work.

#### **4.2.3 Adopted but not done yet – An iterative process**

The decision making process within the Union's institutions was affected by strong divergent opinions and expectations, smooth moves by the Parliament demonstrating their new powers, given by the Amsterdam Treaty entering into force on 1 May 1999, by procrastinating decisions, and as a consequence of that, fast decision making at the finals due to severe time constraints. Once the first implementation cycle of the WFD is completed, it will be clear later whether the implementation of the WFD and further, the actual effects on the environment were successful.

Note however, that the WFD was not seen as a completed set of legislation when it was adopted in 2000. It was required to be amended by additional sets of legislation, in particular to clarify and define substance as well as procedural instruments. The directive had been amended by a decision and three further directives according to ordinary legislative procedure since it entered into force in 2000. However, the process of developing these amendments shall not be subject of the thesis.

### **4.3 Authorised legislative instruments supporting water policy**

Legal documents are the tools with which states can enforce the law. Thus, the enforcement capacity theoretically reflects the wording of the law. The clearer, the more unambiguous the wording, the more specific and measurable the objectives, the more effective can enforcement structures be built on. Note, however, that some articles of the WFD demand further legislative instruments, i.e. the Groundwater Daughter Directive to WFD (EC, 2006) and the Environmental Quality Standards Directive (EC, 2008), and others outlined below, which had been agreed upon a later stage.

#### **4.3.1 The Water Framework Directive (Directive 2000/60/EC)**

##### ***4.3.1.1 The meaning of the wording***

The amended directive as to the 25 June 2009 starts with 53 introductory statements, and is followed by the adopted legislative paragraphs comprising of 26 articles and 11 annexes. The original directive, denoted as B, had been amended by one decision, denoted as M1, and three subsequent directives, denoted as M2, M3, and M4.

The opening text preceding the introductory statements, circumscribes the legislative procedure by considering the TEC, the proposal of the Commission, and obtaining the opinion of the Economic and Social Committee, and the Committee of the Regions. It also accounts for the conciliation process which culminated in the approval of the join text by the Conciliation Committee on 18 July 2000.

##### ***4.3.1.2 Key articles making the difference***

The enshrined wordings in the WFD exemplify the objective areas as well as the subjective - most often political sensitive - areas where no real consensus could

be agreed upon. One may distinguish upon that by means of the specific words chosen, and the content of the articles and annexes. Here, we would like to adhere to the differentiation method used by Steyaert et al. (2007), as we consider it rational and objective.

As can be seen in Table 1, Steyaert et al. (2007) discriminated between three dimensions, of how the wording would be codified into law. The cognitive dimension is the knowledge base, i.e. the description of concepts and understanding of the environment, and its socio-economic relationships. For example, Article 2 *Definitions* is wholly dominated by using cognitive phrases, such as

26. 'Quantitative status' **is** an expression of the degree to which a body of groundwater is affected by direct and indirect abstractions. (EC, 2000) (EC, 2000)

The normative dimension consists of a set of norms and values. They are used to construct a framework upon policy action is based on, defining its limits of good and bad, desirable or not. Article 9 *Recovery of costs for water services* sets an example to emphasis on the normative framework:

1. Member States **shall** take account of the principle of recovery of the costs of water services, including environmental and resource costs, having regard to the economic analysis conducted according to Annex III, and in accordance in particular with the polluter pays principle. (EC, 2006)

The instrumental dimension provides instructions in order to achieve the objectives of the normative framework. It consists of a set of timelines, rules of action, decision making procedures, as well as methods and instruments. A prime example for providing clear instructions is Article 24 on *Implementation*, which reads as follows

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive at the latest 22 December 2003. They shall forthwith inform the Commission thereof.

When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such a reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States. (EC, 2006)

By discerning between articles and annexes which are dominantly knowledge based, normative-descriptive, or instrumental-instructive, one may recognise a linkage between the tedious topics of negotiation, characterised by political sensitive topics, and the normative description of that topic with the only common ground, which was able to elaborate during the negotiation. Such statements, articles or annexes would allow for different interpretation, and thus open member states a certain leeway in its transposition into national law, and further its implementation.

On the contrary, the directive also provides articles for derogation. Even though such exemptions may deliberately compromise socio-economic progress over environmental objectives under specified circumstances, they do not challenge the directive per se. To prevent abuse of generously offering leeway, one must be careful to give sufficient and unambiguous definitions and specifications, based on knowledge base and norms, on the application of these derogations.

**Table 1 Overview of the general balance of the Water Framework Directive (WFD) articles and annexes among cognitive, normative, and instrumental dimensions. Source: (Steyaert, et al., 2007)**

N°	Titles of articles and annexes	Number of words	Dominant dimension
1	Purpose	297	Normative
2	Definitions	1.601	Cognitive
3	Coordination of administrative arrangements within river basin districts	487	Instrumental
4	Environmental objectives	1.972	Normative
5	Characteristics of the river basin district, review of the environmental impact of human activity, and economic analysis of water use	147	Instrumental
6	Register of protected area	139	Instrumental
7	Waters used for the abstraction of drinking water	225	Normative
8	Monitoring of surface water status, groundwater status, and protected areas	206	Normative
9	Recovery of costs for water services	367	Normative
10	The combined approach for point and diffuse sources	262	Normative
11	Programme of measures	1.541	Instrumental
12	Issues which cannot be dealt with at Member State level	87	Instrumental
13	River basin management plans	307	Instrumental
14	Public information and consultation	238	Instrumental
15	Reporting	193	Instrumental
16	Strategies against pollution of water	1.074	Normative



17	Strategies to prevent and control pollution of groundwater	275	Instrumental
18	Commission report	385	Instrumental
19	Plans for future Community measures	111	Instrumental
20	Technical adaptations to the Directive	116	Instrumental
21	Regulatory committee	72	Instrumental
22	Repeals and transitional provisions	509	Instrumental
23	Penalties	34	Normative
24	Implementation	110	Instrumental
25	Entry into force	33	Instrumental
26	Addresses	26	Instrumental
<b>Total number of articles' words and rate of dimensions</b>		<b>10.814</b>	C = 15, N = 41, I = 44
I	Information required for the list of competent authorities	239	Instrumental
II	No title: water body typology	2910	Cognitive
III	Economic analysis	145	Normative
IV	Protected areas	222	Instrumental
V	No title: definition, monitoring and classification of the water status	11612	Cognitive
VI	Lists of measures to be included within the programmes of measures	333	Instrumental
VII	River basin management plans	898	Instrumental
VIII	Indicative list of main pollutants	135	Cognitive
IX	Emission limit values and environmental quality standards	109	Normative
XI	No title: ecoregion maps	125	Cognitive
<b>Total number of annexes' words and rate of dimensions</b>		<b>16.728</b>	C = 88, N = 2, I = 10
<b>Total number of words and rate of dimensions</b>		<b>27.542</b>	C = 59, N = 17, I = 24

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The introductory part consists of 53 statements, which are general principles, normative by essence, on which the WFD policy body of 26 articles and 11 annexes are built on. Some of the introductory statements also refer to previous decisions and treaties. The content of the annex section, dominantly cognitive (88%) with very few normative statements (2%), is one and half larger in the word count than the section of articles, which are mainly normative (41%) and instrumental (44%). In the following, we aim to link the normative introductory statements with the correspondent articles and annexes.

The introductory statements by essence denote a first glimpse of what is to follow in the articles, which provide definitions for the concept of river basin

management, competent authorities, role of public participation or the role of recovery of costs. However, the specific characteristics and extent of these key elements are to the discretion of the member states. We will see further that such a flexibility in practical implementation lead to different interpretations and outcomes in domestic implementation. Some statements we found noteworthy are described in the following paragraphs.

The ambivalent role of water was so critical in the negotiation process that it appears in the very first statement, delineating that it

[...] is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such. (EC, 2000)

The wording of this statement is crucial in the sense that it allows some discretion in which dominant role water should be given. We interpret the wording as such that water in fact is a commercial product but recognised as a distinct species of general commercial products. We justify this interpretation by referring to water as a natural resource regarded, in the light of the contemporary economic and social patterns, within a defined space and time, as one with distinct quantity and quality. In that respect, water is a product which must be rationalised. Denoting water as a heritage, however, insinuates to regard it in the light of future generation.

Statements 2 to 10 give a review of the procedural timeline of the development of the directive. Statement 11 and 12 delineate to Article 191 TFEU (ex Article 174 TEC), restating the importance of scientifically sound policy making and the basic principles on which grounds the directive is built, namely the precautionary principle, principle on preventive action, and the polluter pays principle, in particular that environmental damage should as a priority be rectified at source. Statement 13 acknowledges for the diversity of condition within the Union's regions. The following statements highlight the importance of the interdependencies between nature, society and economy, which requires cohesive and integrative policies.

(14) The success of this Directive relies on close cooperation and coherent action at Community, Member State and local level as well as on information, consultation and involvement of the public, including users. (EC, 2000)

In statement 20, the change in perception of the ecological interdependencies, i.e. the pivotal role of groundwater quantity to the quality of surface water including its adjacent terrestrial ecosystems becomes evident.

(20) The quantitative status of a body of groundwater may have an impact on the ecological quality of surface waters and terrestrial ecosystems associated with that groundwater body. (EC, 2006)

The basis for establishing a type specific reference condition scheme is set in statement 34, which reads as follows

(34) For the purposes of environmental protection there is a need for a greater integration of qualitative and quantitative aspects of both surface waters and groundwaters, taking into account the natural flow conditions of water within the hydrological cycle. (EC, 2006)

The innovative approach of untying administrative and national boundaries from hydrological boundaries is stipulated in statement 33.

(33) The objective of achieving good water status should be pursued for each river basin, so that measures in respect of surface water and groundwaters belonging to the same ecological, hydrological and hydrogeological system are coordinated. (EC, 2006)

The first time the “consultation and involvement of the public” is mentioned in the directive, is in statement 14, previously discussed. However, statement 46 stresses out the importance of public participation yet again, applying the principles of the Aarhus Convention.

(46) To ensure the participation of the general public including users of water in the establishment and updating of river basin management plans, it is necessary to provide proper information of planned measures and to report on progress with their implementation with a view to the involvement of the general public before final decisions on the necessary measures are adopted. (EC, 2000)

Steyaert et al. (2007) saw an imbalance between the clear and unambiguous description of some articles concerning ecological parameters and environmental objectives, and those concerned with governance procedures. Despite specifying the coordination of administrative arrangements within the river basin (Article 3), a

definition of the administrative actors, referred to as competent authorities in subparagraph 8, is not given, and at discretion of the member states. Thus, depending on the institutional arrangements of each member states very much influences whether the authority is a national or local body.

The directive provides for three methods how to establish type-specific reference conditions for surface water bodies (Annex II. 1.3.) while specifications are given in Annex V. The type specific reference condition discerns between pristine-high status: physical-chemical, hydro-morphological, and biological status are not alter (or only slightly), and thus can be used to identify and quantify anthropogenic pressures on the aquatic systems. This method very well accounts for the prevention of pollution and sustainable consumption of water resources without compromising economic development.

However, some articles, in essence Article 4 subparagraphs 3 to 7, allow for derogations. We ascribe that to the difference in the perception of valuating the social, economical and environmental dimension amongst each other. Some contracting parties prioritised the socio-economical development of the citizen over the functioning of ecosystems more than others.

By defining artificial and heavily modified water bodies, in Article 2 subparagraphs 8 and 9, respectively, the notion that in some cases the costs of rectification measures would be too high to reach good ecological status becomes apparent. By introducing the term good ecological potential in Article 2 subparagraph 23, instead, the environmental objectives to be reached are *less stringent*, in terms of reaching *highest possible statues with least possible changes* (Article 4 subparagraph 5).

Despite a very clear, yet with the normative definition of recovery of costs in Article 7, practical implication is lacking in many member states. This is not surprising as the Article itself lacks instrumental regulations, thus leaves it to the discretion of the member states. On this note, we would like to refer to Brown, et al.

(2010) who did quite a thorough study on calculating recovery cost of a river basin in Spain.

Article 14 *Public information and consultation* is very instrumental in the sense how and to which extent the public shall be involved in the river basin management plans. The very strong wording dictates the member states to encourage active participation in the development of such plans, and giving them the appropriate information.

To summarise, we would like to adhere to Page, et al. (2003) who highlighted the innovations which the WFD had brought; the coordination of water policies which addressed different types of waters separately, the concept of managing waters within their hydrological boundaries, rather than political administrative and national ones (instrumental description in Annex VII), the introduction of the combined approach linking emission limit values to environmental quality standards, integration of water policy into environmental planning, a redefinition of the good water status as well as recapitulation of the list of priority hazardous substances, the first introduction of the recovery costs for environmental externalities in order to encourage water efficient management practices, as well as increasing public participation in water policy making.

#### **4.3.2 Amendments and related acts**

As insinuated above, the directive had been amended by a Decision (2455/2001/EC) adding a list (Annex X) of priority substances including substances identified as priority hazardous substances in the field of water policy. This list was demanded by the directive from the very onset, as provide for in Article 16(2) and (3). The list of Annex X will replace the list of substances from 1982. Statement 7 in the introductory part of the Decision shows that the Commission just as we saw in the developing process of the WFD, had established the list with many different parties, such as

[...] involving the Scientific Committee for Toxicity, Ecotoxicity and the Environment, Member States, EFTA countries, the European Environment Agency,

European business associations including those representing small and medium-sized enterprises and European environmental organisations. (EC, 2001)

On this note, a scheme, namely the combined monitoring-based and modelling-based priority setting (COMMPS), was developed to scrutinise whether a substance shall appear on the list.

Insinuated above, some member states saw difficulties in incorporating issues on groundwater at the stage of negotiating of the WFD. The Groundwater Daughter Directive (EC, 2006), Directive 2006/118/EC, is intended to make up for such deficiencies provided for in Article 17(1) and 2 of Directive 2000/60/EC. It does not only include criteria for the assessment of good groundwater chemical status, but more so criteria on the identification and reversal of upward trends.

The Directive 2008/32/EC is addressed to the member states, a small piece of legislation, clarifying mainly the implementing powers conferred on the Commission.

The Environmental Quality Standards Directive, Directive 2008/105/EC (EC, 2008) (EC, 2008), is addressed to the member states and contains 15 articles. This directive is one of substance as it includes a list (Annex I of Directive 2008/105/EC) with environmental quality standards for the corresponding substances of Annex X of the WFD. In addition, it also includes a list (Annex III of Directive 2008/105/EC) with substances subject to review whether they may found to be identified as priority substances or priority hazardous substances. The directive is very rich of instrumental statements, and thus, accounts for clarifying definitions, procedures and, hence, compliance with the WFD directive achieving good water surface chemical status (Article 4 of Directive 2000/60/EC).

With the amendment of Directive 2009/31/EC the interconnectedness of different policy sectors, once more became apparent. The amendment allows for injection of carbon dioxide into saline aquifers for the purpose of geological storage.

Acts which relate to the directive but have not been published in the Official Journal yet, are two communications from the Commission, COM (2000) 477 final and COM(2007) 129 final, and a report on programmes for monitoring of water status, COM(2009) 156 final. The earlier communication deals with the pricing and long-term management of water (EC, 2000). In the communication of 2007 she points out that several states are likely to fail to meet the environmental objectives of the WFD, mainly due to deficiencies in the transposition and the practical implementation of the directive (EC, 2007).

In relation to the river basin management approach, two other directives shall be mentioned here, namely Directive 2007/60/EC (Flood Directive) and Directive 2008/56/EC (Marine Strategy Framework Directive).

#### **4.4 Implementation of the directive in the member states**

As mentioned above, capacity building and the enforcement structure highly depend on the legal instruments at hand. The more ambiguous a legal text, the more room it gives for its own interpretation when translating into national law, and consequently, the higher the potential of resulting in ineffective policy measures. However, coming to a consensus with a large number of parties at a given deadline often results in vague formulations of some articles where otherwise an agreement would be out of reach. Setting a good example by some contracting parties could give an incentive to others, thus, a strong implementation phase may make up for rather poor formulations of certain paragraphs in the legal text. In addition, vague formulation may be amended by either guidance or legislative-binding documents at a later stage.

Liefferink et al. (2011) differentiates between two phases in the implementation phase when it comes to the environmental governance regarding domestic compliance with Union's law, i.e. policy formulation, meaning the transposition of the directive into national or regional legislation (EC, 2011), and practical implementation, meaning enforcement and application of the law.

#### **4.4.1 Transposition into national law**

There are two ways of transposing directives into domestic law, in other words policy formulation, either through adopting new acts, or through amending already existing acts in order to reach the required environmental objectives as set out in the WFD. The transposition very much depends on domestic practices of adopting laws, as well as to which extent former domestic legislation deviates from the Union's requirements. Liefferink et al. (2011) analysed whether the starting positions of the implementation process are reflected in the subsequent performance of practical implementation. On a case to case basis choosing Denmark, France and the Netherlands, in order of their initial ambition of implementation, Liefferink et al. (2011) came to the conclusion that their degree of compliance changed dramatically throughout the implementation process. A fit/misfit hypothesis simply cannot describe, for example why France encountered implementation obstacles further down the process even though institutional capacities would fit very well. The fit/misfit hypothesis suggests that implementation effectiveness depends "on the level of correspondence between national regulatory patterns and those implied in European legislation" (Knill, et al., 1998).

The Commission issued a communication in 2007 (EC, 2007), which made obvious that a majority of the EU-15 member states missed the deadline of transposition by December 2003. Interestingly, the new ones (EU-12) kept the deadline which was their day of accession. On a more general note, the quality of transposition was judged as being poor, where some 19 member states with serious shortcomings as regards implementing programmes for meeting environmental objectives, recovery costs or public information and consultation (Article 4, 9 or 14), and others failed to transpose the WFD in full conformity.

#### **4.4.2 Practical implementation: Organisation of institutional capacities**

Does the outcome differ depending on a bottom-up or top-down approach, such as Liefferink et al. (2011) described in the comparison of three member states -



Denmark, France and the Netherlands? The bottom-up approach might have its blemishes in a rather less ambitious policy formulation when the directive is transposed into domestic law. However, practical implementation is more likely to not fail its objectives. A top-down approach might over-estimate its institutional and enforcement capacity, and despite having formulated very ambitious policy objectives, it is more likely to fail once the practical implementation process has started. On the other hand, accurately formulated, which often happens through the top-down approach of policy formulation, can pre-empt conflicts between sectors, such as landscape planning and water management, in the practical implementation phase (Liefferink, et al., 2011).

We assume a correlation between the degree of freedom in the implementation process of which a member state is granted by the Union, and the actual compliance with the directive. Having said this, we chose the classification proposed by Liefferink et al. (2011), when he compared domestic politics of Denmark, France and the Netherlands, and their compliance with Union's law.

In the case of the Union, the Commission did not want to rely on the good will of some, as well as she did not want to see the WFD becoming a dead limp. Thus, she opened a unique approach to enhance compliance by giving advisory recommendations in the form of non-binding guiding documents. There is a list of currently 26 guidance documents and one technical report issued by the DG Environment with open online access (DG Environment, 2012).

As the WFD is a directive of the *new generation* (Liefferink, et al., 2011), it is granting the member states considerable amount of freedom on the implementation process itself, we must understand the pivotal role of the functioning of the domestic institutions in order to reach compliance with the directive. In a communication (EC, 2007), the Commission criticised the non-compliance of practical implementation of administrative arrangements (Article 3) and environmental and economic analysis (Article 5) as regards reporting performance where she also launched several infringement procedures for delays and information gaps in reporting.

A variety of tools for practical implementation are suggested by the DG Environment. A demanding directive requires sophisticated implementation tools: guidance documents as well as an information system. The latter is known as Water Information System for Europe and covers acquisition of data and monitoring system in order to enforce the directive adequately and provide statistics for policy evaluation. Yet the most important factor to enhance compliance is sufficient provision of financial resources which usually is contentious and often is one of many reasons manifesting itself in tedious negotiations already during the policy making phase. On this note we must be aware that the actual effect of a piece of legislation on the environment, in particular on aquatic systems, is a function of the nature of the legislative instrument, enforcement and compliance, and above all is limited by financial means.

Going further into detail, criticism was raised concerning the vague attempt to incorporate the concept of recovery of costs for water services according to the polluter pays principle (Article 9, Directive 2000/60/EC), without clearly stating who shall bear the costs. At the time of translating the directive into national law, opinions had been voiced that transposing the costs to the water industry would mask the true costs of environmental protection which should be covered on the expenses of the government (Water-UK, 2001).

As stated above, the Directive is seen as a response to the emergence of a new set of institutions (Kaïka, 2003). Hence, capacity building must have taken place before the development of the Directive. If this would be the case, establishing new institutions would be obligatory for new policy setups. However, a pure *one-way* driver-response correlation, i.e. capacity building as the main driver for the development of the WFD, is highly contested. The WFD is facilitating to form new social capital in the sense that it demands for a new network of actors, i.e. water agencies. The reason for such a request may lie in a changing conception of old social capital due to a change in the social and economical environment. Thus, it is believed that the directive has been developed in a mutual way with the emergence of balancing the power distribution of already existing institution.

The DG Environment is in charge for releasing evaluation documents on the practical implementation of the directive, whereas we would like to elaborate a little further on two of them, e.g. the Fitness Check and the Blueprint. By doing so the Union also safeguards the principles of the Aarhus Convention.

The Fitness Check (DG Environment, 2011) revealed implementation failures of transposition, interpretation and delivery of specific planning or operation requirements of Directives, and other results were presented at the Stakeholder Conference on water policy in spring 2012. It will underpin implementation policy options which will be issued as a Blueprint report in autumn 2012. The Fitness Check also made visible that compliance very much differ whether the pollutant originated from a point source or a disperse source. By nature, point source pollution is simpler with regards to control and monitor. On the same note, similar effects on the environment can be expected. While it is recognised that the directives for nitrates lack compliance in many member states even though sanction imposed incur heavy fines, directives concerning for drinking water standards entailed very few cases of infringements (Page, et al., 2003).

As to the Blueprint on water policy is on its way, the debate to develop new laws or rather enhance effectiveness by facilitating and encouraging application of directive, has emerged. However this is found to be redundant, as a consultancy report showed. Axel Volkery, a senior policy Analyst and Head of the Environmental Governance programme at the Institute for European Environmental Policy concluded after a first assessment that will feed into the Blueprint report that

[t]he policy laid out in the Water Framework Directive seems to be robust and largely coherent with other EU environmental laws

as issued by ENDS Europe (2011). However, he pointed out that the practical implementation of the WFD is at critical stage, as water protection practises vary considerably due to the flexibility with regards to the implementation at the domestic level. Above all he observed that indeed the right measures were in place but often tend to be hard to enforce. The main reason in that he sees domestic political pressure which often leads to reluctance in enforcement. Hence, voices are emerging to make measures binding, in particular in the reigns of the environmental committee

of the Parliament. Despite all this, he believes that evaluating the effectiveness of the actions taken is too early yet he also highlights that some river basin management plans are formed from poor quality and delayed action. Thus, he confirms the strategy of the Commission to foster the application of economic instruments such as water pricing, and coherent policy integration with all three major water users. On this note, some member states are already adapting their policies but more effort and coordination is needed. Interestingly, the analysis also showed that costs for compliance are not longer seen as major obstacles anymore.

Liefferink et al. (2011) has also shown that the nature and extent of public participation, in particular for the purpose of consultation, is limited by budgetary means. The Danish government promoted public participation resulting in very ambitious goals at fairly high costs. However, public participation may occur through different channels from formal or informal nature, and within a rather rigid or flexible system. In the Netherlands, for example, public participation is foremost provided by the rather easy access to the domestic court.

Practical implementation also varies as regards the management plans for the river basin districts. They may be centralised or decentralised, as well as differ on the competent authority, be it from functional or generic nature. Such organisational aspects very much differ on domestic customs. Thus, one must be aware of the fact that implementation coordinated on a national basis with actual implementation on regional-local level may cause some difficulties. However, this strongly depends on social capital, namely whether a country prefers rather formal or informal procedures of implementation. Liefferink et al. (2011) provides different examples. In the Netherlands, the policies in all three sectors of water users, agriculture, industry and households, must be cohesive as if they are not, as the sectors are entrusted with formal competences, infringements may consequently lead to court cases which may cause severe delays in economic activities. This effect is amplified by the fairly simple access to justice. The French case on the other hand, lacks formal competences for sector-integrative measures on the regional-local level where actual implementation takes place, and consequently also lacks financial resource. In reality

this means that policy actions can only be conducted when sufficient financial measures are guaranteed by the central government.

Another issue is the variety of substantive interpretation of the directive at discretion to member states, in particular the designation of waters bodies as *artificial* or *highly modified* as this would define if the water body shall reach *good ecological status* or *good ecological potential*. This is crucial as if the designation is too blue-eyed and ambitious, the environmental objectives may be failed to reach in time, or may become a fairly expensive undertaking. Hence, for this reason the Commission initiated the intercalibration exercise which resulted in the Commission decision 2008/915/EC setting up a monitoring system classification for the member states.

Liefferink et al. (2011) was also investigating to which extent member states use exemptions and how they are correlated to the theoretical implementation and the distribution of competences. He found that in Denmark too ambitious goal setting may result in many exemptions. If the competent authorities are in charge for setting the goals, and are in fact legally bound by them as is the case in the Netherlands, they may be very cautious in formalising these goals and make use of exemptions. The French case showed a centralised ping-pong, where management plans on basis of committee had high goals. As the budget was decreased by the central government, the goals were lowered. Only when the central government intervened with dictating higher goals again, as well as increasing the budget, the former decision was restored with higher additional costs. It was generally observed that a declining budget implies an extension of deadline reaching goals.

Article 9 postulates that water pricing policies shall ensure efficient use of water resources, whereas they shall be in place by 2010. In the following chapter we will illuminate this problem from various angles, by citing very recent developments. These policies shall aim to the recovery of the costs of water services based on the economic analysis provided for in Article 5, and lead to a contribution from an adequate contribution of industrial, domestic as well as agricultural sectors. However, criticism is raised that economic measures are not used to their full extent

in many member states. For example, the Commission has reprimanded Spain to stop subsidising water consumption of their domestic agricultural sector and criticises its low tariffs even though water-stress is a recurring phenomenon in the region (ENDS Europe, 2012). In this case the environment minister who argued for tariffs reflecting the true costs was dismissed (ENDS Europe, 2008). Another problem has taken Germany to the EU court by the Commission, as it does not pass on the true costs of water services to the industrial and agricultural sector, as reported by ENDS Europe (2012). Several other countries, e.g. Austria, the Flanders region of Belgium, Denmark, Finland, Hungary, Netherlands and Sweden, are further subject to investigations. At the same time, members of the Parliament's environment committee are requesting water metering to be binding for all water users (ENDS Europe, 2012). On the same note, the committee asks the Commission to develop a strategy in order to internalise externalities of water pollution, consumption and wastewater treatment.

In fact, the report (EEA, 2012) of the EEA issued in spring 2012 showed that water metering, beside other water efficiency initiatives, facilitated to reduce water usage despite population growth in Zaragoza, Spain. Another successful water saving example by the introduction of water metering devices was shown in England and Wales. Thus, we can assume that the key process behind the water savings is a change in the perception of the public, provided that the tariffs reflect the right costs.

It seems that member states in general comply with water quality standards while nowadays the question of water quantity, in particular availability, is given a major issue to address on the policy agenda. The instruments must not be invented anew, and are indeed already enshrined in WFD. The realisation of internalising external costs, e.g. cost recovery is one of these instruments. However, determining the value of water within a region, is not only a sensitive political issue, it must also be backed by a sound knowledge base. Brown et al. (2010) tried to estimate environmental costs of water on the basis of emergy accounting, on a case study of the Foix watershed in Tarragona province in Spain.

Finally, we would also like to report on very recent developments on the implementation performance of the WFD. Already in November 2011 (ENDS Europe, 2011), the Commission launched efficiency debate targeted on buildings, where considering both, voluntary and mandatory options, e.g. labelling for products, minimum water efficiency requirements, performance ratings, audits for buildings, certification schemes for water reuse. She also emphasises on the enforcement of horizontal measures, in particular water metering and higher prices, and criticises the sluggish progress which have been made by the member states. The idea of giving the water issue a more commercial focus is not new, and had led to debates within the water industry which dislikes the top-down approach from the Commission without additional budget (ENDS Europe, 2011). Indeed a commission consultation in spring 2012 (ENDS Europe, 2012), revealed two camps within the stakeholders, one is calling for more guidelines and expert forums, the other calls for amendments in law as they see major gaps in existing law. Interestingly there is no division along the traditional lines, i.e. industry and NGOs. They address the lack of efficiency requirements in the domestic sector, insufficient funding for infrastructure upgrades, whereas more emphasis should be put on water reuse and local issues should be given greater considerations. However, another report states that water efficiency measures in building should not be enforced upon by the Commission, as water scarcity is a regional issue, but should rather focus on providing guidance (ENDS Europe, 2012). As reported by ENDS Europe (2012), the EU executive has put forward its proposal to create a European Innovation Partnership (EIP) on water. EIPs were introduced by Europe's flagship initiative on innovation and aim to pool expertise in priority areas. To coincide with the commission's proposal (EC, 2012), two industry groups – the European Technology Platform for Sustainable Chemistry and the European Water supply and sanitation Technology Platform announced they would deepen their cooperation on water management.

## 5 Discussion: Elaborating key recommendations as a basis for an international framework

Since there is the demand for such a treaty, why are no appropriate measures on an international level in place, yet? In the scope of this study we cannot fully answer this question. However, we aimed to identify key elements of the successful adoption and full implementation of the WFD in domestic legislation. We would like to remind the reader that the question to which extent Europe's aquatic ecosystems had benefitted from the WFD is too early to answer as the first implementation cycle has not been completed, yet.<sup>5</sup> A communication by the Commission, however, called out a warning already in 2007 that failing to meet the targets of reaching good quality water status by 2015 in Europe's freshwater resources is expected without disregarding the accomplishments in some of the member states (EC, 2007). Yet, this gives us an opportunity to derive key recommendations, on the basis of what ought to be done, and what ought not to be done on the basis of extreme examples.

Before we start developing arguments for key recommendations as a basis for developing an international framework for aquatic ecosystems, we emphasise on being cautious in regards to the impact of such an undertaking may have. Liefferink et al. (2011) have demonstrated the difference of the theoretical, i.e. the transposition into national law, and the practical implementation, i.e. the institutional capacity, of the Directive. We do not advocate for pigeonholing countries on their previous conduct of policy implementation disregarding the issue at hand. However, we must recognise that some follow recurrent patterns, and thus, we may use this as a reference point to be aware of possible shortcomings with regards to implementation, and act before their nascence. Falkner et al. (2007) had investigated compliance in the field of the Union's labour law directives, and found four different "worlds of compliance", that is to say in the order of full to lack of compliance, *World of Law Observance*, *World of Domestic Politics*, *World of Dead Letters*, and *World of Transposition Neglect*, in which each member state's implementation compliance

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<sup>5</sup> The implementation for the river basin management plans was due to the end of 2010, whereas the Commission reported that despite many prime examples, four member states, e.g. Belgium, Spain, Portugal and Greece, have not submitted their plans until time of being (ENDS Europe, 2012).



could be clustered. We need to be cautious about the expectations of the results once a framework is adopted, and that they by essence will vary based on social capital<sup>6</sup> as well as contemporary domestic and foreign politics. On this account, knowledge on the *culture* of compliance, as well as domestic and foreign politics is indispensable for analysing implementation compliances of member states. Nonetheless, in the following paragraphs we attempt to formulise key recommendations seen as a basis for an international framework directive of aquatic ecosystems.

We consider countries who would be clustered into the *world of transposition neglect* and *world of domestic politics*, the dominant player in negotiations talks over directives, as they would be most likely those with little compliance if too many controversies appear to be in domestic law compared to Union's. Being alert of potential impediments, may avoid compliance neglect on a later stage. Yet it is not said that such an approach would lead to the optimal outcome for reaching a certain objective, and for other member states. However, compliance very much depends on the specific problem at stake, thus, member states' conduct cannot be generalised even though, it must be given certain credits to the general position towards Union's integration (Liefferink, et al., 2011). At the national level of the member states the efficiency of the different institutions has been heavily contested by critics. As an example we quoted Liefferink et al. (2011) who compared the implementation efficiencies of three member states, namely Denmark, Netherlands, and France, selected as they represent a fair degree of diversity. However, the development of a new national institutional model by Portugal is seen as a positive example to comply with the WFD (WWAP, 2012).

These days, the growing importance of the new form of governance worldwide, cannot be denied, and will be discussed with regards to both, the negotiation and the implementation phase. The negotiation phase took place between the actors of the common triangle of powers with an emerging subgroup gaining its voice of power, namely environmental stakeholders. Within this power field, the Commission took its role as a mediator between the member states and the

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<sup>6</sup> Social capital is understood as a rucksack of assets, containing formal and informal norms, relationships and the "culture" of social interaction between social actors (Kaïka, 2003) facilitating collective action for mutual benefits (Woolcock, 1998).

Parliament, both having decision making power. Within these groups, very different opinions on several matters of substance prevailed. Environmental stakeholders took active part in the formulation of Annex V. We argue that this unique power distribution under the co-decision regime of the Union, and the involvement of the environmental stakeholders during the negotiation phase, lead to a comprehensive and challenging legally binding document with such a diverse portfolio.

The integrative concept of river basin management is seen as a key element for safeguarding aquatic ecosystems. The concept itself is not new as it was practiced on some river basins already, e.g. the Danube River Protection Convention (ICPDR, 2012) signed in 1994, and entered into force in 1998. The international community already in 1997 had called for Article 2 (d) regional organisations of watercourses in the Convention on the law of the non-navigational uses of international watercourses. Hence, we see the concept of river basin management plans crucial to tackle transboundary pollution as it allocates responsibilities to the users. Besides, regional governance overarching national borders of the water courses had been proved to enhance the member states' integration in the Union, and thus may also facilitate peacebuilding within conflict zones at the international level.

On the theoretical implementation, the legally binding document should be phrased in a clear and unambiguous manner so that the overarching objective may be achieved. However, at the same time it should be feasible to implement and not discourage its potential contractors. We, thus, recommend designing the document in a way that its section setting the targets contain high fractions of cognitive and normative phrase words. We see the acknowledgement and the accordance on certain values of many different actors involved pivotal steps in order to ensure compliance once the practical implementation phase is launched. A directive must also include a section with measures undertaken to fulfil the objectives, whereas the phrasing should be rich in instrumental instructions and based on a scientifically sound basis, i.e. cognitive wording.

It is also accepted that a directive of such magnitude, as well as including many different contractors, must not be completed as soon as it enters into force.

Crucial points which constitute the basis of the directive and those which can be amended at a later stage must be deliberately discerned and prioritised in order to avoid discouragements or even dismissal in the negotiation phase.

However, a concept only achieves its objectives if implemented properly. In the case of an international framework on the basis of a guidance document, enforcement measures for compliance cannot be expected. However, monitoring systems in particular on the river basin management level are highly recommended to be established, be it alone for having proper and unbiased up-to-date data on which further steps towards a binding directive can be evolved. Further, audit and feedback procedure require a functioning monitoring system which is seen to be necessary in order to increase the targeting and efficiencies of achieving the desired objectives. On this note, we also consider important to set a timeline highlighting milestones to be achieved, when the framework is applied.

Furthermore, the guidance document must be as elaborated above, detailed enough to be effective, but at the same time flexible enough to be easily transposed into national law. On this note, the Union provides non-binding guidance documents for implementation proposing a non-exhaustive list of possible measures to be undertaken in order to achieve the desired objectives. An international framework may be constituted of such documents, which may also include recommendations on state of the art enforcement strategies and procedures for economies of different kind. This, we consider, vital for the rather theoretical guidance document which fate would be to rest conceptual, unless it is not applied on a voluntary basis.

On the prime example of the WFD we were able to filter out certain blemishes in practical implementation, which allowed us to develop some key recommendations. On the same note we must call for caution, as yet it is too early to say if the measure implemented do have a beneficial effect on the aquatic water ecosystems.

We have observed that in the case of the WFD it seems to be easier to agree on quality standards than efficiency targets of water consumption. We were looking

for explanations for this phenomenon. We argue that the perception of water abundance differs from its availability in the past. Experiences of water scarcity and competition of different users over water are seen as some of the most important variables shaping this perception over the resource of safe water. These strongly depend on the fresh water sources, demo- and geography, as well as socio-economic behaviour in the first place. Hence, it is not surprising that member states and other stakeholder would take different, often opposing views when it comes to the interpretation of water quantity standards. However, as noted above water quality is perceived as deteriorating in certain regions according to a public survey Eurobarometer (DG Environment, 2012). Where we see a step forward, however, is that the Environmental European Agency (EEA) first published a definition for environmental flows, which might further the discussion upon agreeing on certain quantity standards as well.

We must note that even though the WFD in concept is addressing the right issues, its weakness due to non-binding sections, simply due to the fact that no legislation yet exists, in tackling water scarcity problems will leave the conservation of aquatic ecosystems unaffected. According to an EU official number of river basin suffering from water scarcity all year round will almost double in 2030, from 26 to 47, let alone the number which are under pressure during the summer months (ENDS Europe, 2012).

As addressed above, an international framework must allow flexibility in its implementation, as capacity building and implementation systems vary strongly throughout the world. Guidance documents may lead to a certain harmonisation, however, the Union goes further by applying an intercalibration exercise, denoted above. We argue for such a “softer” compliance tool, but must recognise at the same time to rely on the deliberate and honest application of such.

We like to emphasise also on economic tools which we deem to be appropriate but which are not used to the full extent, yet. As elaborated above, efficient management of water can be properly addressed by dealing with it as a scarce resource, so that externalities are also accounted for. Appropriate solutions

would be the acknowledgement of water as a commercial good by introducing water metering, and accounting for the cost recovery principle. The latter will also raise the question of to which share the government should cover the costs of water consumption in the domestic, agricultural and industrial sectors. Different models are currently implemented.

Above all, the main challenges provided that the countries who would like to adopt guidelines from a universal applicable framework for safeguarding aquatic ecosystems into their domestic legislation have sufficient financial means, will be mainly to form a coherent water policy with other policy areas of major water consumers and polluters. Risks of failure will appear by its application, and will be particularly pronounced when externalities are not accounted for and enforcement capacities, including dealing with infringements, are weak.

## **6 Concluding remark**

The international community as well as other stakeholder organisations calling for safeguarding aquatic ecosystems is nothing new on the water policy agenda. Already in May 1997 as mentioned before, the international community adopted a treaty of universal applicability dealing with shared freshwater resources, with its origins dating back to a resolution in 1959 (McCaffrey, 2008). However, the treaty has not yet been ratified by a sufficient number of contractors. Hence, it is evident that regulations on shared freshwater resources are demanded but on the same note, countries hesitate to commit themselves as they fear to give away some of their sovereignty. The UNEP only recently initiated a scoping study to investigate water policies of different countries in order to establish an international framework with the plan to launch the guidelines by 2016.

Interestingly, at the same time voices are raised which had not been heard before. A report (Intelligence Community, 2012) coordinated by the intelligence community of the United States of America, indicates that access to freshwater resources will have greater influence in conflict. The report assumes that in some

decades water scarcity may actually play a major role in violent conflict between ethnic groups, and not only trigger or amplify it. This is a major shift in the perception of the role of fresh water in our society. This does not automatically presume to address the conservation of aquatic ecosystems more forcefully, however, it gives an opportunity to jump on that train and start discussion for a comprehensive and integrated framework of universal applicability. On this note we need to recall that a treaty for safeguarding aquatic ecosystems is designed, predominantly, for the purpose to safeguard the well-being and development of our societies.

Despite the variety of actors involved along the whole policy cycle, the analysis revealed some key elements pivotal for the adoption of the WFD and its actual implementation in the member states, dispelling doubts to become a dead limp. Our main findings in theory seem to be common sense, yet difficult to apply in reality as the disclosure of the WFD policy cycle, as comprehensive and challenging, and thus, complex, has revealed. On the basis upon all lies the degree of commitment of the nation state, who may only act within its limited financial resources and the support of the citizens and the consumers. On this note we would also like to address the new form of governance, where a variety of actors involved may shape and contribute to a framework with a diverse portfolio. Furthermore, issues which may not be agreed upon may be left open for further clarifications at a later stage, in order to avoid discouragements or dismissal of the framework before its nascency. We would like to emphasise again that we see the concept of river basin management plans crucial to tackle transboundary pollution as it allocates responsibilities to the users, and may very well also play a part in peacebuilding in case of former violent conflict within the zone concerned. The framework itself, which of course cannot be expected to be binding, is advised to be well balanced within the usage of normative, cognitive and instrumental paragraphs, and should be supported by guidance documents in particular for data collection, monitoring and evaluation. We strongly furthermore encourage to agree upon a timeline for achieving milestones of such a prospected framework. We have also observed the phenomenon that agreeing upon water quality guidelines was easier to achieve than agreeing upon quantitative guidelines, i.e. the definition of the environmental flows. In fact, guidelines for drinking water quality do exist, and had been issued by the World Health

Organisation. Many tools to increase water efficiency use do exists, all of them being developed on the basis of the cost recovery principle, which we assume crucial to obey to.

Needless to say that without a profound knowledge base and governance, sound decision making and effective implementation become unavailing wishful thinking. As has been shown in this work, water policy with regards to safeguard aquatic ecosystems involves internalising the external costs, coherence with other policy sectors interdependent to it, and public participation. We see the European water policy and its continued progress, currently with the main focus on water efficiency, as an applicable case study where key recommendations can be drawn from with universal applicability. Its applicability is due to its comprehensiveness as well as application within highly varied portfolio of countries, where every single one of them has its own unique implementation capacity established. We do advocate to emphasis on further research, in particular analysing water policy from other countries.

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### *List of tables and figures*

Table 1 Overview of the general balance of the Water Framework Directive (WFD) articles and annexes among cognitive, normative, and instrumental dimensions.

Source: (Steyaert, et al., 2007) ..... 18