The transnational regulation of water and its consequences for governance frameworks

DISCUSSION PAPER

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Abstract:
The regulation of water is challenging traditional governance frameworks. Environmental issues as well as questions of resource politics often require transnational regulation because water does not stop at nation state borders. The production of energy, the pollution of water, and the exploitation of water resources cross borders. The evolving cross-border governance frameworks – which are less territory- but more functional-oriented – produce new spatial scales and create opportunities for a number of actors. For instance, the involvement of private actors into the use of water resources is subject to ongoing discussions. Some countries are taking partial loss of sovereignty, in others the privatisation of water supply has meanwhile been reversed. The paper asks what opportunities are given to new actors by governments and what effects this in turn has on the traditional role of (governmental) frameworks. It opens up new perspectives onto actors who are referring to new governmental and spatial regimes and, thus, evaluates possible contributions of the politics of scale-approach to traditional concepts of governance.

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Introduction

The management of water resources and its governance framework is an issue of great interest for both social scientists and political actors. Whereas the latter are confronted with changing requirements for the social, political, economic, and ecological framework, the first are provided with a perfect example of new governance arrangements. According to Arnouts and Arts (2009, 202) the concept of governance refers to new steering mechanisms (e.g. through public-private co-operations), a transformation of boundaries between state, market and civil society (including a new distribution of tasks), a transformation of relations between governmental or administrative levels, and a transformation of the state itself and respective structures and processes. This paper shows that the case of water resources which cross nation-state boundaries and thus demand cross-national regulation mechanisms concerns all of these questions.

After a short introduction to the research object – transnational water resources management (TWRM) – this paper outlines major challenges associated with respective regulation mechanisms of the international system. This is followed by an overview of the most common theoretical and practical approaches to the problem of managing water resources across political-administrative boundaries. Then, the paper introduces the concept of *spatial scales*, which opens up new perspectives onto the spatial framework(s) of these developments and their relevance for the transformation of traditional regulation- and governance-arrangements. Finally, the paper draws preliminary conclusions and puts theses and questions to discussion.

Research interest

Access to water is a pressing issue. Although the UN's G*eneral Comment No. 15* (The right to water: 20.01.2003. E/C.12/2002/11[1]) establishes a human right to drinking water, more than one billion people do not have access to clean drinking water (Partzsch 2007, 7). At the beginning of the 1990s, this encouraged a number of scholars to proclaim water as the main reason for future wars. This logic resulted from a simple formula: increasing scarcity + increasing consumption = conflict (see below). The fact that 261 rivers, which are covering 45,3% of the land surface of the earth, are crossing nation-state borders (19 of them shared by more than five riparian states) added an international aspect to this formula, questioning the conflict resolution competence of nation states.

However, this formula is too simple. In fact, we cannot conclude that there will be an overall shortage of global water in the foreseeable future. The globe provides us with sufficient resources. Problems arise from the way we use them, namely when the local and temporal availability does not match with the specific local and temporal demands of certain regions (Lehn & Parodi 2009, 280). The problem is much more an issue of distribution than one of natural delimitation. Efficient water management is the key for the prevention of conflicts over water and, thus, needs an adequate social, political, economic, and legal framework.

The fact that ecosystems' boundaries do not coincide with the existing political-administrative boundaries of the international system calls for an adaptation of regulation- and governance-arrangements. Policy instruments which exclusively focus on nation-states' territories do not

[1] http://www.unhchr.ch/tbs/doc.nsf/0/a5458d1d1bbd713fc1256cc400389e94

adequately and efficiently regulate the use of existing water resources. 40 % of the world's population resides in the river basins of the abovementioned 261 transboundary rivers (Kliot et al. 2001, 230). 50% of the world's population is dependent on transboundary water systems (Barandt 1997, 12). Global water politics – which can be defined as "the art" of regulating water use and consumption in a way that meets competing needs without harming water resources (Dobner 2010, 9) – depends on transnational regulation- and governance mechanisms and, thus, challenges existing institutions.

This paper asks to what extent the shift of water management from nation-state approaches to other spatial scales that cross nation-state borders (mostly river basins or sub-basins; see below) challenges existing regulation- and governance-frameworks. The analytical priority is not necessarily on problem solving capacities of new governance arrangements, but on the opportunities for new actors to become part of the management regimes, new interactions between those actors and traditional actors/institutions, and respective effects on the latter.

Challenges of transnational water resources management

Because water management issues operate at hydrological and ecological scales that span jurisdictional and political boundaries, affected states have to deal with geographical interdependence (Lubell & Lippert 2011, 77). The necessity to commonly manage water resources is not only due to the water's ignorance of nation-state borders, but also due to the fact that water is continuously in motion. This makes issues of control, jurisdiction and sovereignty even more complicated than dealing with static land resources (Kliot et al. 2001, 230). Combined with the manifold uses of water resources (agriculture, industry, drinking water, etc.), this provides a multiply fragmented fundament for policy making in the water sector. Lubell & Lippert (2011, 80) underline two dimensions of this fragmentation: Geographic (horizontal) fragmentation refers to the inability to meet regional demands and realise regional goals because of political-administrative boundaries, whereas institutional (vertical) fragmentation refers to an unclear, inadequate and inefficient distribution of tasks, revenues, and expenditures across governmental levels of a system (see also Moss & Newig 2010, 3). Several scholars argue that the vertical fragmentation may (also) be a result of horizontal fragmentation, whereas the latter seems to challenge traditional governance arrangements more directly and fundamentally. Involved actors – as well as observers – are not only confronted with the misfit between different scalar dimensions, but with the difficulty of identifying the adequate scalar dimension in order to address collective problems. This results in inefficiencies, spatial externalities, and spillovers (Moses & Newig 2010, 1).

Independent of the institutions' inability to integrate policies, demands, etc. across political-administrative boundaries, developments in the water sector (treaties, negotiations, arrangements, interactions, etc.) are increasingly more often referring to other spatial arrangements than the existing ones. These "new spaces" are functionally defined according to ecological and/or economic demands and conditions, thus introducing a "decreased territorial orientation" (Scherer & Zumbusch 2011, 103) of the overall logic of space. Besides the already mentioned inefficiencies stemming from these changes, this also poses questions of democratic legitimacy. The gap resulting from a lack of adequate management mechanisms and respective legal, economic, and political framework conditions is often filled by rather informal (network-)relations. Private actors make use of the

insecurity regarding institutional and legal regulations, which may threaten the equal availability, affordability, and access to water. Furthermore, the legitimisation of regulations based on agreements with other riparian states is often questionable: are they democratically legitimised to decide upon resources which are not part of their territories? Or vice versa: who is (democratically) legitimised to decide on regulations for new spatial arrangements?

This leads to the issue of sovereignty, which combines questions of efficiency and legitimacy. The state's monopolistic claim to make use of the resources within its territorial boundaries is seriously challenged by water being in constant motion and the necessity to find common rules and regulations for the management of, e.g., a transboundary river basin. No matter if there are joint institutions to rule over these issues or not, decisions of other riparian states always restrict a state's own sovereignty (Kliot et al. 2001, 234).

Besides these very fundamental concerns, there are two additional problems. First, there is the question of how to convince actors to take part in commonly organising TWRM. As participation is voluntarily, an actor will only make commitments if he/she expects some benefits (Leibenath et al. 2010, 92). This definitely restricts the purely functional orientation of TWRM-arrangements, adding a political component. Second, the costs of cross-border co-operations are generally higher than those of domestic co-operation, and even increase with the geographical scale (Katz & Fischhendler 2011, 21). These costs can be lowered by a number of factors, such as shared language, similar legal regulations and administrative structures, personal connections, well developed networks, existing experiences in cross-border co-operations, and overall good relations between the involved institutions (Leibenath et al. 2010, 85f). Unfortunately, although all of these factors help scholars to analyse specific situations and their chances for success, none of them can be intentionally altered (at least in the short term).

Approaches to transnational water resources management

The consensus of current water resources management literature seems to be that despite all of these challenges and problems in such a polycentric decision-making arena, resource control "requires consideration of the spatial dimensions of hydraulic reach." (Scott & Pablos 2011, 440) This is not necessarily a normative conclusion, but results from recent developments in water resources management and the scientific perspective onto them.

Scholars have noticed that a surprisingly high number of potential conflicts regarding water issues have never broken out. Willing to critically question the Neo-Malthusian formula *increasing scarcity + increasing consumption = conflict* (Katz & Fischhendler 2011, 13), many started to analyse (and count) relevant water issues. The findings sent a surprisingly clear message, namely: "Historically, international cooperation over freshwater resources as a resource has far outweighed international conflict." (Yoffe et al. 2003, 1124) During the last 50 years of the 20th century more than 1800 treaties resolved conflicting demands regarding cross-border waters, as opposed to only a small number of outbreaks of conflict (Klaphake & Scheumann 2001, 8). Kliot et al. counted 3600 water-related treaties since 805 AD, confronting this number with "only seven minor-related skirmishes" (Kliot et al. 2001, 231). Another study reports on 1831 events regarding water issues between 1948 and 1999, 28 percent of which were conflictive, 67 percent were cooperative (the remaining 5 percent were neutral or non-significant) (Yoffe et al. 2003). Based on these numbers, the authors of

the latter study came to the conclusion that water issues are more likely to boost the willingness to cooperate, rather than to reduce it (Yoffe et al. 2003, 1124). In addition, they found that in years of water scarcity states are more cooperative than usual (Yoffe et al. 2003, 1119). This further suggests that the immediate necessity to cooperate has a positive impact on the way riparian countries deal with each other overall.

The Oregon State University's *Transboundary Freshwater Dispute Data Base*[2] is often considered as evidence of this changing scientific assessment of shared water resources. It left lasting impressions when it was announced that *water wars are a myth* (Klaphake & Scheumann 2001; see also Yoffe et al. 2003). Following this cooperative approach, both scholars and policy makers agreed that the management of transnational water resources needs to refer to functionally defined spatial arrangements instead of strictly insisting on nation-state territories, regardless of the fact that source and transfer of water, upstream and downstream, urban and rural, etc. all have unique spatialities that overlap with power and institutional arrangements.; and regardless whether new modes of decision-making challenge the jurisdictional status quo (Scott & Pablos 2011, 440). Socio-economic interactions do refer to "new" spatial scales already. The governance framework has to adapt to this reality, providing these arrangements with clear regulations, institutions, networks, etc., and, thus, more efficiency.

Nonetheless, the question remains which principles guide these developments, not in the sense of a-priori guiding principles, but as more or less dominant characteristics of ongoing developments.

Concepts of water resources management – State of the art

First and foremost, questions of sovereignty, integrity and property rights need to be addressed, in regard to the use of water resources flowing through one's territory. The following concepts describe different understandings of interaction between the involved actors (mostly nation states). Five of them are currently dominating the water resources management discourse (for further details see Kliot et al. 2001, 232f):

1. The idea of *absolute sovereignty* claims absolute freedom of a riparian state to utilise the waters flowing through its territory, regardless of the impacts on other riparian states.
2. The notion of *absolute riverian integrity* means that a state may not alter the natural flow of waters flowing through its territory if this affects the water in another state.
3. The concept of *limited territorial sovereignty* argues that any state is allowed to utilise the waters on its territory in a manner which does not harm other states.
4. The recognition of the *communality of international waters* means that the riparian states accept a communal approach to utilise the total volume of a river basin (as a shared resource). This approach assumes that the entire river basin constitutes one single economic, geographic, ecological, etc. unit, independent of nation state boundaries.
5. The idea of *correlative rights* exclusively focuses on the most efficient utilisation of joint water resources.

[2] http://www.transboundarywaters.orst.edu/

Today, the concept of *limited territorial sovereignty* is more or less established as underlying principle of the management of common water resources (Kliot et al. 2001, 252). It lies at the heart of the following approaches to TWRM, which are hence still restricted by the (spatial) logic of the (inter-)national system.

Nonetheless, the focus definitely shifts from a territorial logic to the recognition of scales which are defined by ecosystem-boundaries, mostly the whole river basin. The concept of *river basin management* (RBM) involves internal policy integration (between the management of water quantity and quality, ground and surface water) and external integration (between water management and associated policy domains) (Meijerink & Wiering 2009, 182). It emphasises the need to address the various interrelations within a river basin. The basin scale is seen as the best scale for addressing river issues (very similar concepts used are drainage basin or catchment area). RBM means the comprehensive coordination of conservation, management and development of water, land and related resources across sectors within a given river basin (Meijerink & Wiering 2009, 185). It pursues an approach of maximising the economical and social benefits without harming the freshwater eco-system(s). Despite the focus on cross-sector cooperation, RBM can but does not have to cross nation-state borders.

Both practitioners and scholars across disciplinary boundaries seem to agree on the basics of the basin-wide approach: "Economists endorse the basin-wide paradigm since they assume that this paradigm will optimise the opportunity cost of investments and the efficient use of scarce water […]. For environmentalists this paradigm implies the best way to protect the natural regime of the basin and to ensure that the human effect is rendered the least harmful" (Fischhendler & Feitelson 2005, 793). Furthermore, experts of international law agree on the basin as the adequate unit for the regulation of international water resources. Major international organisations followed this approach, which resulted in the UN Convention on Non-Navigational use of International Water Courses and, later on, the EU Water Framework Directive (WFD 2000/60/EC, October 23, 2000; see Fischhendler & Feitelson 2005). The Water Framework Directive transfers the management of water resources to a scale. Its spatial definition refers more to eco-system boundaries than to political-administrative boundaries (including the integration of ecological and democratic standards; see Wissen 2011, 194).

According to Kliot et al. (2001, 244), the ideal joint-management of transboundary waters would include (I.) sharing the benefits regardless of international borders, (II.) integration of a wide array of issues (such as water supply, irrigation, navigation, hydropower generation, etc.), and (III.) a (coordinated) basin-wide planning of development and management measures. An attempt to meet these demands is the well-known concept of *integrated water resources management* (IWRM). It endorses the shift from the traditional hierarchical focus of water management towards integrated management practices (Knieper et al. 2010, 592), calling for "a multi-faceted, interdisciplinary focus on water policy decision-making." (Katz & Fischhendler 2011, 15) In fact, IWRM is an optimistic concept that aims to integrate economic efficiency, social equity and environmental sustainability, ideally organised by a single responsible authority or organisation, and implemented top-down. Molle (2009, 67) criticises the concept as an "example of the woolly consensual 'Nirvana concept' […], which obscures the antagonistic nature of the criteria of economic efficiency, social equity and environmental sustainability. IWRM holds the promise that with goodwill and benevolent stakeholders, sound data and good scientific practices, these dimensions can be reconciled for the common good." (Molle 2009, 67)

Closely related to IWRM is the concept of *integrated regional water management* (IRWM). Its focus on the identification of the adequate spatial framework displays a little more realism and puts the universal demands of IWRM into perspective. The concept is associated with a decentralisation of governance institutions, aiming at a solution to the "fragmentation and lack of cooperation that occurs when regional decisions encompass multiple political and administrative boundaries" (Lubell & Lippert 2011, 77).

However, the ecosystem-oriented approach seems to be the common denominator all agree upon. Nonetheless, the basin-wide approach is sometimes challenged. Some examples prove that the basin-wide scale is not necessarily the adequate scale for transboundary water management: a study of Fischhendler & Feitelson (2005) shows that in the case of US-Canada water negotiations (on the Great Lakes and the St. Lawrence River; see Klinke 2011), the basin-wide approach resulted in a deadlock. Thus, in order to reduce the political costs for both sides as well as the number of players involved, the transboundary water regime was set at a different scale. The authors conclude that a regime can indeed be set at a different scale than the basin-wide one and still be viable (viability is defined as ability of the regime to foster effective cooperation; Fischhendler & Feitelson 2005, 792). Therefore, we need to take into account that in specific situations it might be more efficient to transfer the management framework to another scale (either only certain parts of a basin, i.e. sub-basin, or the combination of several basins, i.e. supra-basin).

However, spatial scales and (re-)scaling-processes play an important role in all approaches to TWRM, sometimes more implicitly than others. Therefore, the theoretical concept of *scale* promises interesting insights onto this issue.

The concept of scale

The discussion of currently dominating approaches of cross-border governance show that functional criteria of spatial frameworks gain more weight at the expense of traditional political-administrative boundaries (Scherer & Zumbusch 2011, 102). This shift "puts pressure on the existing institutional arrangements within the water policy domain" (Meijerink & Wiering 2009, 182), and raises questions regarding the overall relevance of the spatial framework conditions as such. However, scholars argue that one cannot understand TWRM without understanding the underlying politics and their references to the use (and abuse) of spatial relations (Katz & Fischhendler 2011, 13).

The starting point of any debate about scale and scaling-processes has to be the underlying ontological understanding: spatial conditions and arrangements are *not* understood as *a priori* given. Spatial arrangements are the result of social practices and, thus, always changeable. The production of spatial scales is both medium and outcome of social and political conflicts and negotiation (Wissen 2011, 33). Accordingly, spatial practices are not positioned within fixed geographical scales (Wissen 2011, 99). They rather produce and reproduce spatial scales by constantly referring to and thus institutionalising their own spatial framework conditions. Spatial scales are fixed only temporally, and are subject to continuous renegotiation and adaptation (Moses & Newig 2010, 4). For scientific analysis this means that processes of (re-)scaling are much more important for understanding social transformation than the temporally fixed scales as such. These processes represent shifts in power relations (in the context of changing spatial conditions), which provides us with information about the transformation of social relationships.

Social actors may either gain or lose power in the wake of scaling-processes. Shifts in power relations are both cause and effect of the production of (new) scales. Therefore, social actors either try to exert influence on these processes. Or they try to change their position by referring to existing and newly evolving scales.

The transfer of political institutions, legal arrangements, economic instruments, etc. to spatial frameworks other than territories of traditional political-administrative units defines and manifests new scales. As more social practices are referring to a certain spatial scale, the political framework tries to catch up, legal regulations try to get a hold of it, and the gradual institutionalisation of the respective spatial scale is on its way. Consequently, future social practices will be referring to this scale and thereby reproduce it. Environmental issues have always provided a good example for this phenomenon. As they simply do not stop at nation-state borders, they have always been among the driving forces of cross-border co-operations. They affect regions that "do not […] coincide with traditional political-administrative boundaries and weigh functional demarcation criteria higher than administrative or political ones." (Scherer & Zumbusch 2011, 101) As a result, new spatial scales are brought to the forefront. Questions of natural resources management add an economic dimension to ecological considerations, enhancing the complexity and relevance for affected governance frameworks.

In the recent past, resource policy-related problems have been a major catalyst for the analysis of different spatial arrangements (Bernt & Görg 2008, 227). The scientific focus on scaling-processes which lead to these arrangements promises insights into transformation processes of power relations, the manifestation and institutionalisation of social practices, and the attempts of involved actors to react to these developments. The major advantage of such an approach is the ability to identify processes between and across already existing institutions and/or governmental levels. As scaling processes are challenging the traditional governance framework(s), this perspective promises a different understanding of the major causes for and effects of these transformations.

Usually, the production of new scales is driven by social developments which threaten to undermine the existing human-environment system (Cash et al. 2006, 9). In the case of TWRM, certain demands have changed and call for a different way of managing the exploitation of available resources. The persisting mismatch between the affected governance frameworks, which are referring to historically grown spatial arrangements (i.e. territories), and scales that promise more efficiency is such a threat. Cash et al. (2006, 11) call this "mismatch between human action and ecological systems […] perhaps the archetypical scale problem, i.e., a problem of fit involving human institutions that do not map coherently on to the biogeophysical scale of the resource […]. In these kinds of mismatch problems, the authority of jurisdiction of the management institution is not coterminous with the problem."

Attempts to balance this mismatch, in order to reduce the insecurity and improve the adequacy of affected social practices and institutions, creates opportunities for new actors. Different actors hope to benefit from strengthening or weakening spatial reference frameworks as their own position changes within these new arrangements. In addition, the demand to redress historical patterns of power distribution generates incentives to form alliances with other actors (Cash et al. 2006, 15). This involves both state and non-state actors. The establishment of new task-specific governance arrangements and the associated spatial scales create "a need for adaptation among the involved regions, while altering power positions and the scope of action for state and non-state actors" (Moses & Newig 2010, 1).

To conclude the theoretical examination of scales and (re)scaling processes, the fundamental ideas are linked to ongoing developments. Whereas the water resources management literature has a lot to say about African and Latin American examples of TWRM, it does not make systematic use of the concept of scale to understand them. This shortcoming may be due to the heterogeneity of already implemented approaches which makes the common features less obvious. As opposed to this, European developments have been much more homogenous. Rescaling processes are even formally institutionalised in the form of the European Water Framework Directive. Although the EU-WFD focuses on qualitative aspects (such as ecological standards), it embodies the first rescaling tendencies and the production of new scales according to the BRM-concept. Meijerink & Wiering conclude that European administrative structures more often fit the scale of river basins, which is a clear evidence of "a form of rescaling of the organisational structure" (Meijerink & Wiering 2009, 193) in accordance with functional demands (see also Wissen 2011, 234). Of course, interesting questions arise from a comparison of (re)scaling processes in the EU and TWRM arrangements between states which are not members of one confederation.

Discussion

For a rather long time, the debate between scholars and practitioners regarding political solutions for the major challenges of managing transnational water resources focused on the question of *how* the state can meet upcoming demands and requirements. Only in the 1990s, some scholars doubted *if* the state really had the potential to fulfil this task at all. More and more voices argued that a comprehensive, sustainable use of water resources would exceed the possibilities and capabilities of a single nation-state (Dobner 2010, 15). These trends developed parallel to the emergence of increasing economisation and privatisation tendencies. As a result, theoretical approaches have become more likely to interpret water as economic commodity and not as public good.

Additionally, more and more studies have proven that the necessity to regulate international waters across nation-state boundaries is much more likely to boost cooperation than to result in conflict. "[B]ecause of its nature as a shared resource, [water] tends to induce even hostile coriparians to cooperate." (Kallioras et al. 2006, 292; see also above). The upcoming approaches to manage water resources according to their ecosystem-boundaries and respective spatial scales which were defined according to functional rather than territorial criteria opened up the door for new actors.

All of these developments show a trend in this policy field towards *withdrawal from the state*. Of course, privatisation tendencies and their interpretation as *erosion of the state* have to be put into perspective. At the end of each negotiation process, due to its democratically legitimised monopoly of power, the state is still responsible for transferring the results into national law. In addition, the state structure faces the challenge of enabling international agreements and co-operations (Kliot et al. 2001, 235). Therefore, the state cannot be devaluated as just one out of many actors. Nevertheless, it has to cope with (I.) a decreasing relevance of its territorial borders as the major spatial reference framework, (II.) an increasing number of political actors, and (III.) amalgamation of subjects of regulation with objects of regulation (Dobner 2010, 348). The state does not provide the only arena for social conflicts and negotiations anymore.

Opportunities for new actors

In the light of these developments, this paper has investigated opportunities that (possibly) open up for new actors. These opportunities emerge from transformations of governance regime(s). According to Knieper et al. (2010, 593), "[a] governance regime […] characterises the way how various state- and non-state actors interact horizontally across spatial borders […] and how these interactions are regulated by formal and informal institutions". The spatial framework is part of these institutions, and it is undergoing change. As shown above, cross-border management of water resources produces new spatial reference frameworks. The focus on functionality challenges traditional territoriality. In addition, processes such as commodification (of water resources), liberalisation and privatisation (of their exploitation) challenge the state's sovereignty which is grounded to a certain extent in nation-state based territoriality. More and more "cross-border governance activities show [their own] well defined spatial reference framework" (Scherer & Zumbusch 2011, 105). This framework is institutionalised through social actions which constantly refer to it. These rescaling-processes result in a transformation of the institutionalised regulation framework of interactions between state- and non-state actors. This creates gaps which have to be filled. Tasks are fulfilled by actors, whose legitimacy is based on other parameters than territorial affiliation.

Some actors realise these opportunities and try to make use of them. In the case of water resources management private water companies try to get a hold of the exploitation of newly regulated water resources. In the water sector, it is more a *competition for the market* (different actors try to obtain the right to organise the water supply) than a *competition in the market* (within the water market different actors offer the same products of water supply) (see Wissen 2011, 199ff). The actor, who manages to adapt to new spatial scales and associated requirements, may achieve a better position within the new governance arrangement and, thus, win this competition. Of course, this is assisted by general privatisation tendencies and the notion of water as economic commodity. Nevertheless, the production of new spatial reference frameworks is not only an effect of new management demands, but also calls for, and thus enables, a re-arrangement of management institutions and mechanisms.

One question remains: who are the actors that benefit from changes in power relations? We definitely observe an increasing number of actors involved. Several cases show that the state actively fuels its own partial withdrawal from water resources management, allowing private actors to take over. They are supposed to organise the exploitation and commercialisation of water resources more efficiently, especially as part of cross-border management regimes. On the other hand, in some cases we already observe counter-tendencies (such as the reversion of privatisation). Some countries simply lack the legal and administrative preconditions for privatisation (Klaphake & Scheumann 2001, 10). However, it is still up to the state to enable private actors to take over tasks in the management process. In addition to an enabling legal framework, privatisation of water resources is also dependent on, and therefore limited by, access to adequate public infrastructure (pipes/pipelines) (Klaphake & Scheumann 2001, 10). The state is the only provider of these tasks and services. Therefore, it is still the main actor, at least "behind the scenes". The involvement of private actors does not necessarily mean an erosion of the state, though it certainly entails a transformation of the state's tasks and involved institutions. Besides the re-arrangement of the power relations between states, this may also affect the nation-state's internal power relations. Wissen (2011) argues that re-scaling processes are shaped by power relations between the involved states. One single state

cannot shape re-scaling processes that concern transnational water resources according to its very own interests and demands. As a result, actors other than the traditional ones are brought to the forefront, both private and state actors. Even within a single nation-state, this may lead to (I.) horizontal (e.g. another department or ministry of the same governmental level takes over certain tasks) and/or (II.) vertical (e.g. a lower governmental level takes over tasks from a higher governmental level or vice versa) shifts of existing power relations.

The new interaction patterns between state and non-state actors attract wider attention among both political actors and scholars. With regard to TWRM, the already mentioned "voluntary" withdrawal of the state has two reasons: (I.) Its own inability to meet the demands of new spatial arrangements, and (II.) its fear of losing power to other, mostly neighbouring, states. Both reasons are closely related to each other, and create opportunities for new actors to emerge. Negotiations over joint water resources face the problem of allocating certain (amounts of) water resources to certain states. The joint commercial use of water – you agree on a certain prize for a certain amount of water and share the revenues of the affected resources – is supposed to solve this problem. But before one can think about commercialisation, liberalisation, or privatisation, they need to take the step of commodification (Partzsch 2007, 15). This is the process of establishing an economic and political structure, which allows for selling and buying water. This incorporates questions regarding property rights and the boundaries between public and private (Wissen 2011, 233). Usually, commodification is a process which is organised within nation-state boundaries (Partzsch 2007, 11). TWRM requires two or more states to agree on the economic, political and jurisdictional framework conditions. Therefore, in order to prevent conflict it often seems easier to leave details as well as the further organisation of the market to seemingly independent private actors. They are supposed to meet the requirements more efficiently. Furthermore states do not gain power at the expense of others.

If one looks at ongoing developments regarding TWRM from a political science perspective, she/he cannot assume that the state dispenses power voluntarily in order to prevent conflict. The use of new spatial arrangements for the coordination of ecological issues (for example the Lake Constance region; see Scherer & Zumbusch 2011, 110,) or even peace talks (see Katz & Fischhendler 2011) often evolve as secondary effects. Most formalised transnational institutions were initiated and established for obvious economic reasons such as water supply, hazard prevention (e.g. floods), etc. (Leibenath et al. 2010, 90). Nevertheless, the withdrawal of the state, maybe also describable as *de-politicisation*, is definitely an adaption to new requirements, and thus a reaction to traditional governance arrangements' inability to meet them. This may happen "accidentally" (as part of general developments such as liberalisation, privatisation, internationalisation, etc.) or intentionally (such as in US-Canada water negotiations: private companies were provided with permissions to divert water to the US, which bypassed federal Canadian policies to protect water resources from commercialisation; see Fischhendler & Feitelson 2005, 798f). Either way, it is a step towards avoiding or breaking up traditional mechanisms and institutions.

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