

Adapting to a new Style of Water Management?

Implementation of the Water Framework Directive in Germany

Bachelor Thesis

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Abstract

The cornerstone of the EU Water Framework Directive (WFD), which came into force on December 2000, is the river basin approach. That is, the WFD prescribes the management of water resources in the European Union along ecological rather than administrative boundaries. In order to understand the implementation process, the characteristics of the involved actors are assessed. The analysis reveals that even though all involved actors officially support the management of water resources along river basin boundaries, especially the environmental ministries of the states were reluctant to transfer too much competencies to unelected river basin authorities. As a consequence, a minimalist approach to river basin management was adopted. The thesis furthermore confirms the usefulness of Contextual Interaction Theory (CIT) as a methodological tool to understand implementation processes.

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List of Abbreviations

BMU	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
CAP	Common Agricultural Policy
CIT	Contextual Interaction Theory
DG	Directorate-General
EU	European Union
FGG	River Basin Community
GDR	German Democratic Republic
HMWB	Heavily Modified Water Body
ICPER	International Commission for the Protection of the Elbe River
MS	Member State
NGO	Non-Governmental Organization
NRW	North Rhine-Westphalia
RBMP	River Basin Management Plan
TFEU	Treaty on Functioning of the European Union
UBA	Federal Environmental Agency
UN	United Nations
WFD	Water Framework Directive
WHG	Federal Water Act

1 Introduction

The topic of water resources management has attracted considerable attention from scholars, politicians and practitioners alike in the last decades. The fear of a global water crisis (Saeijs & Van Berkel (1995), Jury & Vaux (2007)) put the topic on national and international development agendas. According to the UN (2009), water use has risen twice as fast as population growth in the last decade. Approximately 1.1 billion people have no access to drinking water (Jury & Vaux, 2007) and about 3 million people die from diseases related to water pollution (UN, 2009). The problem is aggravated by climate change. It is expected that some areas will experience increasing amounts of precipitation – increasing the risk of floods – while other areas will suffer from extended periods of drought – leading to water shortages. In the past decade, weather-related disasters such as floods, storms and droughts, have more than doubled (IFRC, 2010). Europe generally is a water rich area. However, there exist great regional differences, with precipitation ranging from more than 1000 mm/year in the mountainous regions of the Alps and along the northern Atlantic shore to less than 400 mm/year in the Mediterranean region (EEA, 2009). It is anticipated that climate change will heighten regional differences and lead to increasing rainfall pattern in Northern Europe and declining precipitation levels in Southern Europe (Huntjens et al., 2010). Changes in rainfall patterns and raising average temperatures have a severe impact on European river basins. For instance, one can expect flora and fauna to change with the climate and the increased likelihood of floods requires investments in infrastructure. The challenges water managers in Europe are facing are thus complex. To name just a few, the supply of high quality drinking water has to be ensured, the population has to be protected against floods and the impact of climate change has to be mitigated.

The common regulatory framework on water issues in the European Union (EU) is the Water Framework Directive (WFD) that came into force on the 22nd December 2000. The WFD aims, generally speaking, at achieving good ecological and chemical status for all surface water bodies in the EU. The cornerstone of the WFD is the river basin approach. A river basin in the sense of the Directive is “the area of land from which all surface run-off flows through a sequence of streams, rivers and, possibly, lakes into the sea at a single river mouth, estuary or delta” (Art. 2(13) WFD). A river basin is thus delineated by ecological boundaries. According to the provisions of the Directive, all Member States (MS) have to identify the river basins lying within their national territory and designate a competent authority. It is hoped that managing water resources along ecological rather than administrative boundaries reduces misfit and contributes to the sustainable use of water resources. The WFD is, like all European legislative instruments, the result of intensive deliberations among the EU’s institutions and the MS’s governments. The WFD, however, was perceived by observers as a “British home-run with concessions” (Héritier, 1996). Moss (2003) contrasts the British model of water management with the German model of water management. The former model relies heavily on river basin management, environmental quality standards and the principle of cost-

efficiency. The latter model, in contrast, is traditionally organized around administrative-political boundaries and prefers to set emission controls, using the best available technology. The river basin approach enshrined in the WFD can thus be seen as a typical feature of the British model of water resources management that was more or less alien to the German model of water resources management before the introduction of the WFD. This was a contentious topic during the WFD deliberations. Germany even opposed an early draft of the WFD which made the creation of new river basin authorities mandatory (*ibid.*) with the result that the provisions of the WFD now allow for making existing institutions the competent river basin authorities. How Germany implements the river basin approach is investigated in this thesis.

2 Theory

Contextual Interaction Theory (CIT) is used as a methodological tool to explain how Germany implemented the river basin approach. CIT has its roots in the work of Bressers (1983). Originally known as Instrumentation Theory, CIT was subsequently discussed, improved, applied and refined by scholars from the University of Twente and elsewhere (e.g. Bressers & Klok (1988), Bressers & Ringeling (1995), & O'Toole (2000)). The theory is designed to understand and explain the implementation of policy instruments. Implementation is the translation of a policy formulated by government into practice. CIT understands implementation as "the process(es) that concern the application of relevant policy instruments" (Bressers, 2004, p. 284). Three generations of implementation theories can be distinguished. The first generation, or classical implementation theory, assumes that the policy formulated by the government is implemented one-to-one, like from a recipe, into practice by the implementing officials (Sabatier & Mazmanian, 1980). It thus applies a top-down approach. According to this school of thought, policy is formulated and implemented by rational individuals who are normatively supported by an ideology and who are acting upon the orders of those above them in hierarchy. Policy making proceeds in steps or stages, which is captured in models like the policy circle (Lasswell, 1956). These assumptions are challenged by what we might call the second generation of implementation policy. According to scholars such as Berman (1978), Lipsky (1978) and Hjern (1982), more insight can be gained by looking at the target population and implementing actors. Their approach can be labeled bottom-up. Berman (1978) distinguishes between the macro- and micro- level of implementation. The policy is formulated at the macro-level to which local agencies react at the micro-level by formulating their own plans which in turn are implemented. Subsequently, a third generation of implementation policies has been developed with the aim to combine the insights of the top-downers and bottom-uppers (Matland, 1995). Even though a multitude of approaches exists and the field is far from reaching consensus, most modern third generation approaches have in common that they accept that policy making and policy implementation affect each other. In other words, implementation is no longer understood as a relationship between two levels of authority of any kind whatsoever but increasingly as a multi-actor process which requires cooperation

and coordination between multiple institutional and non-institutional actors (O'Toole, 2000). In this sense, CIT clearly is a third generation approach (De Boer & Bressers, 2011).

CIT defines the implementation process as "the whole of all activities that are connected to the employment of a preconceived set of policy measures" (Dinica & Bressers, 2003, p. 2). This definition implies that the formulated policy is understood as an input to the implementation process. The implementation outcome is dependent on the characteristics of the implementing actors, their interaction with each other and the context in which they are operating (Bressers, 2004). The characteristics of the involved actors are the key variables of the theory. All other variables (being part of the context(s), see below) are influencing the process only insofar as they are affecting the characteristics of the involved actors. Actors are characterized by their motives, cognitions, and Capacity & Power (De Boer & Bressers, 2011).

2.1 Actor Characteristics

2.1.1 Motives

Motives refer to the goal an actor wants to achieve. If an actor is genuinely dedicated to achieve a certain goal, the likelihood that he will do so is much higher than if he is lacking motivation. More specifically, an actor's motivation is composed of its intrinsic and extrinsic motivation (Kotzebue et al., 2010). Intrinsic motivation refers to the actor's own goals and values, while extrinsic motivation refers to external pressures (Bressers, 2009). External pressures can be motivating or demotivating. It is furthermore possible to distinguish between hard pressures – such as sanction in the case of non-compliance – and soft pressures – such as parliamentary party discipline. With regard to policy implementation, an actor might not be convinced of the usefulness of the policy in question or he even suspects the policy he is supposed to implement to be harmful. In this case it is more likely that the policy will only be implemented half-heartedly or that insufficient resources are allocated for implementation. An actor, however, can also have negative motivation. That is, the motivation to stop or hinder the implementation of a certain policy.

2.1.2 Cognitions

Cognitions refer to interpretations of reality held to be true (De Boer & Bressers, 2011). This formulation acknowledges that information is never neutral but processed by what is referred to in the literature as belief structures (Fiske & Taylor, 1984) or cognitive maps (Axelrod, 1976). Thus, when the mind is confronted with new information, it sorts out all of the information that it considers useless and interprets the information that passes the initial filter according to its cognitive structure. The mental representations the mind thereby constructs give meaning to the information it is confronted with. They are the basis upon which an individual acts. For instance, when implementing a policy an actor needs to know, *inter alia*, the content of the policy and the target group.

2.1.3 Capacity & Power

Capacity and Power can grant an actor the ability to achieve a certain result (possibly against the will of others). Power is attributed to an actor by others and might stem from various sources. Formal sources such as the position or the voting rights an actor possess can give him power. But power can also have its origin in informal sources, e.g. the dependency on other actors. For Instance, the jobs created by industry better the bargaining position of industry delegates vis-à-vis policy makers. However, without resources (i.e. money, time and skills), formal or informal power is unlikely to thrive. For example, an actor might have a lot of formal power due to the position he inhabits, but when others he has to work with get the impression that he is either incompetent or distracted by other obligations, they might stop consulting him and thus deprive him (partly) of his power. On the other hand, an actor who is considered to be competent by others and who has sufficient time to dedicate to the solution of a certain problem might have more power, and thus achieve the desired result easier, than someone who has more formal power by means of the position he inhabits.

Figure 1 shows how the actors' characteristics influence each other. They cannot be seen in isolation. A change in one of the key characteristics also has an effect on the others two. A thorough knowledge of the content of a policy, for example, can either have a positive (if the policy is evaluated positively) or a negative (if the policy is evaluated negatively) effect on an actor's motivation. It can also give the actor a deliberative edge over other actors and thus serve as a source of power. However, a low level of motivation can also lead to an insufficient allocation of resources to deal with a certain problem and thus decrease the power of an actor vis-à-vis other actors with a bigger budget. A government agency, for instance, that is supposed to implement a policy against the opposition of industry groups but has insufficient resources at its disposal because other policies are considered to be more important might struggle to accomplish its objective.

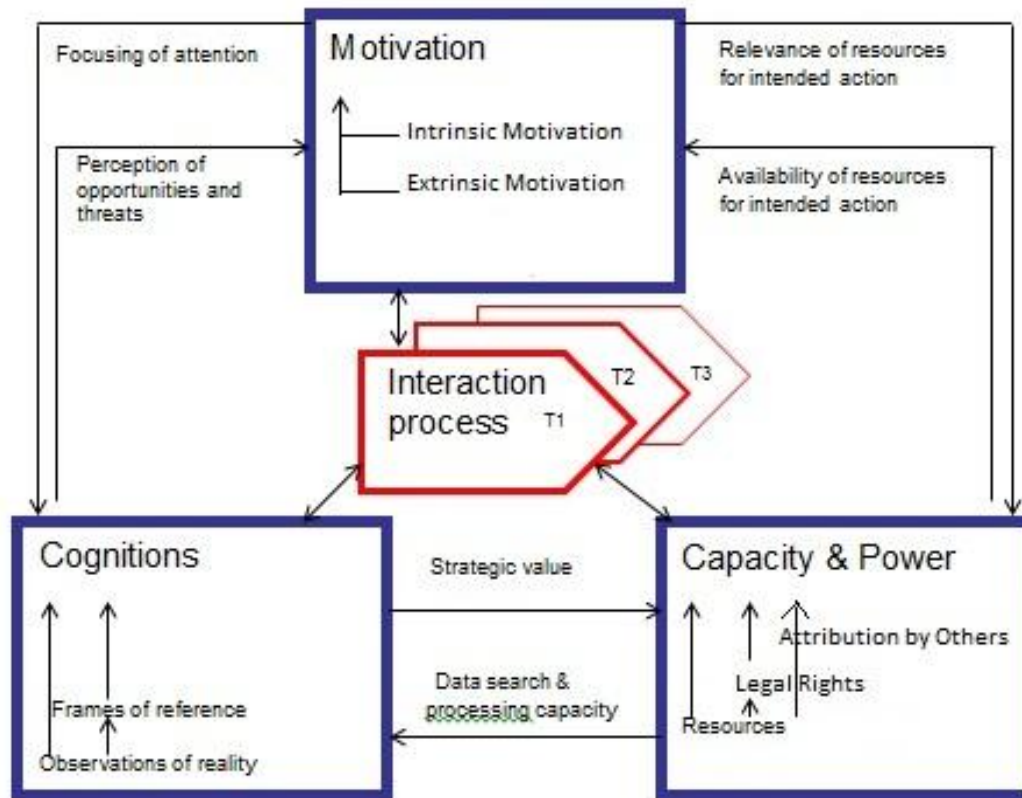


Figure 1: Dynamic Interaction between actors characteristics and their indicators
Source: Adapted from De Boer & Bressers (2011)

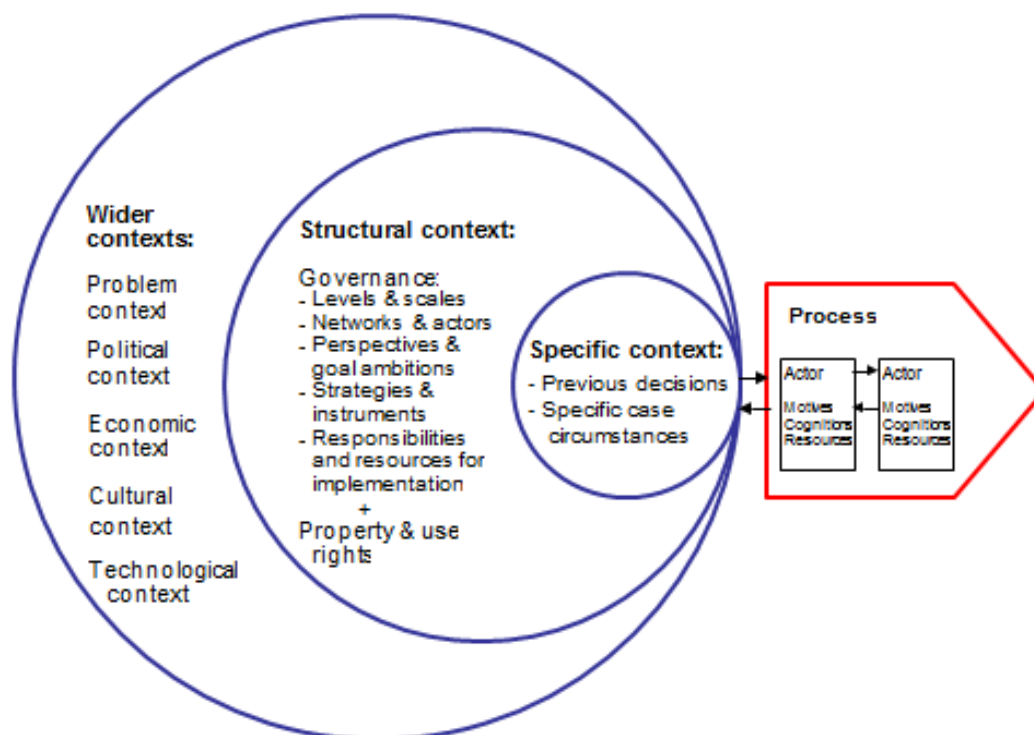


Figure 2: Three Layers of context influencing the interaction process
Source: De Boer & Bressers (2011)

2.2 Three layers of Context

The actor characteristics described above are the key variables of the theory. However, many other external factors can be imagined that influence the outcome of the implementation process. One of the basic premises of CIT is that these factors are relevant only insofar as they do affect the motivation, information, and power of the relevant actors. CIT constructs three layers of context to deal with the external variables: The specific context, the structural context, and the wider context.

The specific context includes the social and geographical characteristics of the place targeted by a policy and previous decisions. Social and geographic characteristics refer to the level of fit between management institutions and ecosystems. This is especially important in environmental governance where the scope of institutions and ecological scales have a significant effect on the effectiveness of resource management regimes (Kotzebue et al., 2003). It is increasingly recognized that a mismatch between human-made institutions and geographical boundaries often leads to suboptimal management outcomes because it causes spatial externalities and benefits free-riders (Moss, 2004). In general, it is expected that the better the fit between the ecosystem and the institutional arrangements created to manage it, the better the management regime will perform in terms of sustainability (Young, 2002). In this regard, the WFD's river basin approach can be understood as an attempt to reduce mismatch. It should be noted, however, that it is not possible to create perfect fit but only to better (or to worsen) it. Decreasing mismatch involves the restructuring of management institutions (Young, 1999) which will in turn create new boundaries (Mitchel, 1990). Previous decisions refers to decisions made by the implementing actors earlier on, which influence the institutional arena and thus the actors' key characteristics.

The structural context consists of the governance structure and property and use rights. There exists a rich body of governance literature. Although the accounts differ considerably, most of them have in common that they describe shifts in governance and that classical hierarchies and government structures are seen as becoming less important. Furthermore, most approaches are normative in nature (Van Kersbergen & Van Waarden, 2004). In contrast, the term governance is used here as a "neutral, yet enlarged understanding of the scope of (often national level) policy" (De Boer & Bressers, 2011, p.75). The conceptualization of governance structure in CIT nevertheless draws heavily from the approaches, especially those originating in network governance and multi-level governance (cf. Hasenclever et al. (1997), & Rhodes (1997)). It is assumed that multiple actors who have differing problem definitions operate on multiple levels. Furthermore, multiple policy instruments and multiple responsibilities are likely to exist (De Boer & Bressers, 2011). A thorough description of the governance structure should thus clarify which actors participate in the policy process, how they relate to each other, on which levels they operate, which strategies they use

and what authority they possess. The second element of the structural context is the property and use rights system in place. That is, who is allowed to use the resource in one way or the other? Schlager and Ostrom (1992) distinguish between five property rights in the context of common pool resources (goods with a high subtractability of use and low excludability such as water resources): access, withdrawal, management, exclusion, and alienation.

The wider context encompasses the political, socio-cultural, economical, and technological setting in which the policy implementation does take place. These factors can have a significant impact. On the one hand, a new technological development such as the internet can simplify both cooperation and the access to information. On the other hand, expensive solutions might not be feasible in a poor country, simply because the necessary capital is not available. Likewise, in an authoritarian regime public participation and societal control might not be a realistic option.

3 Research Methodology

The research methodology of my thesis is outlined in the following chapter. After a discussion of the research questions and a justification of my research design, special emphasis is put on the operationalization of the key variables. That is, I will answer the question of how the key variables motives, cognitions and Capacity & Power are measured.

3.1 Research Questions

The starting point of my research was to answer the question of how Germany - being a prime example of organizing water management around political-administrative rather than ecological boundaries - adapts the river basin approach prescribed in the WFD. The formulation of this question is, of course, still relatively unspecific. There are numerous approaches imaginable of how to answer this question. As elaborated in the preceding chapter, CIT is used in this thesis to understand and explain the implementation process of the WFD. CIT sees policy implementation as an interaction process between government officials and target groups. The outcome is essentially dependent on the involved actors' characteristics. The research question can thus be refined to:

- How did the involved actors implement the river basin approach prescribed by the WFD in Germany?

It would still be difficult to answer the question without narrowing down and specifying the topic. The research question is therefore divided into five sub-questions. First of all, In order to answer the question of how the involved actors implemented the river basin approach prescribed in the WFD, one needs to assess the content of the WFD. In a second step, one needs to analyse how the water management sector was organized before the WFD came into force. It is important to know what the most important actors are and, according to CIT, what their characteristics are. Knowing the input and the structure of the German water management sector, it is possible to make a prediction regarding

the likely implementation outcome. Finally, one can assess how the river basin approach was actually implemented in Germany and compare the outcome with the predicted outcome and thus see whether CIT is suited to analyze the implementation process of the WFD in Germany. The sub-question of my thesis can be formulated as follows:

- What is the content of the WFD?
- Which actors are involved in implementing the WFD in Germany?
- What are the main characteristics of these actors?
- What is the implementation outcome regarding river basin management?
- Is the CIT framework suited to explain the WFD implementation process in Germany?

3.2 Research Design

The following section justifies my decision to investigate how Germany implemented the river basin approach prescribed in the WFD by means of an in-depth case study.

The case study approach is suited when contextual factors are considered to be important in the explanation of a phenomenon. Yin (2003) argues that experiments, in contrast, try to control for the contextual factors in order to be able to isolate the cause-effect relationship. Surveys can take the context into account to a certain degree but struggle to investigate it thoroughly due to the limited (by the number of respondents) number of variables that can be analyzed. Hence, when contextual variables are deemed to be important, the case study design might be the right choice.

An important part of every research design is the definition of the unit of analysis. The debate between top-downers and bottom-uppers outlined above can also be understood as an argument about the appropriate unit of analysis in policy implementation research. Even though CIT is a so-called third generation approach to policy implementation research and thus assumes that policy making and policy implementation affect each other, the emphasis is laid on the implementing actors and their key characteristics. In other words, "one of the basic ideas of Contextual Interaction Theory is that the bottom-up perspective is more informative as an analytical tool even when the researcher adheres to the top-down policy goals" (De Boers & Bressers, 2011, p. 63). The main units of analysis of my thesis are, therefore, the actors involved in the implementation process. Likely candidates include government agencies, opposition parties, the target group(s), NGOs, and resident initiatives.

According to Yin (2003), four basic case study designs can be distinguished. A case study can include a single case or multiple cases and use a holistic design or an embedded design. A multiple case design is usually considered to be more robust but in some cases (e.g. when investigating very rare occurrences or when

the studied case is the critical case) a single case design can be justified. In my thesis, I will focus on one case only, namely Germany. Investigating only one case has the big disadvantage that one is not able to generalize findings over populations. However, policy implementation is a complex process. Hence, investigating more than one case adequately was not possible within the limitations (regarding scope and time) set by the exam committee. The distinction between holistic- and embedded design refers to the number of units of analysis considered. In the holistic design, only one unit of analysis is studied, while in the embedded design multiple sub-units of analysis are included. In my thesis I will focus on the actors involved in the implementation process as the only unit of analysis and consider one case. The design type of my choice is thus a holistic single case design.

3.3 Operationalization

The term operationalization refers to the definition of a fuzzy concept in order to make it measurable. Babbie (2008) defines operationalization as “the process developing operational definitions, or specifying the exact operations involved in measuring a variable” (p.46). In this study, the dependent variable is the implementation outcome and the actors’ key characteristics are the independent variables. Drawing from CIT, the variables are specified in the following section. For this purpose a set of indicators is defined for each variable.

3.3.1 Motives

Two indicators are used to measure the variable ‘Motives’: Intrinsic and Extrinsic Motivation. *Intrinsic Motivation* is the motivation deriving from an actor’s own goals and values. An actor can be intrinsically motivated by self-interest – as most economic theories predict – and by altruistic values (Bressers, 2009). *Extrinsic motivation* is motivation deriving from external pressures. One can further distinguish between hard pressures – e.g. sanctions in the case of non-compliance – and soft pressures – e.g. expectations and societal pressures. Both, intrinsic and extrinsic motivation, can be positive or negative. Bressers (ibid.) identifies the ‘self-effective assessment’ (the demotivating effect of not having sufficient resources to accomplish a certain goal) as a third component of the variable ‘Motives’. In this thesis, however, the self-effective assessment is not part of the variable ‘Motives’ because the availability of resources is measured by the variable ‘Capacity & Power’ (see below). Not having enough resources can of course have a demotivating effect, but in this thesis this is understood as an example of how the key characteristics influence each other (as shown in Figure 1).

3.3.2 Cognitions

The variable ‘Cognitions’ is measured by two indicators: Observations of Reality and Frame of Reference. *Observations of Reality* indicates what information an actor assesses. Likely sources are government documents, information provided by think-tanks and lobby groups, or scientific research. The second indicator, *Frames of Reference*, refers to the self-conception of an actor with which the

information is processed. The Frame of Reference for the European Court of Justice, for instance, would be legal, while the frame of reference for a company would be economic.

3.3.3 Capacity & Power

The variable 'Capacity & Power' is measured by three indicators: Resources, Legal Rights and Attribution by Others. Money, time and skills are considered to be the most important *Resources*. For each actor it is assessed whether enough of these resources are available. *Legal Rights* are bestowed upon an actor by the legal system. In the context of WFD implementation, legal rights indicate who has the power to determine, for instance, ecological threshold values and who has the right to enforce these. Finally, *Attribution by Others* refers to the dependency of one actor on another which might grant the latter greater power. Attribution by Others is an important source of power, however, it needs to be backed by real resources (i.e. time, money, skills) in order to be effective (Bressers, 2009).

3.4 Sampling

Sampling is the process of selecting observations (Babbie, 2008). While random sampling is a powerful method when using quantitative methods - which allows for generalizations from a sample to a population - qualitative research often focuses on small samples, or even single cases (N=1), which are explored in-depth (Patton, 2002). The challenge is to select cases that are information-rich and purposeful to the research questions at hand. The sampling method used in this thesis is intensity sampling. When using intensity sampling, the researcher aims at selecting cases which represent the studied phenomenon intensely (but not extremely) (ibid.). In order to be able to select an intense case, the researcher needs to have some prior knowledge about the studied phenomenon. In the context of implementing the river basin approach, Germany represents such an intense case because river basin management was more or less alien to the German model of water management before the WFD came into force. A further advantage of studying the case of Germany is the availability of information. The case is well documented which makes it a feasible object for a bachelor-thesis.

3.5 Data Collection

Collecting data is an important part of every study. Generally speaking, using multiple sources of evidence increases the explanatory value of case studies (Yin, 2003). However, the resources available for a bachelor thesis are limited which renders it impossible to analyze all imaginable sources. This research is thus based on the analysis of scientific articles and books, official government documents, and information provided by the involved actors themselves (e.g. information sheets, self-portrayal on websites). Other sources which might provide useful additional information such as interviews or participant-observations are not assessed.

4 The Water Framework Directive

Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy – in short, the Water Framework Directive - is the legislative framework Directive for water management in the EU. The approach is integrative in the sense that for the first time in European legislative history, all types of waters, i.e. rivers, lakes, coastal waters, transitional waters and groundwaters, are addressed by a common framework. The WFD thus replaced numerous pre-existing EU Directives targeted at single aspects of Water management such as Directive 76/464/EEC on pollution by dangerous substances.

The purpose of the WFD is to contribute to the provision of sufficient supply of surface waters and groundwaters by preventing the deterioration of aquatic ecosystems, promoting the sustainable use of water resources and reducing discharges and other sources of pollution (Article 1). These goals are supposed to be reached by a multitude of measures. Article 4 states that, in principal, a good chemical and ecological status for surface waters and a good chemical and quantitative status for groundwater are to be reached by 2015. Should this turn out to be unfeasible, an extension of the deadline can be granted under specific circumstances. The MS are furthermore required to set up so-called river basin districts and consider the whole river basin instead of just the part of the river that flows through their national territory.

A Directive, however, is not directly legally binding but needs to be transposed into national law by the member states. Recognizing the need for flexibility due to varying circumstances, the WFD leaves much room for discretion on the side of the MS. For instance, while the chemical objectives are set in the Annexes of the Directives it is up to the MS to formulate the environmental objectives. MS can furthermore adopt differing approaches with regard to the role of the river basin authorities, the designation of water bodies, the use of exemptions and their understanding of the no deterioration principle. The WFD can thus be characterized as a flexible 'new generation' Directive (Lieberink et al., 2011). The river basin approach, the overarching topic of this thesis, can be considered the cornerstone of the WFD. The provisions of the WFD on river basin management are assessed and put into perspective in the following.

The WFD requires that water resources planning is done at the river basin scale. Art. 3(1) WFD states that "Member States shall identify the individual river basins lying within their national territory and, for the purposes of this Directive, shall assign them to individual river basin districts." The member states are obliged to identify national river basins, classify them according to their ecological and geomorphological status, identify the competent authority and draft detailed river basin management plans (RBMP). The RBMPs are the main tool of the WFD. As stated in Article 13 WFD, MS shall ensure that a RBMP is produced for each river basin district lying within their territory. The RBMPs had to be published nine years after entry into force of the WFD at the latest and shall be updated and reviewed at the end of 2015. As stated in Annex VII of the

WFD, the RBMPS have to contain detailed information about, inter alia, the general characteristics of the river basin district, the set reference conditions for surface water bodies and a list of the competent authorities.

5 The Involved Actors

The actors that are involved in implementing the WFD in Germany are described in the following chapter. The institutional setting of water resources management in Germany is marked by a high degree of complexity and power-sharing. In order to make the complexity manageable, a scale-level was assigned to each actor. Scale is a classical typology, used not only in political and environmental science to characterize stakeholders (cf. Wilbanks & Kates (1999), Hein et al. (2006)). While the scale on which an actor operates certainly can have an influence on the actor's cognitions, scale is not understood as one of the actor's key characteristics in this thesis. In the contexts of WFD implementation in Germany, four scale levels of importance can be distinguished: transnational, national, regional and local. However, the scales should not be equated with solid boundaries. On the contrary, multi-level governance rests upon the assumption that the different scales can influence each other (De Boer & Bressers, 2011) and an actor who is assigned to the transnational level might nevertheless have a direct impact on the local level. Due to the limited scope of a Bachelor's thesis it was furthermore necessary to restrict the analysis on the three most influential actors: The European Union, the Federal Environmental Agency and the environmental ministries of the states. Thus, no actor representing the local scale is included in the analysis. Some actors who without doubt had a (limited) influence on the implementation process are missing completely, most notably the federal government, NGOs, and water managers. The analysis that follows starts with the highest scale and ends with the lowest. That is, the European Union – being assigned to the transnational scale – is discussed first and the environmental ministries of the state at last.

5.1. European Union

The EU is a supranational economic and political union that at time of adaption of the WFD (December 2000) had 15 Member States. Since the EU-enlargement in 2004, the accession of Romania and Bulgaria in 2007 and the signing of the Lisbon Treaty in 2009, the EU comprises 27 Member States and the official institutions European Commission, the Council of the European Union, the European Council, the Court of Justice of the European Union, the European Central Bank and the Court of Auditors. The WFD was the first Directive adopted under the Co-Decision Procedure (now called Ordinary Legislative Procedure). Under the Co-Decision Procedure, the European Commission adopts legislation jointly with the European Council and the European Parliament. While the European Commission is a solely European body, the European Council is usually seen as the representation of the MS's governments and the European Parliament as the representation of the European citizen. It is not uncommon for these three institutions to have diverging opinions. They are nevertheless discussed collectively and referred to as EU in the following. The lion's share of

the work following the adoption of a piece of legislation is done by the European Commission anyway. The Commission is allowed to start an infringement procedure under Article 258 TFEU where a MS fails to comply with its obligations under EU law. This includes the proper implementation of EU Directives. With regard to the WFD, the Commission furthermore agreed with the MS and Norway on a Common Implementation Strategy. The aim of the Common Implementation Strategy is to develop a common understanding and approach to WFD implementation which is particularly important in transnational river basins. For this purpose, working groups are formed which develop guidance documents on information sharing, technical issues and data management. The recommendations are furthermore applied, tested, and validated in pilot river basins. The EU therefore plays an important role in the implementation process even after adopting the WFD. This is also confirmed by previous research on the role of the EU in national implementation processes (cf. Dasouqi, 2010).

5.1.1 Motives

The EU, especially the European Parliament, adopted a strong pro-environment position during the deliberations which led to the adoption of the WFD (Kallis & Butler, 2001). Confronted with several shortcomings of the piecemeal legislation on water issues in the EU before adoption of the WFD, the EU argued that a level playing field is needed in order to avoid a race to the lowest environmental standards (race to the bottom). Pointing to the good experience with river basin management (e.g. in the Maas and Schelde basins) and to the calls for river basin management by water managers and scholars alike, the European Parliament and the European Commission were in favour of a robust mandate for river basin management. Hence, early drafts of the WFD included provisions on making the creation of new river basin authorities mandatory and the requirement for public participation at the river basin scale during the formulation phase (Kallis & Nijkamp, 1999). In addition, the EU is interested in fostering cooperation between its MS to which river basin management might contribute (see Annex I) and in a correct transposition of the WFD into national law by the MS. The resolutions of the EU would be superfluous otherwise. Therefore, environmental protection, fostering cooperation and correct implementation of the WFD are identified as the EU's intrinsic motivation. As a supranational actor, the EU is relatively free of external pressures. Making the MS more competitive vis-à-vis the global market forces is of course one of the main arguments for starting the European project in the first place and the EU also signed numerous international treaties and can be sued in the case of non-compliance, but this is not relevant with regard to WFD implementation. However, as a political actor that is dependent on the willingness of its members to cooperate and transfer sovereignty, the EU is concerned about its legitimacy. Horeth (1999) distinguishes between three sources of legitimacy in the EU context: Input legitimacy, output legitimacy and formal legitimacy. According to the utilitarian notion of output legitimacy, a political system is considered to be legitimate if it is able to achieve the citizen's goals and solve their problems. Protecting European water ways effectively might thus increase the EU's output

legitimacy. The extrinsic motivation to achieve a high level of output legitimacy hence reinforces the intrinsic pro-environmental stance of the EU.

5.1.2 Cognitions

The European Commission is a bureaucratic entity. Unlike the European Parliament, which is elected by European citizens every five years, its employees are selected according to skill by the European Personnel Selection Office. Lawyers, accountants, economists and scientists from various disciplines make up the majority of the European Commission's personnel. The European Parliament's and the European Council's outlook, in contrast, is more political in nature. Own Research and Scientific findings are of great importance in the EU's decision-making, up to the point that the EU is frequently criticized for being "too technocratic" (mostly) by populist politicians all over Europe (Garret, 2011). The position of its MS is of course taken into account as well. Therefore, own research, scientific articles and government documents are assigned as the EU's observations of reality and European and bureaucratic as frames of reference.

5.1.3 Capacity & Power

The EU is an organization of considerable size. In 2011, the European Commission alone employed 32949 people. At the DG responsible for implementing the WFD, the DG Environment, 516 people are working (European Commission, 2011a). The EU budget is a source of constant debate. Since the EU is not allowed to levy own taxes, the budget has to be provided by the MS. For the year 2012 it will amount to 129.1 billion Euro (European Commission, 2011b). Even though this figure is huge in absolute terms, it is only about a fifth of the annual budget of the MS France and Britain. Part of the expenditure required for implementing the WFD is provided by the EU. In 2003, the Common Agricultural Policy (CAP) was reformed, which made it possible to channel funds from the CAP's rural development axis to support WFD related activities such as protecting and enhancing natural water resources (Dworak et al., 2009). In addition, WFD related research activities are supported by the Seventh Framework Programme 2007 – 2013, which has a total budget of 50.52 billion Euro (Fankhänel, 2007). Legally, EU law trumps national law (supremacy) but the EU has to adhere to the principles of subsidiarity and European added value. However, the WFD does not commit the MS to achieve good status or to equip the river basin authorities with a preconceived set of legal rights. It merely states that the MS should ensure the "appropriate administrative arrangements, including the identification of the appropriate competent authority" (Art. 3 WFD) and take all practicable steps to achieve the objectives of the Directive. An infringement procedure can only be initiated when one MS fails to do so. The EU therefore foremost plays an advisory and coordinating role in the WFD implementation process. For the reasons outlined above, environmental protection, fostering cooperation, and proper implementation are assigned as the EU's intrinsic motivation and output legitimacy as extrinsic motivation. As observations of reality, own research, scientific articles and government documents are identified while the frames of reference are European and

bureaucratic. Finally, Resources are available – albeit provided by the MS -, supremacy, infringement procedure and advisory are found to be the EU's legal rights and implementers might attribute power to the EU because they are dependent on EU funding.

5.2 Federal Environmental Agency

In Germany, several ministries are involved in water resources management at the national level. Legislative initiatives, programs and statements have to be coordinated between them (UBA, 2010). The principal responsibility for water resources management, however, lies with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). Other ministries, with a say on water resources management which are not considered in this thesis for the reasons mentioned in section 5, are the Federal Ministry of Food, Agriculture and Consumer Protection, the Federal Ministry of Health, the Federal Ministry of Education and Research, the Federal Ministry of Economics and Technology and the Federal Ministry for Economic Cooperation and Development. Furthermore, several subsidiary authorities to the BMU exist, for example the Federal Institute for Hydrology. Another subsidiary institution of the BMU is the Federal Environmental Agency (UBA), the primary authority for water resource management at the national level in Germany. The role of the UBA and its key characteristics are discussed in the following.

The UBA is the central federal authority on environmental matters in Germany. It was founded in July 1974. Since May 2005, the UBA is located in Dessau-Roßlau. The key statutory mandates of the UBA are to provide scientific support to the federal government, to implement environmental laws, and to inform the public about environmental protection. Further objectives are to protect natural resources, to support sustainable development, and to raise awareness for environmental protection. The approximately 1500 employees of the UBA carry out data collection, conduct research, develop concepts and recommendations, and advise public and private institutions on environmental matters to achieve said objectives. Hence, the UBA plays a pivotal role in environmental policy-making in Germany. The agency is the main provider of environmental data and possesses a significant amount of expert knowledge. The UBA's influence on the government's environmental policies should not be underestimated. In fact, most of the technical and scientific work of the German government in environmental matters is undertaken by the UBA (Wurzel, 2002).

5.2.1 Motives

Being the central environmental agency in Germany, it is no surprise that the UBA emphasizes the need for environmental protection in its documents, on its website¹, and even in its mission statement. The mission statement, for instance, states that environmental protection is also "act of responsibility towards future generations". It should not surprise that staff working in an environmental

¹ <http://www.umweltbundesamt.de/index-e.htm>

agency is convinced of the necessity to protect the environment. However, by doing so the agency also defends its interests in the way that the very own existence of the UBA is only justified as long as environmental protection is recognized as a political priority. The WFD itself was generally welcomed, especially the holistic approach since the fragmented nature of EU water legislation before entry into force of the WFD has led to legal uncertainty and co-ordination difficulties (UBA, 2004). The river basin approach, however, is described less enthusiastically in the same document. After mentioning the good results achieved with the old system of water management, it is stated that the EU consciously decided to adopt the river basin approach in order to become more independent from national environmental authorities and that the new approach will require a lot of additional coordination (ibid.). Given that the UBA is the central environmental agency in Germany, it is responsible for the lion's share of this additional coordination work. It also means that it will be held responsible should the WFD not be implemented correctly or should the performance of the German water sector turn out to be worse than expected. For these reasons, environmental protection of Germany water ways – to which the WFD is expected to contribute – is assigned as intrinsic motivation and the expectation by third parties that the WFD is implemented correctly as extrinsic motivation.

5.2.2 Cognitions

The UBA is the most important governmental research institution in the environmental field in Germany. Collecting, aggregating, compiling and analyzing environmental data are important tasks undertaken by the UBA. Several federal data bases such as the data base on greenhouse-gas emission in Germany are operated by the agency². In the field of water resources management the UBA operates, inter alia, the Marine Environmental Data Base (together with the Federal Maritime and Hydrographic Agency) and the media database on water "H₂O-Wissen". Furthermore, data on the environmental and chemical status of German water ways collected by the state ministries is made available on the UBA's website. However, it is obvious that the UBA's employees do not operate in isolation. In addition to their own research, scientific findings are taken into account as well. For these reasons, I assigned own research and scientific to the indicator observation of reality. The UBA's frame of reference is bureaucratic. A bureaucracy is an organization of non-elected officials who are fulfilling administrative functions. According to Max Weber's classical ideal type (1922), a bureaucracy is characterized by hierarchical organization, rule implementation by neutral officials and clearly delineated lines of authority. This certainly is true for German ministries in general and the UBA specifically.

² Environmental data provided by the UBA can be accessed at <http://doku.uba.de>

5.2.3 Capacity & Power

The UBA is a relatively big ministry. It employs approximately 1500 people in order to fulfill its assigned tasks. There are furthermore no signs that the UBA lacks sufficient funding or time. It is therefore assumed that the UBA has sufficient resources at its disposal. Even though the UBA has a significant impact on the federal environmental policies, the ministry has no legal rights itself. It merely has an advisory function. The principal legislative authorities in the field of water resource management in Germany are the federal environmental ministries (see below). The UBA thus cannot set environmental threshold values for individual river basins or monitor compliance to them. Power, however, is attributed by others to the UBA because of its expert knowledge.

5.3 State Ministries

Germany is a federal republic. That means that administrative powers are shared between the federal government and the sixteen states (Länder). Being constituent countries, the states have their own federal constitutions in which the respective state's administrative set up is laid down. In most states, a so-called Landtag is elected every four or five years. The Landtag is the primary legislative body and its members elect the head of the cabinet by a majority vote. The states play an important role with regard to water resource management. The broad guidelines which are set at the federal level in the WHG are substantiated in the respective State Water Acts. In the areas of environmental and educational legislature, the states may furthermore deviate from regulations enacted at the federal level as long as the deviation is not in breach of EU legislation (Abweichungsrecht). For instance, should the federal authorities decide to over-fulfill a certain EU Directive on environmental protection by setting stricter threshold values, it is possible for the state authorities to overrule this decision and go back to the original threshold values set in the EU Directive. In most states, authority on water resources management is organized in three tiers. With the exception of the city-states Berlin, Bremen, and Hamburg, all states possess a supreme authority, an intermediate authority, and a lower tier authority. The supreme authority usually is the state ministry of the environment (which is often responsible for other policy fields as well). The state ministries thus play an important role in implementing the WFD in Germany. However, it should be clear that important differences may exist among the state agencies due to significant structural differences of the states itself. The city-state of Bremen (419 km²/661.000 inhabitants), for example, is much smaller than the state of North-Rhine Westphalia (34.085 km²/17.837.000 inhabitants). Furthermore, water managers in urban areas can be expected to be confronted with different challenges – for instance the dependency on ground water resources - than water managers in rural areas for whom the water abstraction and pollution by agricultural activities might be a more pressing problem. This, in turn, can affect the key characteristics of the state ministries. However, with regard to implementing the river basin approach, the state ministries' characteristics resemble each other sufficiently enough to discuss them collectively.

5.3.1 Motives

The environmental state ministries are the Länder's highest authority on environmental issues. It is therefore no surprise that their mission statements emphasize the importance of environmental protection, albeit on average in a more technical and pragmatic manner than the UBA's mission statement. The Ministry for Climate Protection, Environment, Agriculture, Nature Conservation and Consumer Protection of the German State of North Rhine-Westphalia, for instance, states on its website³ that water is the foundation of all life, that clean drinking water is a scarce and valuable good and that integrated water resources planning is required to secure the supply of drinking water, protect people from floods, ensure the continuity of human water use and protect the natural habitat of flora and fauna. The notion of ensuring the continuity of human water use is especially interesting because it hints to the fact that, despite the normative rhetoric about the necessity of environmental protection, the interests of regional stakeholder in using the water are of concern for the state ministries as well. Probably more so than for the UBA, which is solely focused on environmental issues and less concerned about the economic interests of local and regional stakeholders. Similar statements can be found on the websites of other state ministries as well. The Saxon State Ministry of the Environment and Agriculture⁴, for example, emphasizes the importance of water for generating energy and for tourism. It should furthermore not surprise that the state authorities are not interested in voluntarily abandoning their legislative and executive authority over water issues. This became clear, for instance, during the deliberations about the so-called federalism reform, where the state authorities aimed at increasing their competencies not only in the environmental field. This is confirmed by Moss (2004), who concludes, after conducting interviews with state officials on the river basin approach, that "state water authorities are fearful of losing influence to the federal level in the course of harmonizing water policy and to any coordination body for a River basin District which seeks to assert its independence from state authorities" (p. 15). The two intrinsic motivations assigned to the state ministries – environmental protection and maintaining responsibilities – are thus of a different nature. The former is altruistic, while the latter derives out of self-interest. The pressure by regional stakeholders to exploit the water for their economic interests is furthermore assigned as extrinsic motivation.

5.3.2 Cognitions

The way the state ministries observe the world is similar to the way the UBA does. The state ministries on the environment undertake extensive data collection in the water ways within their territory. For this purpose, numerous gauging stations are installed and operated by the state ministries to assess water quality and water levels. The state ministries furthermore conduct

³ <http://www.umwelt.nrw.de/umwelt/wasser/index.php>

⁴ <http://www.umwelt.sachsen.de/umwelt/wasser/index.html>

independent research – often with financial support of the EU – on water related issues such as flood management systems, priority substances and the impact of climate change on German water ways. I therefore assigned own research and data collection as observations of reality for the state ministries. The frame of reference of the state ministries is bureaucratic and thus identical to the UBA's frame of reference.

5.3.3 Capacity & Power

The capacities of the individual state ministries differ significantly which reflects the size (and importance) of the respective states. The Bavarian Environment Agency, for instance, employs over 1000 staff members, while the Environmental Agency of the considerably smaller federal state Saxony-Anhalt is staffed with approximately 230 employees. Similar differences exist with regard to the availability of money. In addition, the state ministries are often dependent on funding by the EU or federal agencies for conducting bigger research projects. Overall, however, it seems that the resources available to the state ministries are sufficient to accomplish their assigned tasks, even though complying to the WFD requirements is an enormous task that demands considerable investment of financial and human resources. Börzel (1998), for instance, attributes Germany's relatively good implementation performance (if compared to Spain) to its co-operative federalism which means that the costs for implementing EU environmental policies are shared between state and federal agencies. For these reasons, partly available is assigned as the state ministries' resources. Most of the state agencies' power, however, derives from their legal rights. They have the main legislative and executive authority over environmental policy in Germany. Broad framework legislation enacted at the federal level is substantiated in the state's legislature. The states also have the right to deviate from the federal legislative framework as long as the deviation is in accordance with EU legislation. This is called *Abweichungsrecht* in German. Therefore, legislative and executive authority over water issues is assigned for the indicator Legal Rights. Last but not least, no indication of attribution by others could be found.

5.4 Summary Actor Characteristics

The results of the analysis of the actor's characteristics are shown in table I. What is striking is that all actors are committed to the protection of the environment to which the WFD with its river basin approach is seen to possibly contribute. The motivation of all actors is thus positive. Furthermore, all actors have a bureaucratic frame of reference and a scientific outlook on reality. This is partly a consequence of the limited space available, which made it impossible to consider more than the three most important actors in this thesis. There are certainly other, non-bureaucratic, actors which played a role in implementing the WFD's river basin approach in Germany. Their role, however, is only marginal. For instance, NGOs, water managers and the general public were not involved in the process during the formulation phase. The implementation of the river basin approach can thus be characterized as being technocratic. However, despite the

fact that all three actors possess the necessary resources to accomplish their goals, significant differences exist with regard to their legal rights. The main authority is vested with the state ministries while the EU and the UBA foremost have advisory functions. Judging from the actor's characteristics it can be expected that the motives of the state ministries – who have an interest not only in protecting the environment but also in maintaining their responsibilities over water issues and securing the interests of local stakeholders - are pivotal. The three layers of context which might affect the actor's characteristics are discussed in the following chapter.

Actor	Scale	Motives	Cognitions	Capacity & Power
European Union	Supranational	<p>Intrinsic: Environmental protection, Fostering Cooperation, Proper implementation</p> <p>Extrinsic: Output legitimacy</p>	<p>Observations of Reality: Own Research, Scientific articles, Government documents,</p> <p>Frames of Reference: European, Bureaucratic</p>	<p>Resources: Available, Provided by MS</p> <p>Legal Rights: Supremacy, Infringement procedure, Advisory</p> <p>Attribution by Others: MS dependent on funding</p>
UBA	National	<p>Intrinsic: Protection of German water ways</p> <p>Extrinsic: Implement WFD correctly</p>	<p>Observations of reality: Own Research, Scientific</p> <p>Frames of Reference: Bureaucratic</p>	<p>Resources: Money, time, and expert knowledge available</p> <p>Legal Rights: Advisory, Enact Framework Regulations</p> <p>Attribution by Others: Government dependent on expertise</p>
State Ministries	Regional	<p>Intrinsic: Environmental protection, Maintain responsibilities</p> <p>Extrinsic: economic interest of stakeholders</p>	<p>Observations of Reality: Own Research and data collection</p> <p>Frames of Reference: Bureaucratic</p>	<p>Resources: Partly available</p> <p>Legal Rights:, Legislative and executive authority over water issues</p> <p>Attribution by Others: None</p>

Table I: The involved actors and their key characteristics

6 Three Layers of Context

The layers of contexts in which the implementation process of the WFD in Germany takes place are described in the following section. As will be recalled from section 2.2, CIT distinguishes between three layers of context: the specific context, the structural context and the wider context. Due to the restrictions set for a bachelor thesis, it is not possible to consider all aspects of the contexts in-depth. Therefore, only those aspects that are deemed to be most important are discussed briefly in the following.

CIT considers the characteristics of the place to be an important part of the specific context (i.e. the specific case circumstances). A spatial mismatch is defined "as a misfit, which occurs if the implementing policies interfere with continuity of the boundaries, important ecological and other functions, as well as with cultural and other values of a place, which makes the measure inapt and/or inapplicable" (Kotzebue et al., 2010, p. 5969). In order to answer the question of whether the WFD helps to reduce mismatch, one thus needs to assess the boundaries, important ecological function and values bestowed upon the place. With rare exceptions, water management in Germany is traditionally organized around administrative rather than ecological boundaries. This means that the implementers were not used to consider the scale of the river basin before introduction of the WFD. It can thus be expected that by introducing river basin management in Germany, mismatch between administrative and ecological boundaries is reduced at the costs of increasing the mismatch between the administrative setting and the values bestowed on the place. Similar considerations can be made with regard to the governance structure, which is part of the structural context. Resources and responsibilities are mainly allocated along state boundaries. Since those holding the executive and legislative authority over water issues (the state ministries) have to decide about the exact role of the river basin authorities, the transfer of far reaching competencies would be a surprise. The characteristics of the wider context point into a similar direction. Environmental protection in Germany traditionally relies on using the best available technology and focuses on setting emission controls. The German political system is furthermore marked by a high degree of formal political legitimacy. The overwhelming majority of authorities in the water sector (and elsewhere) are politically accountable to a democratically elected body, either at the national, regional or local scale (Moss, 2004). The responsible authorities are furthermore convinced that good results have been achieved with this system (UBA, 2010). This further decreases the willingness of the implementers to transfer real powers to the river basin authorities.

Summing up the analysis, it can be expected that the WFD and river basin management will be implemented in Germany. All involved actors have a positive attitude towards the WFD and the management of water resources along river basin boundaries. On second sight, however, it becomes clear that especially the state ministries who hold the legislative and executive authority over water issues in Germany are reluctant to transfer real powers to the river basin

authorities. Thus, a minimalistic approach to implementation can be expected. The role of the river basin authorities and the way river basin management was actually institutionalized is analyzed in the following chapter.

7 Implementation Outcome

In line with Article 3(1) WFD, 10 individual river basins lying in Germany have been identified: Danube, Rhine, Meuse, Ems, Weser, Elbe, Eider, Oder, Schlei/Trave and Warnow/Peene. With the exception of the Weser, all river basins are transnational. The parts of the river basins lying within German territory are subdivided into sub-basins in accordance with Article 13(5) WFD. For each sub-basin, a state environmental ministry is assigned as the competent authority. The state ministry is responsible for creating the respective sub-basin management plan, which includes, inter alia, an assessment of the river types present in the sub-basin, the designation of water bodies as either natural, heavily modified or artificial, and the definition of good ecological status (respectively good ecological potential for HMWB). It is thus possible that different definitions of good ecological status/potential are in use in the same river basin. In order to avoid that completely different approaches are adopted by the state ministries, intense coordination is needed. At the federal level, representatives of the state ministries and federal environmental agencies meet regularly – at least twice a year – at the German working group on water issues (Bund/Länder-Arbeitsgemeinschaft Wasser - LAWA). LAWA was founded in 1956 with the objective to ensure a coherent application of water law in Germany. Its importance, however, increased significantly with the adoption of the WFD (Kampa et al., 2003). LAWA produces guidance documents on the WFD implementation process which include recommendations on, for instance, the classification of water bodies and water quality assessment. LAWA recommendations are of a non-binding nature but are nevertheless taken seriously by the implementers, which is demonstrated by the fact that LAWA documents are referenced frequently in the sub-river basin plans. LAWA is also heavily involved in coordination activities at the European level, especially with regard to the common implementation strategy. Similar coordination bodies exist in the individual river basins. For most international river basins, so-called river commissions were already in place. Their importance increased as well during the WFD implementation process. Tasks undertaken by the international river commissions include the aggregation of the sub-basin management plans into a management plan for the whole river basin, the development of recommendations, and water quality monitoring. The International Commission for the Protection of the Elbe River (ICPER) is discussed exemplary in the following. The ICPER was founded in 1990 by Germany, Czechoslovakia and the European Commission to prevent pollution of the river, reduce pollution of the North Sea and coordinate water management across the catchment area. Nowadays, the organizational structure of the ICPER consists of three working groups: Implementation of the EU WFD in the Elbe River basin, flood protection, and accidental water pollution. The working group on WFD implementation elaborates non-binding recommendations on how to implement the WFD in the

Elbe River basin. These recommendations have to be taken unanimously and confirmed by the annual members meeting. The recommendations are taken seriously by the ICPER members despite their legally non-binding nature (Borowski et al., 2007). This is confirmed by Dombrowsky (2008), who investigated the effectiveness of the ICPER in a recent study. He found that the recommendations uttered by the ICPER have a significant impact on the actual implementation outcome as long as the main responsibility lies within the hands of the public authorities which are ICPER members. However, the effect is practically non-existent where success is dependent on the behaviour of private parties, such as individual farmers. In most German river basins, yet another coordination body was installed next to the river commissions – the so-called River Basin Communities (Flussgebietsgemeinschaft - FGG). Created explicitly for coordinating the WFD implementation process, the FGGs are working groups of the state ministries at the river basin level. They do have similar tasks assigned as the river commissions but cover solely the German parts of the river basins. The FGGs, however, do not have any real powers. They are mostly used to harmonize the common position of the state ministries before deliberations with the neighbouring states in the river commissions and to conduct additional data collection.

The implementers thus fulfilled the obligations of the WFD. The river basins lying within the national territory were identified, the competent authorities were assigned and river basin management plans were drafted. However, the attempt to introduce watershed consciousness failed to a great degree. German implementers adopted a minimalistic approach to the river basin approach and avoided the transfer of real powers to the river basin authorities. The river basin authorities merely have a coordinating and advisory function. The management of water resources is still primarily done by the state ministries who are used to - and most likely will continue to - use administrative boundaries as their frame of reference. Moreover, the most important coordination body, LAWA, is installed at the national level rather than at the river basin level. True, there are some features of river basin planning, most notably in the already existent river commissions and in the newly created FGGs. However, these bodies cannot utter legally binding recommendation and are heavily depend on the ability and willingness of the implementers to make unanimous decisions and obey their recommendations. Thus, most of the work is still done at the regional level and then fine-tuned at the river basin level.

8 Conclusion

The thesis' objective was to investigate how the actors involved implemented the river basin approach prescribed in the WFD in Germany and explain the implementation outcome. As a methodological tool, the CIT framework was used. CIT identifies the involved actor's key characteristics Motives, Cognitions, and Capacity & Power as the key variables that determine the implementation outcome. These characteristics were therefore analyzed in-depth for the three most influential actors: The European Union, the UBA and the environmental

ministries of the states. The analysis revealed that all three actors officially welcome the management of water resources along river basin boundaries. In the words of CIT, all three actors had a positive motivation towards implementation. A closer look, however, revealed that especially the environmental ministries of the states – who have the executive and legislative authority over water issues in Germany – were reluctant to transfer real powers to the river basin authorities. This was further reinforced by contextual factors such as the administrative tradition to ensure a high degree of formal legitimacy by making each authority responsible to a democratically elected body. Transferring significant powers to an unelected river basin committee would break with this tradition. The expectation thus was that Germany will adopt a minimalist approach to implementation. This turned out to be true. The implementers decided to appoint the state ministries as the competent authority for the individual sub-basins lying within the German territory. The institutions at the river basin scale – river commissions and FGGs – can only utter legally non-binding recommendation, even though these are normally taken seriously. German implementers decided to fulfill their obligations under the WFD by (more or less) relabeling the status quo. This does not need to be negative, since the German model of water resource management has achieved relatively good results in the past. However, the objective to increase watershed consciousness by prescribing river basin management in the WFD failed. The analysis also confirmed that the CIT framework is an useful tool to understand implementation processes. The prediction of the expected implementation outcome applying CIT was correct. The indicators intrinsic motivation and legal rights turned out to be decisive in the context of the WFD implementation process in Germany. The results, however, should be interpreted with due care. It was not possible to analyze more than three actors in-depth due to the limited time and scope available for a Bachelor's thesis. It can be expected that other actors such as the federal government, NGOs, and water managers influenced the implementation process as well. The conclusions were furthermore reached only by looking at scientific articles, government documents and the actors' websites. With one exception were interviews on the attitudes of the UBA on river basin management could be found in the literature, the findings were not confirmed by stakeholder interviews or field observations. It is therefore possible that important detail is missing or that the true motivation of an actor differs from its self-portrayal.

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Annex I – A Brief History of River Basin Management

The concept of planning and management of water resources at the river basin level has a long tradition. Molle (2008) argues that river-basin management is inherently political in nature as it calls for a reallocation of administrative competencies. For instance, in France a plan was drafted in 1851 to regroup the existing departments along the main river basins with the intention to counterbalance Paris-centered political power. The plan has not been realized, however, two points become apparent from this story. First, the idea of organizing river management around the river-basin scale is not new. Second, redrawing the boundaries around the river-basin scale is a political process that involves the reconfiguration of established power configurations.

In Europe, the river basin was first theorized by Philippe Buache in 1752. When water science developed during the 19th century, the river basin became associated with positivist, utopian ideals and it was hoped that by taking the whole river basin into account, humankind can civilize wild rivers to serve development. Towards the end of the 19th century, interest in the river basin dissolved but reemerged to the forefront after the end of World War II. The UN, for instance, stated in 1958 that river basin management was essential for human development (Kates & Burton, 1986). At the end of the 20th century, river basin management was accepted by the overwhelming majority of water managers, policy makers and scientists. It is an integral part of the so-called Integrated Water Resources Management (IWRM) and Adaptive Management frameworks which have dominated scientific publications related to water management for decades (see, for instance, Walters (1986), Radif (1999), Pahl-Wostl (2007) and Flügel (2011)). Hence, when the EU made the river basin approach the cornerstone of the WFD, it could count on the support of the majority of water managers and scientists. The point that redrawing administrative boundaries is always a political process, however, should not be missed. Prescribing in the Directive that water management should be oriented along the boundaries of the river basin, which possibly spans across multiple member states, can also be understood as serving a EU agenda of fostering cooperation and deeper integration.