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Abstract

The European Union's Water Framework Directive advocates, among other things, River Basin Management and is often considered the principal driver of scalar organisation of governance in Europe. However, since more detailed comparative analysis seems necessary, this paper aims to enhance understanding of processes of scalar reorganisation of natural resource governance in the EU. A framework is developed for analysing the reconfiguration of water governance in Germany, relying on the illustrative case of the Elbe River basin. Drawing on a combination of theories of institutional change, the approach suggests a co-evolutionary understanding of processes concerning the scalar reorganisation of natural resource governance, which turns out to be neither solely about politics or cost-effective governance. The framework enables highlighting of the diverse mechanisms of change in Germany, which led to a strengthening of the legislative function of the federal state and coordination within basin boundaries, whereas individual states principally maintained an executive function. Upscaling was the outcome of European requirements, ideologically influencing changes in the preferences of water managers, facilitated by changes in use patterns. Increasing contacts at multiple scales and in newly created fora led to an informal reorientation of water management in the Elbe basin while Germany-wide cooperation was sidelined. In comparison to other European countries, such as Spain or Portugal, where European requirements seem more politicized, Germany aspires to compliance with European requirements in a functionalist fashion. Constitutional decision making rules seem to dominate which governance options are considered feasible and the extent of their potential stability.

1 Introduction

Much research on water management in Europe addresses the ways the European Union's Water Framework Directive (WFD) influences water management at the national, regional and local levels. Adopted in the year 2000, among other things the directive stipulates the scale at which water governance should be organized (CEC (Commission of the European Community), 2000; 2007). Given its binding character, advocacy of River Basin Management, requirements to coordinate water use within river basins and undertake River Basin Planning, and substantive requirements concerning the "good" ecological and chemical status of European waters, the directive is often considered the principal driver of recent changes in the scalar organisation of water governance in Europe. However, as a variety of recent studies have found, the picture is much more complex. Accordingly, Merrey and Cook (2012) argue for more detailed comparative analysis of the emerging landscape of water governance. For example, in the Netherlands existing structures have been complemented by coordination structures that interconnect basins. In Portugal, territorially organised water governance has been reorganized according to hydrographic regions (Thiel and Egerton, 2011). Sweden, Italy, Spain and, more recently, Portugal created river basin authorities having executive functions, though Spain is now questioning this model (Thiel, 2011). Prior to the WFD, France had always planned within the boundaries of its river basins, but implements water management within territorially oriented administrative units (von Keitz and Kessler, 2008). Schlager and Blomquist, 2008, among others, have examined coordination between states in the USA for managing water across state boundaries. In this paper I argue that while formally, little changed in the institutional configuration of water governance in Germany, informally it has been upscaled to different degrees, following a functionalist approach to the implementation of the WFD.

Arguments in favour of specific delineations of boundaries for water management, such as basins, are being criticized as they are not justifiable on ecological grounds. Furthermore, they are criticized as strategies for concealing inherently political choices (Molle, 2008) and tradeoffs between different governance arrangements (Mollinga et al., 2007; Mostert et al., 2008; Warner and Bel, 2008). Lankford and Hepworth (2010) illustrate how River Basin Management in particular depends on public authorities possessing significant water management capacities (e.g. data gathering, enforcement and monitoring, licensing), suggesting polycentric approaches as being preferable for example in where administrative capacities are weak (Kerr, 2007).

Against the background of diversity of reforms and models in Europe, this paper aims to enhance understanding of processes leading to scalar reorganisation of natural resource governance by developing a conceptual framework to analyze such phenomena. The framework is specifically used to analyse the case of water governance reform in Germany, as illustrated by scalar reorganisation regarding the transnational Elbe River. According to Moss (2004) implementation of the European WFD posed a specific challenge to the existing structure of the German water administration.

Below I introduce my conception of scale in relation to natural resource governance and review some of the literature that studied these issues. Subsequently, I introduce my conceptual framework before applying it to explain the dynamics leading up to the scalar reorganisation of water governance regarding the Elbe and the outcome of its renegotiation. The conclusions situate the case with regards to the broader study of approaches of European Member states to the implementation of environmental and

water legislations. The Elbe has been selected as an illustrative case study, as it is commonly recognized to be the basin in Germany where changes in the scalar organisation of governance ran specifically deep. It turns out that, for the Elbe and to a lesser extent across Germany overall, water administrations made serious efforts to implement the WFD, which led to a predominantly informal up-scaling of water governance and a much stronger basin orientation. Data has been gathered for this study from a literature review including peer-reviewed articles, official government reports and newspaper articles. This secondary data have been verified and detailed via a large number of semi-structured interviews with actors involved at different levels, representing a range of water users, administrative levels and sectors, and policy makers. Interviewees have been identified through a document-based stakeholder analysis combined with a snowballing approach. Most of the data is of a qualitative nature and was coded in an interpretative fashion in order to link it to the explanatory framework.

2 Studies of scalar reorganisation of water governance

The scale at which natural resources and their use is governed defines a) the spatial extent of the area to which a specific institutional and actor configuration applies (cf. North, 1990 on the space of governance), b) the administrative level with which resource management is associated, and c) its horizontal and vertical interrelation to other governance structures (cf. Howitt, 2003). To different degrees, changes in scale and within these three dimensions are usually framed according to two explanatory dynamics. First, the politics of scale and the outstanding role for state agency is principally conceptualized by critical geographers (Swyngedouw, 1997; Marston, 2000; Brenner, 2004) and political scientists, who specifically refer to the political act of boundary re-drawing and re-shuffling of relations between governance arrangements, associated changes in accountability mechanisms and overall governance regimes (Blomquist, 2005; Paavola and Adger, 2005). A second strand of the literature, addressing these issues from a normative perspective, is related to discussions of institutional configurations that provide for “fit” between social-ecological problem characteristics and the way they are institutionally addressed. This approach emphasises the problem-solving characteristics of the scalar organisation of governance (cf. Young, 2002). Feitelson and Fishendler (2009) see these two approaches as principally addressing national dynamics; and scrutinize transboundary cases with regard to the relevance of these same dynamics. The present paper integrates politics perspectives with the problem-solving perspective, proposing a co-evolutionary understanding of scalar reorganisation of governance (Norgaard, 1994a), seen as an “interface between coupled social-ecological systems” (Feitelson, 2009; Paavola, 2009).

The paper avoids reductionist explanations and suggests that scalar change of resource governance is neither only about politics and political economy nor is it just about cost-effective governance. Rather, re-scaling is about what economic interests are able to control the processes by which it is advocated and carried out and whose technically, economically, or politically oriented vision of water management prevails at a specific moment in time. Swyngedouw, 1999 builds such a comprehensive account. While agreeing with the need for “closer attention to the interrelationships between governance, water, and social networks (power), and an emphasis on the role of institutional framings and scalar constructions in these processes” (Norman and Bakker, 2012), I want to specifically throw light on the mechanisms that link changes in perceptions and interests concerning water governance to its scalar organisation. Some of these are related to acknowledgement of changes in our perceptions of, and

material interrelations with, nature-related transactions (Hagedorn, 2008). A framework relying on a combination of theories of institutional change allows me to integrate these mechanisms into what I hope to be a comprehensive understanding of phenomena of scalar reorganisation of natural resource governance addressing its political as well as its problem-solving dimension.

Most studies of the transformation of water governance focus predominantly on the political sphere (cf. Feitelson, 2009). For example, Bressers and Kuks, 2004 view extent of regime change and scalar organization of governance as being directly related to the power of change agents. Joint opportunities and institutional interfaces are considered to be most significant in explaining various forms of regime change. In contrast, other authors emphasise the role of social learning and culture in transitions towards new management regimes (Pahl-Wostl et al., 2008). For the Netherlands, Huitema and Bressers, 2006 found that the successful application of principles such as river basin management depends on “interplay” and “fit” with existing national governance. Thiel and Egerton, 2011 conclude that water management in Portugal has been reorganized to coincide with hydrographic regions due to the contingent role of the River Basin Management paradigm, which, shared by expert communities, had a strong influence on national politics. A set of further studies emphasise the role of contingent national dynamics and path dependencies in the political and institutional domains (Börzel and Risse, 2003; Liefferink et al., 2011). Falkner et al., 2007, for example, categorize national policy styles in relation to the implementation of European legislation and reason about their causal efficacy in shaping implementation. In contrast, emphasising the problem-solving dimension of the scalar organisation of water governance, Huffmann (2009) claims that a “better explanation for the changing emphasis on river basins as an organizing concept for water governance are[sic] changing demands on the water resource and new technologies”.

The above approaches do not detail what triggers political dispute and learning over changes in material practices and institutions or changes in the social construction of natural resource management practices and their outcome. I agree with Norgaard (1994b) that these aspects are the expression of a co-evolutionary understanding of interactions between society and non-human nature. Kallis and Norgaard (2010b) describe “socio-ecological co-evolution” as “evolution in the social system [that] affects the bio-physical environment, which in turn affects evolution in the social system”. Theories of institutional change allow us to detail the mechanisms and factors through which society selects from a variety of alternative ways of organizing governance, an apparently weak point of much work on co-evolution (Gual and Norgaard, 2010 see also Knight, 1992). In contrast, previous studies of the co-evolution of waterscapes contain less detail because they have negotiated the tradeoff between the breadth and depth of their studies differently than mine (cf. Kallis, 2010a; Paavola, 2011).

3 Conceptual framework: the scalar reorganisation of natural resource governance as institutional change

From a co-evolutionary perspective, the objects of analysis – institutions and governance structures – are viewed as designed cultural products that, in the case of water governance, mediate between two evolutionary systems: demand and supply of water-related ecosystem services. Processes of cognition and emergent social construction are predominant in understanding the design of governance structures; I argue that they coevolve with changes in material use practices and inherent management challenges (Kallis, 2010b). The perspective I formulate here is embedded

into Bromley's conception of volitional pragmatism Bromley, 2008, where actors, upon being surprised, may re-evaluate what they consider the best means as well as best ends of social practices and institutions. (Bromley, 2008). Actor-specific formulation of desirable institutional means and ends is followed by the need to enter group action to reconcile disparate and contending individual expressions and imaginings until a consensus emerges. The conceptual framework I propose combines theories of institutional change and multi-level governance to find out in detail a) what shapes actors' "created imaginings", b) what shapes what actors hold to be desirable institutions as means to achieve their ideas, and c) how to analyse the process of agreeing on specific institutions.

I take institutions to be sets of working rules, such as property rights and governance structures (Ostrom, 2005). While they undoubtedly are dialectically interrelated with cognitive categories, such as habits or mental models, they function as "rules of the game" external to individuals (North, 1990). They can be formal, possibly written down, and sanctioned by higher authorities or informal, idiosyncratic. Property rights are sanctioned by a higher body – usually the state (Bromley, 1992) – while governance structures coordinate nature-related transactions and sanction property rights. Governance is defined as "the establishment, reaffirmation or change of institutions to resolve conflicts [or to coordinate] over environmental resources" (Paavola, 2007).

According to Bromley (2006), in negotiations over preferred visions and practices of governance, actors hold conceptions that are subject to constant re-evaluation. I use economic theories of institutional change to conceptualize how changing contextual factors shape actors' perceptions concerning preferred institutional means and ends. Governance changes either as a result of changes in a negotiation constellation (participating actors and rules of negotiation) or changes in actors' perceptions and in what they prefer as governance.

Actors are assumed to be intendedly rational (Williamson, 1985). Institutional change is triggered by a contingent disequilibrium of actors' powers and their perceived benefits from restructuring human interactions (Knight, 1992) (cf. (Brousseau, 2011)). Below I describe three contingently interrelated components that the framework singles out as potential triggers of institutional change.

First, the framework singles out four interrelated contextual factors:

a) Changes in the value of a resource that depend on factor and product prices and justify changes in monitoring and sanctioning schemes and engagement of specific user groups as they alter the value of ownership or regulation of natural resources (Lin, 1989).

b) Technological change increases or decreases costs of governance or costs of production of ecosystem services and their distribution. They change characteristics of transactions – such as rivalry, excludability, frequency, uncertainty or relational distance, which I define as relative spatial distance between transacting partners – and may motivate institutional change because of changes in the cost-benefit calculus concerning the implementation of specific rules.

c) According to Ostrom, 2005, institutions are interdependent and "nested". Changes in interrelated institutions can lead to changes in social-ecological system governance because of changes in costs and benefits of coordination between institutions (Lin, 1989).

d) Ideologies derived from mental models help individuals in decision making under uncertainty. They evolve from social constructions and institutions that develop in a

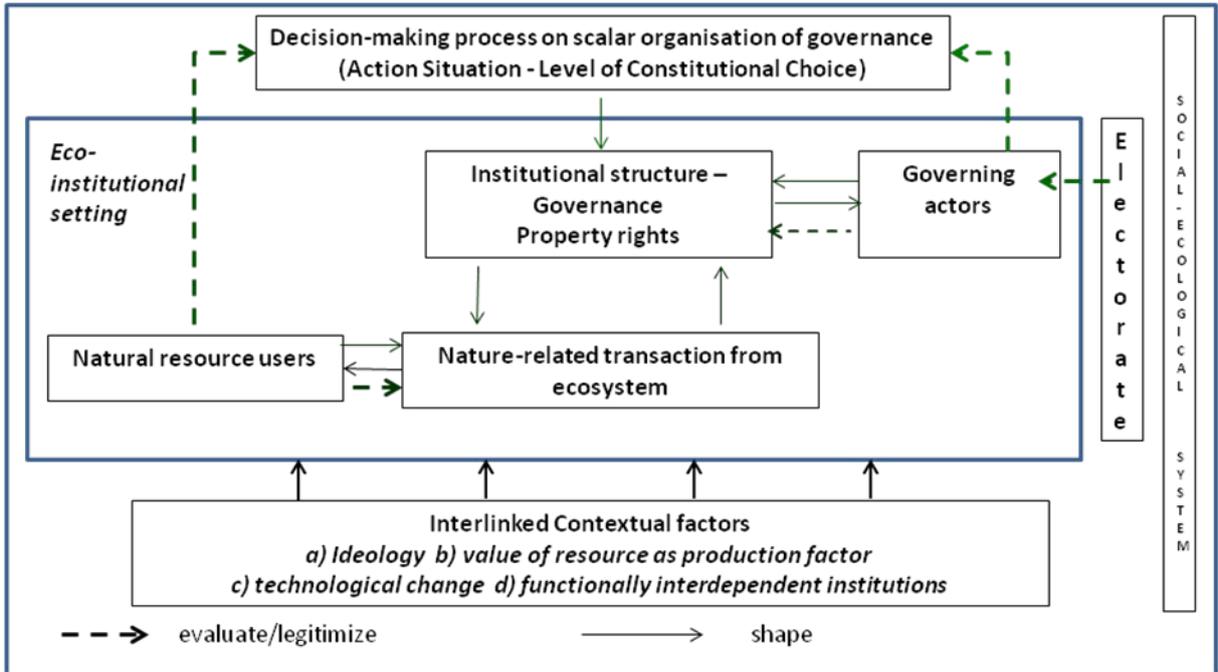
society (Lin, 1989; Denzau and North D, 1994). As mental models and ideologies change, people’s evaluation and preferences regarding relevant options change.

Second, these interrelated contextual factors shape what I call the eco-institutional setting. Here, three groups of actors are of interest: (a) actors who derive a service from a resource through their direct or indirect use, (b) actors who regulate and sanction resource use (governing actors, such as regulators and/or politicians), and (c) the electorate that legitimizes politicians. Actor groups are physically and institutionally interrelated and attempt to influence the scalar organisation of governance in line with their specific objectives. Also, transactions occur between individual users and, usually, the state (regulator) that acts on behalf of other users (Bougherara et al., 2005). The distribution of utility streams implied is regulated by property rights which are sanctioned by governance structures.

Third, contextual dynamics and eco-institutional settings shape the envisioned practices that actors bring into the action situation (Ostrom, 2005). Here, participants in institutionally defined positions negotiate over maintaining a status quo organisation of water governance or shifting it. In game theory, this setting is known as the “battle of the sexes”, with payoffs symbolizing the distributional implications of the different options (cf. Brousseau, 2011). They are understood, in a metaphorical sense, as incentives and deterrents in relation to choices (Dixit, 1997).

The graphic below summarizes and shows the relationships between the elements of the conceptual framework guiding the present work. The contingent and concrete articulation of the categories within it can help in formulating an overall explanation for a particular case such as recent scalar reorganisation of governance of the Elbe River.

Figure 1: Conceptual Framework

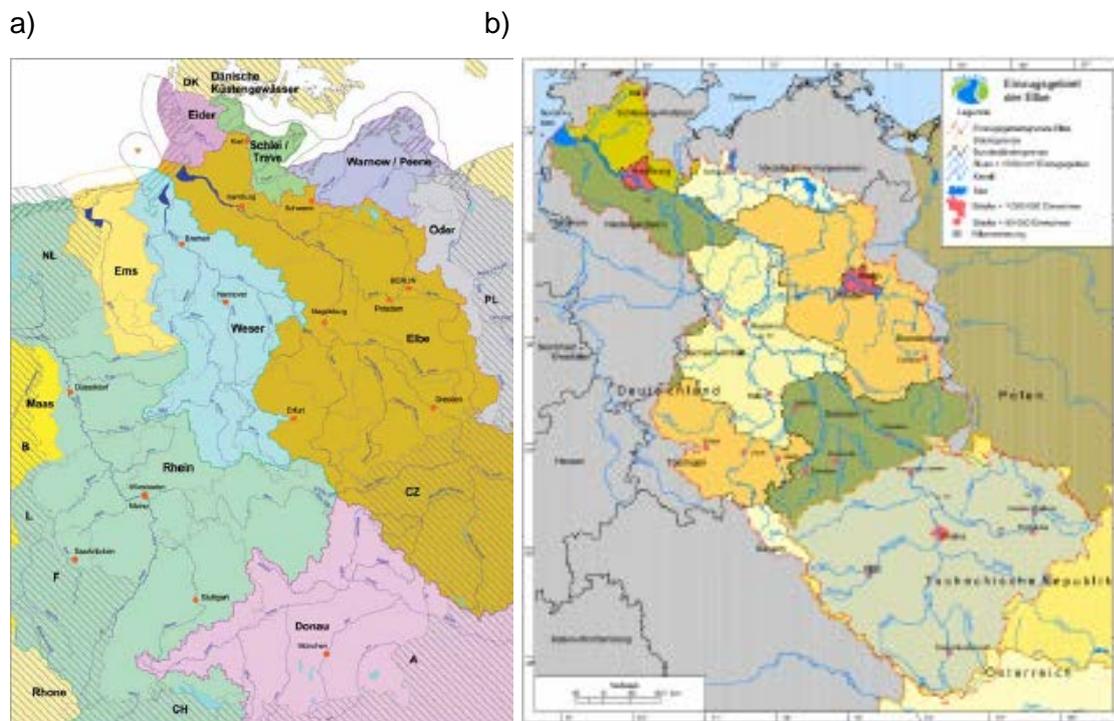


Source: own figure

4 Case study setting: Germany and the Elbe

Germany is a member of the European Union and a federal republican state (Bundesrepublik) in Western Europe composed of sixteen, relatively strong, states (Bundesländer). It is a densely populated, industrialized country in a moderate climate zone. Although precipitation varies across Germany, water quantity hardly poses a problem (Umweltbundesamt (UBA), 2010b). Morphologically, Germany can be divided into northern lowlands with lakes and small rivers, hilly areas in the middle and foothills of the Alps in the South. In Germany there are four national (Weser, Schlei and Eider, Warnow and Peene, Trave) and six internationally shared river basins (Danube, Ems, Rhine, Maas, Oder, Elbe). In the case of the Elbe, Germany is downstream.

Figure 2: a) German river basins & b) The Elbe and the states that share it



Source: (Bundesministerium für Umwelt, 2005); (Flussgebietsgemeinschaft Elbe, undated)

The Elbe extends over 1,095 km, and its basin is shared by ten states within Germany (65,5%), the Czech Republic (33,7%), Austria and Poland (1,5% together). Roundabout 25 million people live in the basin (75 % in Germany, 24% in the Czech Republic). In 2001, 1.5% of the GDP of the basin came from agriculture, 24% production, and 73.5% services. Within the basin, water usage by chemical, pharmaceutical, pulp and paper, metal, leather, food, and mining industries; oil refineries; power plants; shipping; and sewage-water discharge water abstraction for mining play important roles. A large, protected floodplain forest (Biosphere reserve Riverlandscape Elbe) is situated covering areas in four states and flooding represents an important risk.

Across Germany, including in the Elbe basin, dominant pressures are morphological changes, building on river banks and artificial obstacles for migratory fish, followed by pollution with nutrients and chemicals, whereas abstraction only plays a minor role. Of all waters within Germany, 17% exhibit significant industrial pollution, and 70% of

all surface waters show significant diffuse pollution, originating from pesticides and fertilizers used in agriculture.¹ For groundwater, the most significant burden is diffuse pollution with nutrients. (Bundesministerium für Umwelt, 2010). The largest consumption purpose is cooling water for industry (Umweltbundesamt (UBA), 2010b). Household and industry consumption are decreasing, representing less than 20%. Water supply and sanitation infrastructures are of high standard.

4.1 Formal changes in German water management

Traditionally, the German states have had executive functions in environmental and water protection and, to varying degrees, also legislative roles. The Federal state owns all federal waterways (listed in the Federal Waterways Legislation), maintained by its multi-tiered Federal Water and Shipping Agency. The German constitution guarantees this distribution of competencies; its change requires two-thirds majorities in both the German parliament (*Bundestag*) and the Council of the States (*Bundesrat*). Since the foundation of the reunified Germany in 1990, discussions about the distribution of water management competencies have been ongoing (Grandjot, 2007); the most recent reforms were decided upon in 1994 and 2006.

Since 1994, the German Federal State had had the framework competency of setting out the aims of water regulation, as it had been thought that state-level regulation risks leading to disparities in living conditions across Germany (Köck and Unnerstall, 2006). However, direct coordination of management between states was not required (Grandjot, 2007). Each *Land* detailed prescriptions and implemented them, making them in effect the most important players (Ginsky and Rechenberg, 2007; Grandjot, 2007). The Board for Water Affairs (*Bund/Länderarbeitsgemeinschaft Wasser – LAWA*), has been coordinating water management activities among the states and the federal level since 1956, under a presidency rotating between the states (www.lawa.de, accessed: 15.2.2012).

The German water law was introduced in 1960 and has been reformed seven times since. As a result of stipulations in the constitution, transposition of the European WFD in 2002 required no less than 33 legislative acts.² The LAWA and the Federal Ministry for the Environment (*Bundesministerium für Umwelt – BMU*) streamlined the process by means of pre-formulated text sections for legislations and ordinances (Stratenwerth, 2006). States also had to decide how to implement coordinated water management within hydrographic regions as required by the EU. In some basins states opted to introduce River Basin Organisations (RBOs), with a presidency rotating between states, which adopted decisions by consensus and for which a permanent secretariat was established (*Flussgebietsgemeinschaften – FG*) (Köck and Unnerstall, 2006). For other basins, such as the Rhine, Danube, and Odra, existing cooperation on the national and international levels was considered sufficient (Stratenwerth, 2006; Meyer and Thiel, in press). The federal level was represented by its Federal Water and Shipping Agency and for providing the link to national water management.

¹ This is responsible for the fact that 38% of groundwaters, 89% of streams and rivers, 57% of lakes and almost all coastal waters in Germany will not attain “good” ecological and chemical status in 2015.

² One at the federal level, which laid out the broad framework – water management according to hydrographic regions, the determination of water quality objectives for rivers, and the introduction of new instruments for managing waters according to specific deadlines (River Basin Management plans and programme of measures, cost recovery, etc.) – and thirty-two legislative acts to change water laws and ordinances within the sixteen states

Also, at the international level, coordination was required by the EU. For this purpose, existing coordinating bodies at the international level were reoriented. For example, for the Elbe, a coordination group with Poland and Austria was created. Internationally, the German Ministry of Foreign Affairs leads the national delegation for such purposes, and states are represented according to issue-specific voting keys (Stratenwerth, 2006).

As part of a constitutional reform in 2006, “after states had been dominating legislative functions for long [. . .] the federal level obtained the right to regulate water management in a uniform way because it gained ‘competing legislative competence’” to make uniform environmental legislations (“complete regulation” *Vollregelungen*) (Reinhardt, 2007). The federal level nevertheless retained the right to diverge from federal regulations (Knopp, 2007), except for areas of water pollution and transposed European legislation (Ginsky and Rechenberg, 2007).

The new water law in 2010 operationalized the reform and upscaled existing state laws to the federal level (Umweltbundesamt (UBA), 2010a). States now execute federal regulations and only rarely opt to complement them. The new law also included provision of ecological status and passability for migratory fish into the competency of the Federal Water and Shipping Agency (Herpertz et al., 2010). On the European level, the Federal Ministry and the LAWA began representing German interests.

In regard to the Elbe, a Working Group (ARGE Elbe) had coordinated pollution abatement and assessment. First founded in 1977 among the Western German states, it was expanded in 1993 to include the Eastern ones. In 2003, the RBO Elbe (*Flussgebietsgemeinschaft Elbe – FGG*) was founded to coordinate water management of the states. Here, representatives of the ten states work in four permanent working groups on surface waters, groundwaters, flood protection and data-management. The RBO’s permanent secretariat supports the work by synthesising information, maintaining databases, coordinating the stance of the states vis-à-vis the international level, advising on water management challenges and reporting on the WFD. In 2010, the ARGE Elbe was integrated into the RBO Elbe (www.fgg-elbe.de, accessed: 15.2.2012); (Schulz and Baron, 2005).

At the international level, in 1990 Germany, the Czech Republic and the European Union founded the International Commission for the Protection of the River Elbe (ICPRE) to reduce pollution and agricultural use of waters and maintain ecosystems (Möllenkamp, 2007). Germany is represented by the Federal Ministry of the Environment and the president of the state temporarily presiding over the RBO.

4.2 Informal changes in German water management

My illustration of informal practices in German water management starts at the transnational level of the Elbe basin before going down to the sub-state level. Subsequently, I address the roles of particular actors.

At the transnational level, increasingly trust is being established. Contentious issues concerning cooperation are openly addressed nowadays. Commitments have become less ambitious, however, because the European WFD makes them potentially enforceable. Nonetheless, upstream countries have developed an understanding for the issues of downstream countries and states. While some successes have been achieved, members of the ICPRE also agree on not publicizing any remaining problems. The European Commission had an important role in the ICPRE until the Czech Republic became a full member of the European Union.

Within Germany, the RBO has successfully structured and accompanied cooperation and coordination between states in elaborating River Basin Plans. Because of the proactive approach of the state of Schleswig Holstein – a coastal downstream riparian state which presided over the Elbe RBO between 2006 and 2009 – the Elbe basin has set high standards for implementation of the WFD for the rest of Germany. It is the only transboundary basin in Germany where a national, cross-state water management plan was established. The RBO further organized participation for the states on the basin level and drafted the answers to the public for all states, illustrating states' trust to the RBO.³

During stock-taking of the pressures faced by the Elbe, ten hydrographically delineated coordination areas that crossed several states and sixty-one planning units played an important role.⁴ As a result, state-level administrators were intensely involved at various scales. Although in the beginning administrators were suspicious of sharing information, over time collaboration improved significantly. In contrast, decision-making procedures proved complex and slow, so that issues were often referred to higher levels (cf. (Borowski, 2010)).⁵ Once this stock-taking was completed, lowest level planning units lost relevance in the Elbe.

Throughout the period studied, the Federal Ministry of the Environment also gained in importance in water management, informally, as a partner in fora on different levels. The LAWA started to use its position in European negotiations more effectively by agreeing to joint positions on European policies through an informal email-distribution list, which followed the recognition that lobbying by individual states on the European level was ineffective and wasted resources. Approximation of federal and state competencies is further indicated by the mandate of the Federal Waterways and Shipping Agency to work towards achieving ecological status of federal waterways, which will require deeper collaboration with the states (Herpertz et al., 2010). Thus, water management has become more collaborative across scales in Germany; higher scales have gained in importance, and state bureaucrats often still request an even stronger role for the federal level.⁶

Environmental NGOs have gained access to discussions at all levels. For the ICPRE, the European Commission insisted and, after initial suspicion, the RBO also admitted them. The WWF has focussed its efforts on the transnational and European levels, while the *Grüne Liga* (Green League) focuses on the RBO Elbe. Both have recognized that their claims are increasingly being taken seriously.⁷ In addition, several basin and issue-specific lobbying associations emerged, for example regarding public or private water supply and sanitation.

³ Interview: FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010; Ministerium für Landwirtschaft, Umwelt und ländliche Räume (Ministry for Agriculture and the Environment), Schleswig Holstein, Kiel, 14.12.2010; Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment), Bonn, 25.11.2010; Sächsisches Staatsministerium für Umwelt und Landwirtschaft (Ministry for the Environment and Agriculture), Dresden, Saxony, 5.1.2010.

⁴ Interview: Ministerium für Landwirtschaft, Umwelt und ländliche Räume (Ministry for Agriculture and the Environment), Schleswig Holstein, Kiel, 14.12.2010.

⁵ Interview: Ministerium für Landwirtschaft und Umwelt (Ministry for Agriculture and Environment), Sachsen-Anhalt, Magdeburg, 13.12.2010.

⁶ Interviews: Ministerium für Landwirtschaft, Umwelt und ländliche Räume (Ministry for Agriculture and the Environment), Schleswig Holstein, Kiel, 14.12.2010; FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010.

⁷ Interviews: Grüne Liga (Green League), Berlin, 17.12.2010; Phone Interview: WWF, 23.12.2010.

5 Explaining the scalar reorganisation of water governance

In what follows, I rely on the co-evolutionary conceptual framework outlined in section two in order to explain the formal and informal changes mentioned in section three concerning the scalar organisation of water management in the Elbe and beyond.

5.1 *Value of the resource as a production factor*

Value is here equated with the perception of the level of scarcity, understood as the difference between demand and supply of specific features of water and watersheds and ecosystem services, such as those singled out by De Groot et al. (2006) as production, habitat, regulation and information functions. I specifically those services that have been topical in policy making and regulation.

In relation to quality of surface waters during the period between 1960 and 1990, the Elbe was probably one of the most heavily polluted rivers in Europe, due to high intensity of water use, discharge of insufficiently treated domestic and industrial wastes, and excessive application of fertilizers and pesticides in the surrounding agriculture. After 1989, nitrogen and phosphorous levels were lowered by over 50% and water quality was improved, because most point sources in Eastern Germany were shut down, and effective municipal and industrial waste-water treatment was implemented (Nienhuis, et al. 2000). Also, production of chemicals, agriculture, livestock farming, forestry, and production of metals and coal mining decreased significantly.⁸ Yet, to achieve quality objectives in coastal and transitional waters, further reductions will be necessary. Nutrient pollution is one of the most widespread forms of water pollution in the basin. (Krysanova et al., 2005).

Overextraction of water is important only for some aquifers, specifically in the Lusatian coal mining areas. Abstraction of surface waters by industry has decreased, especially for cooling (Kliot, Shmueli et al. 2001 quoted in Krysanova, 2005), with the reasons being more efficient use of water because of better technologies and higher water and sewage prices. In some areas, obstacles to fish migration pose important problems towards achieving good ecological status. Meanwhile, flood retention capacity has been significantly reduced in the Elbe basin during the last century. Hence, flooding has become an increasing problem.

To summarize the above, with regard to changes in the value of the Elbe basin as a resource I want to highlight that water of good quality (in terms of different aspects) has become more abundant throughout the last two decades, and overall water availability has increased, despite increased seasonal variation. This does not preclude that water pollution, specifically from diffuse sources, is still a key problem (which I equate here with its scarcity, requiring regulation). Furthermore, the water retention capacities of the watershed have become diminished.

For Germany on the whole, similar conclusions can be reached. Water consumption has decreased significantly between 1983 and 2000,⁹ specifically in the Eastern German states and driven by price increases. Sufficient water quantity is, therefore, a

⁸ Water demand by energy production was reduced by 15%, production in agriculture and forestry reduced demand by 67%, coal and peat production reduced by 40%, production of metals reduced by 65%. In the Elbe basin, a specifically important role has been played by coal mining.

⁹ Water use has decreased across Germany since 1991, except in the case of sewage water treatment, with key sectors exhibiting the following reductions: energy by 15%, agriculture and forestry 67%, production of chemicals 16%, and production of peat and coal exploitation 56%. To some extent, technology improvements are responsible for these changes.

minor issue. In the middle of the eighties, the main sources for nitrogen and phosphorous were point-sources from water treatment plants. Ever since then, point-source pollution has decreased; since the middle of the nineties the main source of significant pollution has become agriculture (contributing 70%), specifically burdening groundwater.

5.2 Technological change

Technological change refers to changes in technologies of production or technologies of governance which can change the costs and benefits of governance, through either changing the value of a resource or costs of governance. Changes in production technology often change the value of water as referred to in the previous section. Specifically in Eastern Germany, sewage water treatment has significantly reduced urban and industrial effluents. Also, nitrogen pollution has decreased, because farmers now take greater care in applying fertilizers. Further, water extraction by households and use of water for cooling have decreased, due to different consumer behaviour and new water-saving technologies.

Concerning technologies of governance, increased connection of households to sewage-water collection has enabled increases in metering in the Elbe basin. Also, water quality monitoring has been expanded and standardized since reunification. Finally, since 2000, new communication tools (e.g., the internet, email) have been used for information exchange and coordination among competent authorities and with stakeholders (Bosenius and Holzwarth, 2006; Kessler, 2006). Thus, water governance improvements have significantly facilitated the decreasing of transaction costs.

5.3 Functionally interdependent institutions

In order to function, water governance needs to be viewed as part of a larger governance regime comprising interrelated, formal institutions located at the same or other levels and addressing water or other resources. In changing governance, costs of coordinating between interrelated institutions also usually change.

Important in German water governance have been changes in competencies between the state and federal levels. Additionally, the European WFD formulated new requirements at the supranational level which needed to be met within a tight schedule. National or international administrations needed to be named to coordinate comprehensive plans for hydrographic regions (Köck and Unnerstall, 2006).¹⁰ Previously in Germany, management plans either did not exist or they were oriented towards jurisdictional boundaries and specifically addressed drinking water quality. Furthermore, the WFD requires information provision and participation on the basin level throughout all phases imposing further requirements on organisation at the level of river basins (Jekel, 2006).

5.4 Ideology

Ideologies provide “heuristics” that actors share and apply in order to solve complex problems, such as in this case water management (Gigerenzer, 2011), (Denzau and

¹⁰ Assignment of administrative competencies, designation of protection areas, mutual information about methods, procedures and monitoring, exceptions, aims, measures that have an impact on inter-related areas Stratenwerth (2006).

North D, 1994). They implicitly value water management options. Here, I interpret the overall approach to water management and related comments from experts and stakeholders to illustrate changes in the generalized ideology held by the water sector.

All interviewees conducted for this study confirm that the approach to water management has changed significantly since the adoption of the WFD, despite great inertia specifically in the Federal Water and Shipping Agency.¹¹ Awareness of interdependencies between water management issues, actors and territories has risen, and an integrated approach is now being pursued, where water is understood as integral part of a basin-wide ecosystem that includes society and the economy.¹² For example, the water management administration was reorganized accordingly by states. Agricultural and environmental competencies were integrated. Also, the profile of required staff had changed requiring more interdisciplinary knowledge and coordination capacities (Kessler, 2006). The legal mandate of the Federal Water and Shipping Agency had changed. Herpertz (2009) writes, “as part of the discussions on the new water legislation and the WFD, positions have approximated each other so that nowadays maintenance of waterways needs to comply with the objectives of river basin plans.” Also, communication between the separate Ministries of the Environment and Transportation has decisively intensified.¹³ Apparently, the Water and Shipping Agency had also been seeking new tasks.¹⁴ In contrast, coordination between water management, spatial planning, coastal management and nature protection remains weak.¹⁵

At the national and international levels, the entire basin is increasingly being perceived as an overarching problem space¹⁶, not least as a result of the coordination requirements of the WFD. Better coordinated national strategies, especially between Germany and the Czech Republic, were the result.¹⁷ For example, subsidies between states and countries from downstream to upstream areas were used to reduce negative downstream effects. Also, where urgent problems emerged, solutions were sought informally across state and country borders.¹⁸ In contrast, cooperation between Poland and Germany remained subject to the overall political climate.¹⁹

¹¹ Phone interview: Umweltbundesamt (Federal Environmental Agency), 8.12.2010; FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010; Ministerium für Umwelt, Energie, Landwirtschaft und Verbraucherschutz (Ministry for the Environment and Agriculture), Hessen, Frankfurt, 26.11.2010.

¹² Interviews: FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010; Ministerium für Umwelt, Energie, Landwirtschaft und Verbraucherschutz (Ministry for the Environment and Agriculture), Hessen, Frankfurt, 26.11.2010.

¹³ Interviews: Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment), Bonn, 25.11.2010; Grüne Liga (Green League), Berlin, 17.12.2010; Ministerium für Umwelt, Energie, Landwirtschaft und Verbraucherschutz (Ministry for the Environment and Agriculture), Hessen, Frankfurt, 26.11.2010; International Commission for the Protection of the River Elbe, Magdeburg, 16.12.2010; Phone interview: WWF, 23.12.2010.

¹⁴ Interview: Grüne Liga (Green League), Berlin, 17.12.2010.

¹⁵ Interview: Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment), Bonn, 25.11.2010.

¹⁶ Interview: Sächsisches Staatsministerium für Umwelt und Landwirtschaft (Ministry for the Environment and Agriculture), Dresden, Saxony, 5.1.2010.

¹⁷ Interview: Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment), Bonn, 25.11.2010.

¹⁸ Interview: Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment), Bonn, 25.11.2010; International Commission for the Protection of the River Elbe, Magdeburg, 16.12.2010.

¹⁹ Interview: Sächsisches Staatsministerium für Umwelt und Landwirtschaft (Ministry for the Environment and Agriculture), Dresden, Saxony, 5.1.2010.

5.5 Action situations

This section selectively shows how the above-described contextual changes cumulatively contributed to the renegotiation of the scalar reorganisation of water governance in Germany. Here I describe action situations in a stylized fashion. I look at the principal, envisioned alternative institutional set-ups and where they differed from the status quo at the time, the way contextual factors affected them, who defended them and why, and how the specific constellation led to the selection of a specific outcome.

Upscaling of relations between German states, the ICPRE, and the EU

Already during the negotiation process of the WFD, the LAWA had gained the role of coordinating positions of German states vis-à-vis the European level. On the initiative of one individual, the LAWA started to use a simple email list to coordinate the stances of member states and overcome previously ineffective interest representation by individual states (Kessler, 2006). Thus, transaction costs reduction and efforts to increase political clout led to empowerment of the LAWA at the expense of specific interests relevant for individual states.²⁰

Interrelated institutional change at the European level significantly changed the role of the ICPRE, which increased its effectiveness in transnational coordination. Required coordination led to an informal upscaling of water management to the ICPRE, specifically because of the formal reorganisation of the ICPRE in 2004, which was oriented by the implementation of the WFD (Stratenwerth, 2006).²¹

Upscaling due to the foundation of the Elbe RBO

In order to implement European prescriptions concerning planning and coordination at the basin level, three organisational options were discussed within Germany: a) introduction of fully fledged river basin administrations, including executive powers; b) the introduction of designated water-planning associations, c) the above-described RBOs, with permanent secretariats but without their own competencies or funds. . In 2001, the environmental ministers of the states abandoned the first two options: i) for constitutional reasons, ii) because they did not recognize existing administrative structures, iii) because they entailed the creation of a new administrative structure which would create new problems of delimitation and coordination and financing, and iv) because they threatened the autonomy of states. Thus, majorities as well as path dependence associated with the existing administrative and institutional set-up led to creation of the RBOs, at least for the Elbe²² (Knopp, 2003 quoted in (Köck and Unerstall, 2006). As I illustrate below, operational coordination of water management for the Elbe was effectively upscaled, confirming Stratenwerth's hypothesis that "the

²⁰ Interviews: Ministerium für Umwelt, Energie, Landwirtschaft und Verbraucherschutz (Ministry for the Environment and Agriculture), Hessen, Frankfurt, 26.11.2010; Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment), Bonn, 25.11.2010.

²¹ Interviews: Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment), Bonn, 25.11.2010, International Commission for the Protection of the River Elbe, Magdeburg, 16.12.2010, Phone interview: WWF, 23.12.2010.

²² Interviews: Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment), Bonn, 25.11.2010; FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010; Ministerium für Umwelt, Energie, Landwirtschaft und Verbraucherschutz (Ministry for the Environment and Agriculture), Hessen, Frankfurt, 26.11.2010.

necessity of coordination across administrative boundaries requires new forms and instruments of governance” (Stratenwerth, 2006).

Furthermore, after RBOs and similar bodies had gained importance, the role of the LAWA in the overall process came in doubt. For the Elbe, the RBO led the process,²³ reasons for which can be found in the action situation and interrelated institutions at the state and European levels.

The WFD required the meeting of tight deadlines in relation to river basin planning. The LAWA, besides being sceptical towards basin-wide coordination²⁴ and covering all German states equally, turned out to be unable to assist states in this process, because of the great variety of interests it needed to accommodate. The way it functioned did not allow it to draw up the necessary work process quickly enough, because it lacked a permanent secretariat and staff as well as the data necessary for planning.²⁵ In contrast, the RBO Elbe dealt with only one basin and ten states, had a permanent secretariat, and was able to rely on collaboration with the Working Group Elbe and its long-term monitoring program. Further, its organisation mirrored the ICPRE, making it effective in coordinating states for negotiation on the transboundary level. Throughout the core period of the implementation of River Basin Planning, the RBO was led by Schleswig Holstein, the most downstream state in the Elbe basin. It had a charismatic leadership, a well-resourced water administration and great interest in instrumentalising River Basin Planning in order to reduce impacts on its coastal waters and nature-protection and tourism areas.²⁶ Facilitating cooperation was the Eastern German tradition of river basin management during the GDR era. Overall budget constraints provided a further rationale for joining forces among the administrations, for example with regard to participatory exercises.²⁷ Finally, new technologies and changes in use patterns reduced the “value” of the resource, facilitating upstream and down-stream coordination and increased valuation of good ecological status empowered downstream states. Previously, two-level negotiations on water quality would probably have been more contentious.

Throughout stocktaking and development of the program of measures for the WFD, the RBO relied on the above-described sub-state planning units. They were abandoned later because of an overburdening of staff and insufficient human and financial resources of the states and difficulties in decision-making. As a result, the basin level was strengthened. Lower management levels changed their perceptions as a result of exchange across multiple scales.

²³ Interviews: FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010; Ministerium für Landwirtschaft, Umwelt und ländliche Räume (Ministry for Agriculture and the Environment), Schleswig Holstein, Kiel, 14.12.2010; Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment), Bonn, 25.11.2010.

²⁴ Interviews: Ministerium für Umwelt, Energie, Landwirtschaft und Verbraucherschutz (Ministry for the Environment and Agriculture), Hessen, Frankfurt, 26.11.2010; FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010.

²⁵ Interviews: Ministerium für Landwirtschaft, Umwelt und ländliche Räume (Ministry for Agriculture and the Environment), Schleswig Holstein, Kiel, 14.12.2010; FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010.

²⁶ Interview: Ministerium für Landwirtschaft, Umwelt und ländliche Räume (Ministry for Agriculture and the Environment), Schleswig Holstein, Kiel, 14.12.2010.

²⁷ Interviews: Ministerium für Landwirtschaft und Umwelt (Ministry for Agriculture and Environment), Sachsen-Anhalt, Magdeburg, 13.12.2010; FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010.

Upscaling due to constitutional change

In 2006, the Federal Ministry of the Environment was strengthened after its framework legislative competency had become a competing legislative competency. Now, the federal level holds the principal legislative competency, while the states principally execute legislation. This change became possible because, at that moment in time, at the national level a coalition of the two main German parties was in government, securing a two-thirds majority for constitutional reform in the parliament and in the Council of States (Reinhardt, 2008). It had been recognized that timely transposition and implementation of European Directives and uniform regulations for the German water sector required stronger guidance by the national level (Sachverständigenrat für Umweltfragen SRU, 2004). Further, the previous system was very complex for users (Ginsky and Rechenberg, 2007; Grandjot, 2007). Many experts, also at the state level, therefore favoured more uniform prescriptions and a greater role for the federal level. In addition, pressure on states to save money made coordination and upscaling of competencies more acceptable (Sachverständigenrat für Umweltfragen SRU, 2007).²⁸ As a result of the reform in 2010, the federal level adopted a new sectoral water law that maintains the contents of most state legislation. However, the federal state does not have the human and financial resources to go beyond these new competencies in water management.^{29,30}

6 Discussion and conclusions

This paper has reconstructed the underlying, co-evolutionary dynamics that led to the scalar reorganisation of water governance for the Elbe basin, and more broadly throughout Germany, during the last decade. Decreasing scarcity of specific ecosystem services, specifically concerning point-source and diffuse pollution, and decreasing extraction of water for cooling and industry have eased many of the potential conflicts among the German states and with neighbouring countries involved. These developments resulted from changes in the economic structure of the basin and interrelated changes in water use technologies, the latter being specifically related to the introduction of sewage-water collection and treatment, water-saving technologies and changes in the use of pesticides and fertilizers. Further, increasingly valued “good” ecosystem status allowed downstream states to promote a river basin wide perspective among upstream states. As a result of changes in interrelated formal institutions, the growing importance of European policy making, European requirements for the water management framework as well as achievement of “good” ecological status, ideologies in the water sector changed. Increasingly, implications of water management decisions at the basin level were considered of the . Against the background of these contextual changes, I have reconstructed a number of interrelated, stylized action situations to illustrate how water management was formally and informally up-scaled in the Elbe basin. This resulted, by and large, from attempts to implement the requirements of European policies and ideologically based changes in the preferences of water managers, facilitated by changes in use patterns and their implica-

²⁸ Interviews: Ministerium für Landwirtschaft und Umwelt (Ministry for Agriculture and Environment), Sachsen-Anhalt, Magdeburg, 13.12.2010; FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010.

²⁹ Interviews: Sächsisches Staatsministerium für Umwelt und Landwirtschaft (Ministry for the Environment and Agriculture), Dresden, Saxony, 5.1.2010, Ministerium für Landwirtschaft, Umwelt und ländliche Räume (Ministry for Agriculture and the Environment), Schleswig Holstein, Kiel, 14.12.2010; FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010; Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment), Bonn, 25.11.2010.

³⁰ Interview: Grüne Liga (Green League), Berlin, 17.12.2010.

tions. While the reconfiguration of water management followed the above changes in what I want to call a functional fashion, it was mostly constrained by the existing constitutional set-up of water management within the German federal state and the constitutional rules for renegotiation of competencies within it. Accordingly, formally the scalar configuration of competencies hardly changed. In contrast, increasing informal contacts in the ICPRE and the RBO Elbe between national and state administrations led to an informal reorientation of water management in the basin that followed the functional and legal requirements of the European WFD, the enhanced role of European policy making, and, last but not least, helped to save on costs of management or shift them from state to higher level actors. Furthermore, the most downstream state, Schleswig Holstein, pushed basin management, as it favoured realisation of its own interests. While illustrative of Germany overall, interviews and the lack of formal reorganisation in, for example, the cases of the Rhine or the Danube suggest that in the Elbe formal and specifically informal upscaling of water management went furthest.³¹ Nevertheless, requirements of the EU led to upscaling also in other basins. The reason why upscaling went furthest in the case of the Elbe seem to be strong leadership in the formative period between 2006 and 2009. Furthermore, the basin is predominantly situated in Eastern Germany, where states are much poorer and water administrations much weaker than in other parts of Germany therefore welcoming the creation of synergies; also, in the GDR, the Elbe was managed according to river basin boundaries.

Essentially, the changes that took place led to a strengthening of the legislative function of the federal state along with a strengthening of the coordinating RBO and the like (von Keitz and Kessler, 2008). At the same time, states remained principally with an executive function. Still, basin-wide cooperation is viewed as ineffective on many accounts. The solution of RBOs has been criticized because they a) inhibit investments in measures in locations where they promise to be most efficient independent from state specific concerns, b) complicate decision making and execution, c) make communication with the EU level more difficult, and d) create additional administrations that burden the public budget. Further, the first round of river basin plans shows great disparities in methods for assessing and monitoring ecological and chemical status of waters within and across basins. Also, actors have complained about the complexity of coordination, because territories belong to multiple coordination spaces. It has been claimed that the basin approach is not fully realizable in Germany (Sachverständigenrat für Umweltfragen SRU, 2004).³²

Distribution of competencies is undoubtedly a zero-sum game. Therefore, consensus-based Germany-wide cooperation within the scope of the LAWA was sidelined, because it would otherwise have been impossible to effectively coordinate the implementation of the WFD. As a result, the LAWA recently tried to clarify the distribution of tasks between the LAWA and the RBOs, distinguishing between national management issues, such as coordination of Germany-wide policies vis-à-vis the EU, and definition of the management framework (technical terms, methods) and basin-specific water management issues (setting specific objectives and application of

³¹ Interviews: Ministerium für Umwelt, Energie, Landwirtschaft und Verbraucherschutz (Ministry for the Environment and Agriculture), Hessen, Frankfurt, 26.11.2010; Bundesministeriums für Umwelt, Naturschutz und Reaktorsicherheit (Federal Ministry for the Environment), Bonn, 25.11.2010; FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010; Ministerium für Landwirtschaft, Umwelt und ländliche Räume (Ministry for Agriculture and the Environment), Schleswig Holstein, Kiel, 14.12.2010.

³² Interview: FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010; Phone Interview: Umweltbundesamt (Federal Environmental Agency), 8.12.2010.

measures) (LAWA, 2010). Some view this initiative as last attempt by the LAWA to regain relevance.³³

Overall, the emerging set-up points towards a functional differentiation of German water management into a polycentric system based upon the expectations of actors and changes in their ideologies and practices. Merrey and Cook (2012), who write on developing countries, relate such a perspective to the notion of bricolage, where actors engage in an “active, conscious creative process of adapting norms, values and social arrangements to fit new purposes, while also reflecting and being shaped by deeply embedded unconscious principles” (Merrey and Cook, 2012). In contrast to the developing world, however, and given the relatively minor changes in formal competencies, a very different method of water management emerged in Germany, responding to external requirements for water management and facilitated by a set of formally provided opportunities to change practices informally. In that sense, I would argue that the German bureaucracy has clearly aspired to comply with European requirements concerning basin-wide coordination and provision of “good” ecological status. This case, therefore, confirms the findings of Falkner et al. (2007), which categorized Germany as being in the “world of domestic politics[, where d]omestic concerns frequently prevail if there is a conflict of interests.” Thus Germany, after it had significantly shaped the WFD and after it had inhibited a European obligation to implement fully fledged RBOs, opted to accommodate European water policy objectives in a problem-solving fashion constrained primarily by its own constitution.

The German transformation strongly diverges from the way the scalar organisation of water governance has been reconfigured recently in the cases of Portugal and Spain (Thiel, 2011; Thiel and Egerton, 2011). In the quasi-federal state of Spain, politics concerning who determines the most relevant management problems seems to dominate. The scalar organisation of water governance in the Southern Spanish region of Andalucía had changed between 2004 and 2008 as a result of a political window of opportunity that allowed Andalusia to impose its views on water management on the national government and gain control over management of “its” water. This development can be seen as an extreme case illustrating recent dynamics across all of Spain. In Germany, such drastic reorientations are inhibited by the fact that the specific German type of domestic two-level games, that characterize the decision on competencies between different levels in federal states, requires agreement between all states in Germany. In contrast, in Spain the national state negotiates bilaterally with each state, so that the win-set is more easily defined (Benz, 2009). In Spain, economic uses of water seem to dominate over provision of “good” ecological status of surface waters. Surface waters in Spain are in fact fully extracted. Therefore, control over groundwater extraction has become one of the most important political currencies. Consequently, Andalucía, once it gained independent competencies over water resource management reorganised it emphasising on groundwater management.

Further, it seems that in Spain struggles over formal scalar organisation of water governance have dominated over the necessity of often necessarily informal coordination practices. In contrast, in Germany informal coordination practices at the basin level made relatively minor changes in formal water management competencies effective. Similar to Germany, however, Falkner et al. (2007) suggest that in Spain domestic politics decide if and how European legislations were seriously implement-

³³ Interview: FGG Elbe (RBO Elbe), Magdeburg, 13.12.2010.

ed. A notable difference is that, in the case of Spain, the European approach clashed with domestic politics, leading to a minimum consideration of European prescriptions.

In another Iberian country, Portugal, water governance was reorganised in a problem-oriented way, shifting from a territorial approach, integrated with overall environmental management, to a basin-focussed approach which specifically laid stress on achieving a “good” ecological status for surface waters. Fully-fledged, independent river basin authorities were introduced all over Portugal. In this case, Falkner et al.’s (2007) hypothesis of Portugal largely neglecting European prescriptions did not hold. The European WFD provided an instrument for the dominant water elite to reform water governance. The Portuguese environmental minister who was in power at the time, a long-standing water expert and advocate of the approach of the WFD, played a key role in this. In 2000 European negotiations over the WFD were concluded by a representative of the same Portuguese, academically embedded, water elite. Thus, undoubtedly the WFD’s requirements were consistent with management approach preferred by the Portuguese environmental minister that was in charge of its implementation between 2005 and 2009.

Nevertheless, because of constitutional rules regarding decision making concerning water governance in Spain as well as in Portugal, water governance in those countries was drastically reconfigured once again, very recently, when political majorities at the national level changed. In Portugal, a national water agency was installed, sidelining river basin administrations. Meanwhile, in Andalucía, full-fledged basin management controlled solely by the national level was reintroduced. In contrast, to these Iberian cases, in Germany such drastic changes over relatively short time frames would seem to be impossible, due to the specific set-up of for constitutional reform.

Detailed comparison between these cases reveals that the scalar reorganisation of water and natural resource governance is the outcome of changing material problems and negotiations about changes in actors’ perceptions of and approaches to best solving them. European regulations only seem to play a role where they are consistent with views of nationally dominant decision makers and their preferred views on water management. Constitutional rules of decision making over competencies in water management dominate which options are feasible and the frequency of changes. Germany seems to be undergoing gradual change towards approaching water management in a problem-solving, functionalist way, whereas specifically in Spain, but also in Portugal, the overall, interrelated domains of national and regional politics seem to override other considerations regarding water management. Besides problems of poor performance hampering Southern European water management, constant changes surely do not help towards reaching compliance with challenging European directives. The German approach, on the other hand, seems to be caught up in the overriding complexity of multi- and cross-scalar coordination requirements, which, ultimately are easily overridden by states’ executive autonomy. Thus, further gradual or abrupt change in water management can be expected across Europe.

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