

Connective capacity in water governance practices: the meaning of trust and boundary spanning for integrated performance

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Abstract

This article deals with water governance to face institutional fragmentation in water management practices. In this holistic approach the connective capacity with domains, levels, scales, organizations and actors is emphasized. Recent literature and empirical research shows that both trust and boundary spanning leadership turn out to be of great importance for realizing connective capacity and subsequently integrated performance in water management practices. Trust stimulates and consolidates coordination and interaction between different actors from different domains and organizations in the water governance networks, and therefore leads to cross-boundary partnerships. Trust is developed in informal network structures. Boundary spanners are important in creating and stimulating informal spaces of interaction, and thus in creating conditions for trust to evolve in these actor networks. In this way positive relationships between trust, boundary spanning, informal networks and integrated performance is realized.

Introduction: the need for connective capacity in water governance

Many scholars mention the problem of institutional fragmentation of water issues that hinder a coherent and integrated solution of these issues (1, 2, 3*, 4**, 5**). Water has many aspects, which are often handled by different organizations and institutions and these themselves are often bound by geographical and functional jurisdictions (6). In water management many boundaries regarding scale, domain, level, organization, and actor (7*, 8). Responsibilities for water (such as water quality, water safety and water supply) are dispersed among different organizations and sectors. This institutional fragmentation is often framed negatively as it complicates governance processes of coming to concerted collective action, while it at the same time provides an important impetus for integrated performance (6).

In many cases there are different institutions with different and conflicting interests concerning water, like water safety, water quality or water shortage (9*, 4**). But water also touches the issues of climate change, spatial planning and development (10, 7*). Achieving cooperation, joint responsibility and integration in such fragmented water governance systems is a core problem (11). The water system is complex and interconnected of nature, but at the same time the governmental institutions and processes are fragmented and not capable of developing and realizing integrated performance (2).

This necessitates a broader, holistic and systemic approach that cannot be provided by the engineers and/or by the economists alone. The increasing popularity of IWRM approaches can be viewed as response to capture and deal with such complexities (2). Next to this development from uni-sector to multi-sector approaches, there is increasing focus on new forms of governance, stressing more horizontal decision-making through partnerships and networks that involve a wide range of actors (12). Broadening participation to disciplines and stakeholders other than those related to the public sector at the central level may result in the consideration of different knowledge and alternatives which the present institutions have been unable to frame so far (5**, 13). This could lead to different levels of policy learning (14*). It is thus crucial to consider a whole range of partnership modalities with industry and business, as well as groups from academia and society, which vary depending on the specific situation. In short, we witness the following developments and trends within the water sector:

- From uni-sector to holistic, multi-sector and interdisciplinary approaches, like Integrated Water Resources Management (15, 16, 6,7*, 3*);
- From hierarchical, government centric approach towards a horizontal, polycentric governance approaches, like co-management and ecosystem-based management (17*, 18, 19, 20);
- From a technocratic, expert driven (water policy and decision-making) approach towards a deliberative and multi-knowledge driven approach, including local and stakeholders knowledge (1, 21*, 14*, 22);
- From a fixed design for solutions (prediction and control) towards a flexible design, like the concept of *adaptive* water management (23, 14*, 24).

While these new approaches and concepts are often called for by both scientists and practitioners, they are hard to apply in practice. For example, in their review on the implementation of adaptive management and Integrated Water Resources Management approaches, Medema et al. (24) mention institutional barriers, ambiguity in definition, and political and financial risks as important hampering factors in this respect. Research shows that due to different (institutional and social) background, interests, and perspectives it is difficult to synchronize different knowledge sources, like expert, administrative and citizens (21*, 25, 2). Within this systemic and holistic approach to water governance the *capacity* to cross boundaries and to *connect* to other domains, levels, scales, organizations and actors becomes a very important aspect of water governance (4**, 16, 26). In this holistic approach the interconnective dimension is emphasized, addressing relationships and linkages among multiple, cross-cutting, and often conflicting water resource uses (27). Also the OECD stresses the importance of water governance capacity (28, 29).

However the process of connecting different actors and institutions in water governance is not without problems. Stakeholder engagement in the water sector is a topic that has been extensively discussed and promoted at various national and international levels (3*). Irrespective of the rhetoric, however, not very much has been achieved to ensure its real implementation, or even prove definitely that it always improves water governance.

Until recently scholars provide insight and empirical proof by which factors and under which conditions and circumstances actually facilitate connective capacity in water governance practices. Trust and boundary spanning turn out to be of great importance for realizing connective capacity. In the next section we discuss these two crucial aspects in more detail.

The importance of trust and boundary spanners for realizing connective capacity

In this section two important conditions are discussed that are found in research as drivers for connective capacity in water governance, trust and boundary spanning leadership.

Trust

The concept of trust is increasing in popularity in all kind of scientific disciplines, like management studies, political science, public administration, and environmental sciences. However, many studies remain rather conceptual without really empirical results. Recently more empirical studies become available in which the meaning and role of trust in water governance networks is demonstrated in an empirical way (30**, 31, 32**, 13).

Trust can be defined as “a stable positive expectation that actor A has (or predicts he has) of the intentions and motives of actor B in refraining from opportunistic behavior, even if the opportunity arises” (33). However, in many literature no reliable scale of trust is developed and used in empirical research. Klijn et al (30**, 31)) have developed a reliable scale of trust based

on an extensive review of the existing literature on trust and that has also demonstrated its use and application in other countries than the Netherlands (for example, Belgium, US, Spain, Taiwan). This scale contains the following items:

Insert table 1 here

With their large N (survey) research on Dutch water governance cases, Klijn et al (30**) have demonstrated that trust has a significant positive impact on the outcomes of water governance networks. They have empirically proven that trust enhances integrative and sustainable performance of water governance networks. Trust develops in informal network structures (34). The informal character of the networks provides room for involved actors to think and behave outside their established roles and rules according to their formal position within established institutions; this opens up possibilities to exploring possible partnerships and getting to know other partners' ambitions, interests and values (33).

Trust stimulates and consolidates coordination and interaction between different actors from different domains and organizations in the water governance networks, and therefore leads to cross-boundary partnerships. It leads to more interaction and exploration in which actors take a receptive and reflexive (learning) attitude. Trust increases the probability that actors will invest their resources, such as money, knowledge, and so on, in collaborative and cross-domain and cross-disciplinary collaborative processes (14*, 18). In this way, trust stimulates learning and the exchange of information and knowledge among stakeholders, which is useful to develop better tailored and integrated solutions (21*, 35). In sum, trust increases the capacity to connect different actors with different backgrounds to develop partnerships and to develop and implement integrated and sustainable solutions.

Boundary spanning leadership

Boundary spanning leadership is a research topic for quite a number of years now. The literature on boundary spanners pays specific attention to individuals who work at the organization boundaries. Boundary spanners are organizational members who are able to link the organization they represent with its environment (36), i.e. other organizations that operationalize at different levels and scales (37**).

This kind of leadership turns out to be crucial for realizing integrative performance. For good outcomes to emerge, water governance networks require the inclusion of relevant and affected actors, the willingness of the participants to exchange or pool resources, and the development

of common conceptions of problems, solutions, and decision-making premises. Boundary spanning leadership plays an important role in this respect (37**,34**, 38).

To effectively accomplish a better fit, boundary spanners are engaged in three main (and interrelated) activities: connecting or linking different people and processes at both sides of the boundary, selecting relevant information on both sides of the boundary, and translating this information to the other side of the boundary (34**). Boundary spanners are skilled networkers, who have the ability to recognize and exploit opportunities to develop inter-organizational relationships (36). This means that they are able to empathize with others and that they have a feeling for the social construction of other actors. Boundary spanners understand other actors' needs, which enables them to search for shared meanings (39). In this way, sustainable relationships with actors from different organizational backgrounds are developed and maintained.

Dealing effectively with complex water issues requires a high flow of information between involved actors, coordination and mutual alignment of a diversity of stakeholders (38*). With their role in increasing the flow of information, and translating information across organizational boundaries, connecting individuals and processes across organizational boundaries, competent boundary spanners positively affect the performance of governance networks, as is shown in the survey research of Van Meerkerk and Edelenbos (34**). Furthermore, they also found that boundary spanners have significant impact on building trustful relationships in governance networks. Trust and boundary spanning develop mutual strengths for increased cooperation and to finding integrated solutions.

The boundary spanners are important in stimulating and creating informal spaces of interaction in which deliberation, learning and innovation takes place (38**, 14*). He or she has a feel for the diversity of interests, for what is relevant for the different involved stakeholders, and provides opportunities for these stakeholders to engage. Moreover, boundary spanners play a key translating and bridging role between informal networks on the one hand and formal decision-making structures and policy processes on the other hand. In other words: boundary spanning is important for developing interactions between stakeholders and due deliberation among stakeholders and for bringing over this throughput from informal water governance networks to formal decision-making in a legitimate way. A high level of throughput legitimacy reflects a relatively high level of communication, deliberation, and debate among actors in the network. The results of Van Meerkerk et al.'s (38**) survey research among complex water projects confirmed the hypothesis that boundary spanning activities positively affect the throughput legitimacy of governance networks. This throughput legitimacy in turn has a strong positive effect on the performance of water governance networks, in terms of effective, innovative, and integrated solutions.

However, the relations between connective capacity, trust and boundary spanning is not unproblematic. High-trust relationships could lead to closed networks and communities which in turn hamper cross-boundary processes and integrated approaches (37**). Extra bridging and brokering activities are then needed to span across closed groups and filling in these structural holes (40*). Moreover, bridging and connecting organizations and actors is not without limits. Berardo (40*) found that organizations perform better by adding more partners as long as this does not lead to excessive complexity regarding for example the amount of information that at a given time can no longer be effectively processed.

Conclusions and future research

Water governance is taking a more dominant role in the literature on water management. In water governance the ability to make connections is increasing in importance. Recent result from empirical studies shows that trust and boundary spanning are crucial factors and mechanisms for developing this connective capacity of water governance networks, and to develop and realize integrative performance. Trust is more likely to develop in informal network structures, and boundary spanning leadership is needed to organize these collaborative processes in these informal network spaces to align stakeholders and to generate integrated solutions. In this way cross-boundary partnerships is more likely to get started in the domain of water governance.

The next step now in this research on water governance (seen as connective capacity) is to find what factors positively influence the level of trust. Moreover, it is relevant and interesting to find out how boundary spanners intentionally can be recruited or activated in water governance processes. As well as what kind of difficulties actors face in developing such trust or performing boundary spanning activities and what that requires from individuals (e.g. personal competences), organizations and the organizational context. Organizational literature on boundary spanning shows, for example, that a higher level of boundary-spanner autonomy is related to a higher level of external agents' trust in the boundary spanner (41). In addition, context variables, such as the political opportunity structure, should be included in further research, as such context factors influence the effectiveness of boundary-spanning activities and the willingness of agents to conduct such activities (42). If trust and boundary spanners are so important, pro-active policies and actions are needed for these factors to develop. Overall, it is important to gain more understanding under which stimulating situational conditions high quality connections evolve in water governance practices.

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