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GOVERNING CHANGE: EXPERIENCES FROM TWO WATER SECTORS IN A TRANSITION COUNTRY

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Abstract

Water governance refers to the manner in which water resources are allocated and regulated. It includes both the delivery of water services to society and the management of water as a natural resource. These activities generally involve a wide variety of mutually dependent actors at various levels and scales, each having their own perspectives and objectives, instruments and strategies, and responsibilities and resources. Effective water governance requires that there is a meaningful connection between these elements, i.e. coherence or connective capacity. This contribution concentrates on how connective capacity changes over time as a result of changing circumstances. For this, we use our experiences from Romania, a post-communistic country that became member of the European Union in 2007. Our analysis concentrates on major policy interventions in two sectors: the regionalization of the water services sector and the implementation of a strategy in the flood risk management sector. In both cases, the governance structures that emerged after communism were lacking coherence and negatively affected the status and use of water resources. The resulting problem pressures and Romania's EU accession formed the major triggers to change the existing governance structures. Particularly relevant for improving the connective capacity was: (1) the establishment of new structures for cooperation; (2) redefinition of roles and responsibilities; and (3) capacity building. We expect that these changes will contribute to improved water services and reduction of flood risks. However, it

is still too early to observe the actual contributions of these changes to improved delivery of water services and/or improved water resources management.

1 Introduction

It is widely acknowledged that many of the world's pressing water problems are not resource or technology problems, they are rather issues of governance (Pahl-Wostl 2008). It is about the manner in which water resources are allocated and regulated. Water governance refers to the “range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels of a society” (Rogers and Hall 2003 p. 7). It includes a broad range of activities, such as the abstraction, treatment and distribution of drinking water, collection and treatment of wastewater, flood control and river basin management. Activities in these fields generally involve a broad range of actors, both public and private, at various government levels and from diverse domains. Effective water governance is only possible if there is a meaningful connection between these elements of a governance structure. We define this form of connective capacity as coherence, this is the degree of internal consistency among various elements of a governance structure (Bressers and Kuks 2004; Young 1982). We analyze this concept in a transition country in which governance is continuously changing. Our first objective is to provide insights in what triggers these changes and how these changes affect the coherence of a governance structure. For this, we use the recent developments in the water services sector and the flood risk management sector in Romania as our case studies. Both cases are characterized by a major policy intervention: the regionalization of water services in the first case and the implementation of a national flood risk management strategy in the second case. By analyzing the case studies, we aim to understand how public authorities are actually governing change. This connects to our second objective, which is to provide insights in how interventions can contribute to the creation of more coherence, and thus of connective capacity.

The remainder of this contribution is structured as follows. The next section explains the theoretical concepts used to analyze water governance in Romania. Section 3 sketches the Romanian context for water governance and how this has been changing over the past decades. Our research methodology, including the gathering of case study material, is explained in section 4. Section 5 and 6 describe how governance structures for water services and flood risk management have been changing as a result of major policy interventions. Section 7 compares the results of both cases with a focus on what triggered the policy

interventions and what has been changing in terms of coherence. Section 8 summarizes our main conclusions regarding the dynamics and coherence of a governance structure on the basis of our Romanian experiences.

2 The coherence and dynamics of a governance structure

Governance is often associated with a declining ability of a central government to steer society and a growing importance of multi-level governance structures, such as the EU (Jordan et al. 2005). It acknowledges that major developments in society are shaped through the interaction between many actors, both public and private, at multiple levels (Bressers and Kuks 2003). This does not mean that the role of traditional public administrations in water management has been diminishing. Most actors involved in water projects, not all of them, represent a public organization. What has been changing is that most contemporary policy interventions require collaborative efforts between various organizations (Bressers 2009). To analyze this governance structure in our case studies, we adopt a model of governance developed by Bressers and Kuks (2003). The model conceptualizes governance as a structure consisting of five elements. The five elements of governance, including examples of relevant questions, are (Bressers and Kuks 2003):

1. Problem perceptions and policy objectives: What is seen as the problem? What are the causes and potential solutions? What are the objectives or standards?
2. Levels and scales of governance: Which levels are dominant? How is the interaction between various levels?
3. Actors in the policy network: Who is involved? What is their position? Who is having property and use rights? How do actors cooperate, are there any structures?
4. Strategies and instruments: Which instruments are used? How flexible are they? How are costs and benefits distributed? Which resources do they require?
5. Responsibilities and resources for implementation: Which organizations are responsible for implementation? What authority and resources are made to these organizations? What are the restrictions?

The above presented model has been used, among others, to study the development of water management regimes in Europe (Bressers and Kuks 2004). It shows that regimes, which include governance structures, tend to become more complex in the sense that more elements become involved. The reason for this is that when the number of uses and users is growing, the need for regulation and thus the scope of a regime will also increase. This process

involves the multiplication of governance elements: more levels, more actors, more perceptions, more instruments, more organizations with responsibilities and so on. Once regimes are becoming more complex, coherence becomes a relevant concept. Coherence does not develop spontaneously; it requires deliberate interaction efforts. Such efforts are often lacking, which means that complex regimes are often example of fragmented, instead of integrated, regimes. These are regimes that lack coherence as elements are not connected with each other in a meaningful way (Bressers and Kuks 2004; Kuks 2004).

Coherent policies and actions are one of the basic requirements for effective water governance and it is widely agreed that this affects socio-economic development (Rogers and Hall 2003). It is not our intention to promote coherence as one of the normative principles for 'good governance', we rather aim to draw attention to the fact that various elements of a governance structures are often inconsistent with each other and that this has practical implications (Young 1982). Previous research shows that there is, for example, a direct linkage between coherent governance (institutional sustainability) and the status and use of water resources (ecological sustainability) (Kuks 2004). In the case of water services and flood risk management, it means that the coherence of a governance structure is having practical implications for social, economic and environmental outcomes. Coherent governance implies, for example, that actors involved are aware of their mutual dependencies and interact with each other, that the existence of multiple perceptions is taken into account in strategies and objectives, and that responsibilities are accompanied by resources for implementation (Bressers and Kuks 2004).

Governance structures are part of a wider context; they are embedded in a wider cultural, technological, political, economic and problem context (Bressers 2009). Changes in this wider context, such as the rise of the European Union or tendencies towards privatization, may disturb one elements of an existing governance structure, which may subsequently evoke changes in other elements as well. The two main sources of change are problem-related and institutional triggers. Increasing problem pressure may be caused by special events (e.g. accidental pollution or floods) or increase slowly over time. Institutional triggers originate from political institutions at higher levels, such as the EU or the national government. External changes may lead to inconsistent governance structures, for example, if new targets are formulated that are different from existing ones (Bressers and Kuks 2004; Kuks 2004).

In this contribution, we define 'connective capacity in water governance' as the consistency or coherence within and between the five elements that form a water governance structure. We are particularly interested in what kind of external developments form a trigger

for changes in governance and in the implications of these changes in terms of coherence (institutional sustainability) and sector performance (water services delivery and water resources management). The basic analytical framework that we adopt to study this is schematized in Figure 1.

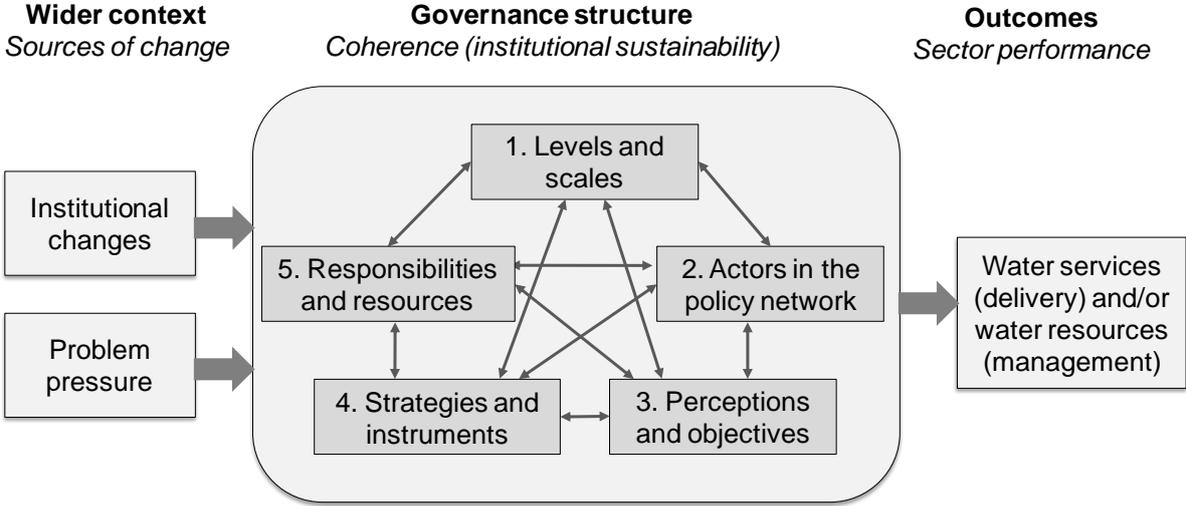


Figure 1 - Analytical framework to analyze changing governance structures

3 The Romanian context of the case studies

During the last decades, the wider context for water management in Romania has been changing considerably. After World War II, the country was ruled by a communistic regime, which imposed a centralized economy and prohibited almost all political freedom. Following the collapse of this regime in 1989, a gradual transition towards a pluralistic political and economic system began. This transition was and is strongly influenced by external forces, that seek to integrate Romania into a mainstream, international system. In this process, Romania’s adherence to the EU probably plays a key role (Gallagher 2005). Since the revolution, EU accession has been the main objective of all Romanian governments. The official application for EU membership was realized in 1995. Following a negotiation period (between 2000 and 2004), the country accessed the EU on the 1st of January, 2007 (together with Bulgaria).

The collapse of the communistic regime and subsequent EU membership affected nearly all aspects of the Romanian society, including the institutional context for water management. Since Romania started preparing for EU accession, water management has mainly been focusing on meeting the EU environmental *acquis* (i.e. the specific rules and legislation adopted by EU member states). This is challenging for new EU member states, like Romania, in which the environment was never high on the agenda before. Major investments are needed to bring the environmental infrastructure, such as waste disposal sites and drinking

water and wastewater facilities, in line with EU standards. This challenges the financial and administrative capacity of these new EU member states. Another challenge forms the implementation of public participation requirements, which is an important component of EU environmental legislation, as experiences with the practical application of participation is often very limited in these states. Furthermore, the enforcement of environmental legislation tends to be difficult in these countries where obedience to legislation is not self-evident (Kremlis and Dusik 2005). How Romania is planning to comply with EU legislation (and to spend EU funds) is laid down in various programmes. One of these programmes is devoted to environment and describes how the Government of Romania (GoR) will bring its environmental infrastructure in line with EU standards. This programme includes six priorities, two of these – the one on water services and the one on flood risk management – are discussed below (GoR 2007).

First priority is to “improve the quality and access to water and wastewater infrastructure” (GoR 2007 p. 7). In 2004, only 52% of the population was connected to drinking water and sewage systems and 71% of the wastewater was not or insufficiently treated (GoR 2007). Despite several pre-accession programmes, it was impossible to bring this situation already in line with EU standards before accession. Hence, a transition period was negotiated for drinking water (98/93/EC) and wastewater (91/271/EC) until the end of 2015 and the end of 2018, respectively (GoR 2007). One of the processes initiated in the pre-accession period was the regionalization of water services. Before 1990, water services (i.e. water supply, sewerage and wastewater treatment) were operated as public services at county level. After 1990, Romania returned to the local autonomy principle, which involved the transfer of major responsibilities to the local level. The current regionalization process aims to create efficient regional operating companies with local authorities as its main shareholders (Sannen et al. 2008). What this process involves is described in more detail in section 5.

Another priority is the “reduction of the incidence of natural disasters affecting the population” (GoR 2007 p. 7). Among various natural risks – such as earthquakes, forest fires, floods and droughts – flood risks are most important (GoR 2007). Romania is almost fully located in the Danube river basin (see also Figure 2). Floods usually result from high waters on the Danube, high waters on one of the larger interior rivers or from a sudden rise of the water level in small rivers or streams (flash floods caused by torrential rain). During the last decade, floods have become a yearly recurring issue causing major damage to all kind of economic objects (e.g. roads, dikes, houses, bridges or dams). They also resulted in many deadly casualties; in the period 1969 – 2006, there were on average 13 deadly casualties per

year (MEF 2010). One of the worst recent floods took place in 2005, when high water levels throughout the country affected 1734 communities, resulted in 76 deathly casualties and caused about 1.5 billion euro of damage (GoR 2007). In response to the increasing problem pressure from floods, the government elaborated a National Strategy for Flood Risk Management (GO No. 1854/2005). This strategy for the short term (2005 – 2010) was recently extended with a strategy for the medium and long term (2010-2035). Two major actors in flood risk management are: (1) the national water management authority, which operates through eleven branches at river basin level; and (2) committees and inspectorates involved in the management of emergency situations, which operate at national level, county level and local level. In this contribution, we focus on the management of the physical environment for flood prevention, in which water authorities play a central role. The water authorities are organized as a national administration under the authority of the Ministry of Environment (and Forests). This organizational form has been changing as well as the Ministry responsible for water management. The basic structure for water management remained largely the same since 1956, when river basins were introduced as the main unit for water management. Water management initially focused on water quantity control. This scope was extended in 1974 with the control of water quality. Since 2006, there is much more attention for sustainable water management, including stakeholder involvement and cost-recovery (Serban and Galie 2006). Sustainable development is also one of the basic principles underlying the recently introduced flood risk management strategy (GoR 2005,2010). The background and introduction of this strategy is presented in more detail in section 6.



Figure 2 - The location of Romania in the Danube river basin (Wong et al. 2007)

4 Case study methodology

The empirical part of this study is based on the analysis of major developments in two water sectors in Romania. The first case study concerns the water services sector and concentrates especially on the recent regionalization process in this sector. The case study includes an analysis of the governance of water services in Teleorman County (before regionalization) and in Tulcea County (after regionalization). Data about Teleorman County were collected by Dinica and includes document analysis, in-depth interviews and a stakeholder survey in the period 2006-2007 (Dinica 2007). For Tulcea County, data were collected through document analysis and in-depth interviews (Vinke-de Kruijf et al. 2009). For a detailed overview of the study we refer to the given references.

The second case study is based on an analysis of flood risk governance in Romania. For this study, data were collected through document analysis, observations, in-depth interviews and a questionnaire. Most observations and interviews were related to projects in the field of flood risk management that involved Dutch and Romanian actors (September 2008 – October 2010). The questionnaire was developed and executed in cooperation with researchers from the “Gh. Asachi” Technical University of Iasi (May – September 2010). It was distributed among the monitoring departments of all eleven branches of the Romanian water management authority. For detailed information about this study, we refer to the anticipated research report (Vinke-de Kruijf forthcoming).

The time span of our study is the period since the fall of communism (around 1990) until now, with a focus on policy interventions during the past five years (2005-2010). The occurrence of these interventions and their profound consequences on the governance structures is characteristic for both cases. As both cases concern another sector, they also differ on at least one important characteristic, which is the degree of complexity. One difference relates to the type and interests of actors involved. Water services involve mostly actors with a direct interest in water service delivery, whereas flood risk management involves many actors with primary interests in other fields, such as agriculture, urban planning, transport and nature conservation. Another major difference is that information about flood risk management is more uncertain. How developments, such as climate change and economic growth, will influence the natural system is hard to predict. As a result, impacts of flood risk measures are often unpredictable, uncertain and disagreed upon (Dewulf et al. 2005). We reflect on these differences between both sectors in section 7.

Our case studies are both taken from Romania, which is a country in transition. This means that our case studies are probably not representative for connective capacity in water governance in general. Our case studies are rather unique examples of the dynamics of connective capacity, how structures become less coherent and how coherence is improved again. By taking cases from two different sectors, we also provide insights in how this process develops within various water sectors.

5 Case study: regionalization of water services

From 1990 until recently, the delivery of water services was under the responsibility of local authorities. This decentralization of water services appeared to be largely ineffective. In the majority of the towns, operators turned out to be unable to attract sufficient funds to maintain and develop their infrastructure. As very little investments were made in the period between 1990 and 2005, the condition of water infrastructure was generally poor when Romania accessed the EU (GoR 2007). We use the case of Teleorman County to illustrate how inconsistencies in the governance structure contributed to this poor performance.

The local-focused governance structure basically consisted of local authorities owning water infrastructure who delegated the operation of water services to public companies (direct management) or to specialized commercial companies (delegated management). In Teleorman, two towns adopted the first structure and three towns the latter. One of the main issues in both cases was financing. Water companies can extract funds from seven sources of which two were used in Teleorman: water charges and local taxes. For political reasons, local councils preferred to keep both as low as possible. Although they were legally obliged to obtain tariff advice from a regulating authority, they often ignored it as it was not binding. As a result, water tariffs were sometimes not even covering production costs. Local operators were unsatisfied about their interaction with local councils and water management authorities (basin level). Among the main issues were the payment of fines, high fees for obtaining information and a lack of cooperation and involvement regarding the implementation of EU directives. The strong political influence of local councils resulted in internal inconsistency in the sense that the actors with responsibilities in providing water services did not have access to sufficient resources. The underlying problem was that there was no counterbalancing of these authorities by any higher level or independent authorities. Local operators had no instruments to change this situation and difficulties to cooperate with other authorities as well (Dinica 2007; Vinke-de Kruijf et al. 2009).

Most of the former small operators were unable to attract any external funds, for example, from international funds. Since 2001, national authorities support local authorities to access international funds and to create viable operators. Based on the experiences of pre-accession programmes a regionalization process was initiated. This involves that national authorities encourage local authorities (owners of infrastructure) to organize themselves at regional level and to delegate their water services to a certified regional operator (service providers). This process is supported by capacity building programmes (GoR 2007).

The case of Tulcea County (one of the forerunners in the regionalization process) shows that merging various local operators into one regional commercial company is challenging. One of the objectives of the regionalization is to improve the operators' operational and financial performance. This means in practice that a financially viable operator is overtaking the services of smaller operators that perform less. The reason for operators to participate in this process is that EU funds can only be accessed once they have become regional operator. These funds are used to rehabilitate and extend infrastructure, which used to be done by local councils. To deal with their new role and responsibilities, operators receive training and assistance in various fields, such as, human resources management, asset management and financial planning. What also changed is the legislation regarding tariff setting. Local councils can only approve tariffs once they are approved by a regulating authority, which reduces the political influence (Sannen et al. 2008; Vinke-de Kruijf et al. 2009).

Romania's EU accession and the regionalization process involve changes in all elements of the governance structure (see Table 1). This change process started with Romania's desire to become member of the EU. This accession introduced a new level of governance. This change was accompanied by the need to comply with EU standards, a new objective, and accessibility of EU funds, new resources. As these resources were only available on the condition that they would be managed by viable operators a regionalization process started. This process was triggered by two institutional changes: (1) the decentralization that resulted in an incoherent structure; and (2) the EU accession that resulted in new standards. The poor performance of the sector – the result of the incoherent structure – also formed a problem pressure in itself. However, it only became a real trigger for change when the country accessed the EU. The regionalization process involved several changes. New actors were introduced in the network as new structures were created, regional associations and regional operating companies. Roles and responsibilities were adjusted, local authorities became shareholders, regional operators are making investments and the regulating

authority gives a binding advice on tariff setting. Principles of cost-recovery were introduced and short-term objectives replaced by long-term strategic planning. These changes were supported by a training and support programme. Operators were, for example, trained in financial management, asset management and customer relations.

It is too early yet to observe the benefits of these changes. The operator in Tulcea mentions, for example, that the influence of local politics is still a problem. And as well-performing operators are overtaking services from poor-performing operators, the performance of the former is initially going down. This is because investments are needed to bring the equipment of poor operators in line with the standards for a certified operator.

Table 1 – Recent changes in the governance of water services

Element	Main changes
Perceptions and objectives	Local, short-term objectives replaced by regional, long-term objectives to comply with EU standards; cost-recovery introduced.
Levels and scales of governance	Introduction of the EU level; from local-focused to regional-focused scale of governance.
Actors in the policy network	Associations introduced for local authorities; operators become regional operating (commercial) companies.
Strategies and instruments	New methods and rules for tariff setting and approval; introduction of instruments for improved management (e.g. strategic planning and asset management).
Responsibilities and resources for implementation	Redefinition of roles of operator and authorities (delegation contract); operators can apply for EU funds and make investments.

6 Case study: implementation of a flood risk management strategy

Floods have always been a recurring issue in Romania. Especially in mountainous areas during spring and summer, when snow starts to melt and heavy rainfalls occur regularly (Serban and Galie 2006). During the last decades the frequency and intensity of floods have been increasing noticeable. This is caused by a complex set of factors including: intensified land use, deforestation, increased vulnerability of buildings, (unauthorized) construction in flood-prone areas, poor design and construction of flood defence infrastructure, low safety levels, poor maintenance of water courses (obstruction) and infrastructure, and the increase of extreme meteorological events (climate variability that might be the result of climate change) (GoR 2005,2007). Our questionnaire shows that there are still other important factors, such as the availability of information and financial resources, and cooperation with other stakeholders. Many of these problems are related to two developments since communism:

increased fragmentation of property rights (land restitution) and fragmentation of responsibilities (decentralization).

During the communistic period, flood prevention was a relatively orderly activity in the sense that all water courses, land and infrastructure were owned by the state. In 1991, legislation was introduced that allowed former owners to apply for the restitution of confiscated agricultural land and forests. In 2005, almost 96% of the agricultural land and 35% of the forests was restituted. It is expected that eventually about 65% of the forests will be restituted to private parties or to local authorities. One of the drawbacks of this restitution is that it resulted in excessive fragmentation of land, which makes it more difficult to manage. New owners also often simply lack the knowledge on sustainable land management and are more interested in quick economic benefits. Many of the new forest owners therefore decided just to log it, whether this was legal or not. Another problem is that infrastructure, including small water courses and drainage systems with a role in flood protection, was often restituted together with the land. In many cases, the result was that this infrastructure was not maintained, abandoned or destroyed. This situation is addressed in the rural development programme, through which landowners may access EU funds. The programme aims to contribute to flood risk reduction by means of preventing further soil degradation, preventing soil erosion and land slides through afforestation and improving and developing infrastructure. Since 2005, private owners are also obliged to organize themselves in districts and to hire a forest ranger (GoR 2009).

The most important owner of flood defence infrastructure is the national water authority. It owns the main rivers and the majority of the dikes (about 7100 km). Until recently, the national land improvement authority also owned about 1200 km of dikes along the Danube and about 1100 km of dikes along interior rivers (Websites ANAR; ANIF). There are also about 2000 dams with a role in flood protection (at permanent and non-permanent water retention reservoirs). Circa 10% of these dams are having a highly important role in flood protection. Most of these rather large and important dams are owned by the water authority or by the hydropower company. Of the smaller dams, about 87% is owned by other parties: the land improvement authority, local authorities, fishery associations and private agents or individuals. Inspections in 2006 show that over fifty percent of the important dams need to be repaired and that circa 12% of the small dams have safety problems (Abdulmit and Tanasescu 2009). The maintenance of safety levels of small dams used to be highly problematic. This has improved since the introduction of new legislation (G.O. 138/2005), but it may still be difficult for dam owners to access financial resources to maintain safety levels.

Besides fragmentation of property rights, fragmentation of responsibilities is also an important cause of flood related problems. In addition to the national water management authorities, the main responsible actor, actors of various sectors have a role in flood risk management. For example, floods often occur at locations where the river flow is obstructed by bridges or with waste (e.g. from logging activities or households). Prevention of obstruction requires cooperation with local authorities and actors in the forest sector and transport sector. Another problem is the construction of buildings in flood-prone areas. The procedure for new buildings is that advice about flood risks has to be obtained from water authorities in order to receive an environmental permit. Authorities are, however, not obliged to follow this advice.

The above shows how developments, such as land restitution and decentralization, contributed to the growing complexity of flood risk governance since communism. As these developments were not accompanied by deliberate collaboration efforts, it reduced the coherence of the governance structure. This structure also lacked coherence in other elements. Water authorities report that they often lack adequate information and financial resources to act upon their responsibilities. The problem with urban planning is, for example, not just that the advice of water authorities is ignored. They also lack any recent hazard or risk maps, which makes it almost impossible to give adequate advice. In other words, their responsibilities were not in line with their resources for implementation.

Following the floods in 2005, the Ministry of Environment decided that there was a need for a coherent framework and a new approach to flood risk management. The short term strategy includes two major changes: (1) a shift in perception and measures, i.e. from passive flood defence to proactive management and from structural protection measures to a strong emphasis on non-structural measures and prevention and evaluation of flood events; and (2) cooperation with stakeholders from various sectors (e.g. environment, transport, agriculture, finance, health and education), including the definition of their roles and responsibilities at various levels (national, county, local and individual citizens) (GoR 2005). The medium and long term strategy complements these changes with several proposals for institutional changes: (1) to extend the existing inter-ministerial council for water with a secretary for flood prevention and a technical secretariat for the evaluation of major investments; (2) to give the river basin management committees, which were established for the EU Water Framework Directive, also a role in the approval of flood prevention measures; and (3) to establish local flood agencies, consisting of volunteers who are trained by experts of the water authorities and land improvement authorities (GoR 2010). In addition, the government is currently undertaking other actions, such as: (4) the transfer of dikes owned by the land

improvement authorities to the water authorities (GoR 2010); and (5) the establishment of a new Authority of Water Management and Floods at the Ministry of Environment. The latter is meant to improve the coordination between various authorities and is having the former state secretary of water as its director. The latter is an indication that there was a need to diminish the influence of politics on water management. The medium and long term strategy also introduces new safety objectives, especially regarding the vulnerability to floods. The flood probability in rural areas, for example, is currently 1/20 years and should become 1/100 years. The strategy will be implemented with funds from various ministries and EU funds (MEF 2010).

Table 2 – Recent changes in the governance of flood risks

Element	Main changes
Perceptions and objectives	From passive defence to pro-active flood risk management, proposal to reduce vulnerability; increase of safety levels.
Levels and scales of governance	Introduction of the EU level; proposal to increase cooperation across national, regional and local level.
Actors in the policy network	Proposal to give river basin committees and the inter-ministerial committee for water a role in flood risk management and to establish local flood agencies; establishment of a new Authority at the Ministry.
Strategies and instruments	Emphasis on non-structural measures and on cooperation; new instruments, such as automatic monitoring stations.
Responsibilities and resources for implementation	Ownership of dikes transferred to water authorities; funds available at various ministries and at the EU; increase of data and information (e.g. maps and monitoring stations).

With the introduction of a flood risk management strategy, all elements of flood risk governance in Romania have been changing (see Table 2). Among the main changes are: a new approach to flood risk management (perspectives), an increase of safety levels (objectives) and new measures (strategies and instruments). One of the main changes is, however, the definition of the roles and responsibilities of various actors in the policy network and the establishment of new structures for cooperation. The two most obvious triggers for change are: (1) the restitution of land resulting in a fragmented situation (institutional change); and (2) the increasing intensity and frequency of floods (problem pressure). According to the Ministry of Environment, the occurrence of floods in 2005 and 2010 is one of the reasons that they were able to raise the necessary support at the other Ministries.

Another institutional change that triggered these developments is Romania's EU accession (new level). Water authorities may apply for EU funds for flood risk management on the condition that the government can ensure that they can manage these funds. According to a representative of the Ministry, this meant that the government had to ensure that the water authorities are viable organizations, both institutionally and financially, and to adopt a coherent strategy. Second, the development of a new strategy is necessitated by the introduction of the EU Floods Directive (2007/60/EC), which puts also the development of hazard and risk maps high on the agenda (MEF 2010).

7 Reflection on the case study results

This section reflects on the developments and policy interventions in the water services sector (first case) and the flood risk management sector (second case). Both sectors are characterized by an overall change in the governance structure, i.e. changes are observed in all elements during the past five years (see Table 1 and Table 2). We are especially interested in what triggered these changes, what has been changing and how interventions contributed to the creation of connective capacity.

When comparing the major developments in both cases since communism, we observe that both sectors are characterized by deterioration: increasingly poor water services delivery and increasing flood risks and events. Among the major causes are two populist political choices after communism – decentralization and land restitution – that were not accompanied by deliberate efforts to ensure coherent, and thus effective, governance. As a result, decentralization of water services contributed to the deterioration of water services and fragmentation of property rights and responsibilities contributed to increasing flood risks. The problem pressure that resulted from the latter situation formed an important trigger for the Romanian government to develop and adopt a flood risk management strategy. In the water services case, Romania's EU accession has been relatively more important. As Romania's water services were not in line with EU standards, it became a priority to improve them. This priority already existed for the development of a flood strategy. EU directives still play a role in this sector; the basis of the newest flood strategy is formed by EU directive on floods of 2007. The availability of EU funds are also a trigger in itself as they are only accessible once the government can ensure that funds are given to efficient, capable and autonomous organizations. This trigger is relatively more important in the water services sector, for which twenty times more EU funds are allocated than for flood risk reduction.

Incoherence, mostly caused by fragmentation and a lack of resources, was observed in both sectors. One of our main questions is to what extent the policy interventions, which were initiated by the Ministry of Environment, helped to reduce this incoherence. In the first case, fragmentation was dealt with by regionalization: larger operators are believed to be more efficient (GoR 2007). This only contributes to a more coherent governance structure if other problems, such as the position and capacity of operators and cooperation among actors, are dealt with simultaneously. The regionalization process basically consisted of legislative changes and assistance programmes. The new legislation basically strengthened the position of operators and of the national regulating authority and provided a new cooperation structure for operators and local authorities. The assistance programmes were mainly aimed at strengthening the capacity of operators to handle their new responsibilities. An important change was the enforcement of cost recovery, which is a prerequisite for long-term institutional sustainability.

In the second case, we observed increasing fragmentation of property rights and responsibilities. This fragmentation was partially reduced by transferring the ownership of flood protection infrastructure. However, this kind of fragmentation can never be reduced fully in mainstream market economies. What is more important and has also been the focus of many recent proposals is to enhance collaboration between various actors involved in flood risk management. The flood risk management strategy was therefore developed in cooperation with all relevant actors and includes the establishment of new cooperation structures at the national level, the river basin level and the local level. The Ministry also recently established a new authority that will coordinate the actions of various actors. In this sector, it is much more important that governance is able to adapt to changing circumstances by adopting approaches that “embrace the inherent uncertainty and complexity of human-technology-environment systems” (Pahl-Wostl 2008 p. 10).

We expect that the policy interventions in both sectors improved will have a positive influence on development outcomes as it addressed major sources of incoherence. At the same time, we also observe that the actors still need to adapt to their new roles and responsibilities. Service improvements are not visible yet as EU projects have not been finalized. In the case of flood risk management, the situation is more complex. Given the number of actors involved, the creation of cooperation structures is a pre-requisite for coherent governance. At the same time, we observe that the approach to flood risk management has been changing (focus on non-structural measures) and that ambitions are high (development of flood risk maps and increased safety levels). It is questionable whether

the water authorities have the capacity to realize these ambitions, especially as there has been no specific attention for capacity building of the water authorities.

8 Conclusions

Our analysis of policy interventions and changing governance structures in Romania confirms that governance is influenced by its wider context and affects the status and use of a resource. The case of Romania clearly shows how developments in the wider context result in institutional changes that negatively affect the coherence of a governance structure. If these changes are not accompanied by deliberate efforts to ensure the coherence of a governance structure, they will also negatively affect the status and use of a resource. These outcomes, however, also give feedback to the system in the form of problem pressures that may act as triggers for change. This was especially the case with the occurrence of extreme flood events in Romania. In the case of the water services sector, Romania's EU accession formed a more important trigger for change. What was especially lacking in terms of coherence was the cooperation between actors and the connection between resources and responsibilities. At the same time, we observe that standards have been rising since Romania's EU accession. On the basis of these results, we conclude that the following intervention aspects were particularly relevant for enhancing connective capacity: (1) the establishment of cooperation structures; (2) adequate definition of roles and responsibilities, so that responsible actors have access to resources; and (3) capacity-building, so that ambitions can be realized. When comparing both sectors with each other, we observe that the flood risk management sector is characterized by a higher degree of complexity. This means that the creation of a coherent governance structure also requires much more efforts of actors involved.

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