Multi-Stakeholder Platforms for Water Management: Connecting policy and Science

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Introduction

The theory of the modern Integrated and Sustainable Water Resources Management (ISWRM) is inherently interdisciplinary, including hydrology, hydraulics, geology, hydrogeology, meteorology, engineering, computer science, statistics, probabilistic theory, sociology, economics, political and law science, systems' analysis, etc. The involvement of the users (stakeholders with a direct or indirect relation to the environmental management) has been proved to be necessary for the design, the evaluation and implementation of water management strategies (Alamanos et al., 2022). Multi-stakeholder platforms (MSP) are used internationally to allow stakeholders to explain their positions and objectives, give them a voice in the governance and decision-making process, and resolve conflicts. Conflicts are inevitable within MSP, where there are numerous alternatives, diverse backgrounds and interests, and unfortunately, most conflicts are painful or non-productive (Castro, 2019). Despite extensive research and numerous case studies in recent years on the topic of stakeholder engagement, there is no method or model that can tell any decision-maker how to evaluate the degree to which various individual (or common group) desires should be fulfilled or compromised (Scheffran and Stoll-Kleemann, 2003; Koundouri et al., 2022). This article gives a brief overview of the use of MSP, some international examples, their concerns-questions, strengths, weaknesses, analyses the sources of conflicts and ways to manage them, and summarizes points for consideration in the context of the efficient operation of MSP.

International examples of stakeholder involvement

An Fóram Uisce (The Water Forum - AFU) in Ireland, was established in 2018 and has an advisory role on water-related issues to the relevant Ministries. It consists of a small, full-time support staff (research, communications and education, and administration), and 26 members, including stakeholders from agriculture, fisheries, business, trade unions, NGOs, recreation, consumers, etc. It is a body with unique features among other EU member-states (statutory and continuous consultation nature), developed under the measures of the Water Framework Directive (WFD) for public participation. Overall, as a policy forum, AFU would seem to provide an example of a structure well suited to giving a voice to stakeholders in national policy debate and development of complex problems (Boyle et al., 2021a; 2021b). The fact that it is statutory is a significant advantage as it strengthens its credibility and ensure its cooperation with the other authorities. On the other hand, strong differences of opinion remain, while there is limited evidence of the impact of AFU on policy development in practice. In Germany, the National Water Dialogue embraces a multi-governance level approach, engaging all levels of administrations and all relevant stakeholders, even beyond the water sector, as well as

citizens. The first Germany's National Water Forum (2018) consisted of 130 stakeholders. In the Netherlands, as a decentralized unitary state, there are four kind of administrative bodies responsible for water quality policy. The Ministry of Infrastructure and Water Management and provinces as generic administrative bodies, the regional water authorities as functional decentralized bodies, and Rijkswaterstaat (rws) as executive agency responsible for implementing the policies and regulations of the Ministry of Infrastructure and Water Management, with six national and seven regional divisions. The main feedback from stakeholders is found in the element that the authorities (22 regional water authorities) are organized bottom-up and water law is born in practice, for case-specific issues (Squintani et al., 2017). A similar approach is followed in Canada, where the stakeholder input is focused on specific issues to ensure the appropriate experience and expertise. However, similar to Ireland's case, we can find examples of continuous engagement, but still on specific topics or basins (e.g. see Lake Simcoe Protection Act, with its Science and Co-ordinating Committee) (OECD, 2015). Spain uses a more regional (basin) scale for targeted input of MSP (e.g. the Júcar river basin authority) (Albiac et al., 2012). MSP for specific issues and systematic stakeholder engagement is considered as a good practice by most EU member-states.

Multi-Stakeholder Platforms (MSP) and good practice

International research has developed relational measures to evaluate and assess the impact and progress of MSPs, referring to people's relations, knowledge and awareness improvement, and nature of agreements (Hammond and Booth, 2009; Hovelia, 2012; d'Estrée and Colby, 2004; Warner, 2006; Haydon and Kuang, 2013). Stakeholders often feel that the failure to evaluate or to make the results of their work transparent and visible creates disappointment. The successful operation of MSPs is initially a matter of proper definition, especially of its expectations. For example, a usual question could be "if the degradation of the qualitative status of more water bodies is a failure of the MSP?". This is not the case, and a 'good practice' approach is to avoid such misconceptions by clearly setting the limits of MSP and realistic expectations. Evaluation studies (d'Estrée and Colby, 2004; Warner, 2006; Jager et al., 2016) of MSPs ranked by influence find no MSP with a significant mandate or role on the improvement of the condition of water bodies. Great expectations inevitably bring disappointment, which might reduce the willingness to be involved in participatory initiatives. Thus, it is very important to set realistic expectations, often seeing MSPs as an institutional bargaining space that is especially useful for understanding the problems, exchanging information, communicating and building collaborations to put pressure to policy (Düring and Pascheka, 2014).

Within MSP, different stakeholders should perceive the same management problem, realize their interdependence for solving it, and come to (at least a degree of) an agreement on action strategies for solving the problem (Akhmouch and Clavreul, 2016). Thus, the clear definition of the problem, and the understanding of the trade-offs among the problems' objectives, are crucial for two reasons: First, they help making MSPs compatible with ISWRM's principles for human-environmental system management, and secondly, in that context, a sense of common good is cultivated, which makes the operation of MSP healthier (Alamanos and Linnane, 2021; Alamanos, 2021). The best means to achieve the above are communication and science-based education-information, driven by capable and responsible facilitators, according to the scientific literature (Berg, 2007; De Cosmi and Reed, 2009; Fritsch, 2019; Jager et al., 2016). This is not easy, but even the process itself has many benefits (benefits and challenges are

summarized in Table 1).

Table 1. Points that can result in strengths/ benefits and weaknesses/ challenges for MSPs.

Strengths/ benefits/ good practices	Weaknesses/ constraints/ things to be avoided
• Multi-stakeholder contribution, creates a sense of ownership through giving voice to the stakeholders, brings a comprehensive picture to all actors, encourages discussion, and assists coordination among different sectors • Good and efficient practice if based on basin boundaries • Addresses all stakeholders at all levels: federal, regional, community, etc. • Getting more information about policy-making • Improving knowledge about ISWRM, provides scientific support • Increases stakeholders' capacity, experience, cooperation • Giving decision power to the community • Sharing responsibilities • Create good opportunities for transparency • Helps to enhance the implementing capacities of the different committees • Social learning (Wymer, 2021)	• Difficult to gather a huge number of stakeholders/ weak attendance • Weak willingness to participate as a result of disappointment of past decisions, lack of political will, assumption of not being heard • Weak link between national and regional level, silo communication gaps, uncertainty around accountability in water governance • Short time to dedicate (daily activities have higher priorities) • Time consuming to reach agreements, conflicting topics • Individual interests, resistance to change • Lack of clarity on the expected use of inputs from stakeholders in decision-making and implementation (leading to a consultation "fatigue") • Gaps in understanding ISWRM • Lack of staff and funding • Lack of water technical experts and trust to scientific input/ advances • Weak science and supporting data • Need of more information & education among people to create awareness and build capacity

The aforementioned good-practice recommendation of the scientific literature (communication and science-based education-information) is further supported by the OECD Toolkit for Water Policies and Governance (OECD, 2015), that also underlines the importance of:

- accountability (clearly allocate and distinguish roles and responsibilities for water policy-making, policy implementation, operational management and regulation, and foster coordination across these responsible authorities through proper stakeholder mapping).
- policy coherence (effective cross-sectoral co-ordination, e.g. in areas such as water, energy, agriculture, land use, territorial development, health, public works/infrastructure, economy and finance).
- capacity building (development of skills, technical expertise and knowledge and the availability of staff and time). There are already examples of countries that focus on staff training and evaluation (Flanders in Belgium, Australia, etc.).
- the importance of science-supported policies, and the use of data-driven approaches to enhance informed decision-making. OECD recommends to "use data and information to guide policy", explicitly asking countries to "produce, update, and share timely, consistent, comparable and policy-relevant water and water-related data and information, and use it to guide, assess and improve water policy." Many countries have set up integrated water information systems

and databases, that have significantly improved the water services (Elliot and Stiftel, 2005; Valdés-Pineda et al., 2014; Fisher et al., 2002; McLeod et al. 2016).

Conflict Management

Conflicts are inevitable within MSPs, even if the above good practice recommendations are followed, but this does not mean that conflicts cannot be healthy and lead to improvements. Although better information, data, and communication are great assets, they are not adequate to resolve conflicts alone; the interpretation and the coordination of the MSP plays an important role (Fisher, 2014). Under solid coordination frameworks, science and knowledge can be used as tools to inform decision making, correct biases, and resolve misunderstandings. Table 2 summarizes the most common sources and solutions for certain conflict types, based on the approaches mentioned above.

Table 2. Conflicts and potential solutions (Mostert, 1998; Tint, 2011; d'Estrée and Colby, 2004; Lim, 2021; Alamanos and Zeng, 2020; 2021).

Conflict Type	**Source of Conflict**	**Solutions**
Factual Disagreement	Factual disagreements can have several causes. First, facts are hardly ever totally certain. There can be imperfect knowledge of the functioning of human-environmental systems, limited and/or not reliable data, and major assumptions. Also, different parties in a conflict often have different information. This can result from lacking or poor communication. Another cause of factual disagreement is the limited capacity of individuals to process information when drawing conclusions (ability to use only a few pieces of information, not always giving them the same importance, inconsistent judgement, etc.).	For addressing factual disagreements effective communication is crucial: Each party sharing the same information and using the same pieces of information. Often, additional research is necessary. This may take two forms: First, research could be conducted in which all parties are closely involved. In this case they all influence the assumptions that are used. Second, research can be conducted by an independent third party, acceptable for all parties, so to accept the outcome of the research. Education and training of the stakeholders through this process will improve their overall understanding and conflict-resolution abilities.
Relational Aspects	The relations between the parties involved can be problematic in terms of distrust and power struggles. A typical example is the way that two or more actors wait to see each other's reaction to act accordingly (in a way that will give them an advantage).	Generally speaking, communication should improve and the parties should at least temporarily suspend their preconceived ideas. Improving relations requires a major shift in the thinking of the parties concerned. The best motivation for such a shift is the realisation that it is in their self-interest to try and cooperate and not start any risky power struggle (see Game Theory). The assistance of an independent third party may be very helpful in this process, to understand that water problems affect all parties involved and require holistic solutions.
Conflicting Goals	Different interests regarding costs, profits, resource use and protection, competitive uses, underlying political agreements, etc.	Two basic mechanisms can be applied for addressing conflicting goals: - Convergence of goals: Some degree of convergence can be promoted by means of extensive and effective communication and attempts to develop a "common vision" (Koundouri, 2021). Can be achieved by the aforementioned solutions, through training, education programs, and awareness raising. - Seeking win-win solutions: Win-win solutions are

		better than the present situation for all parties involved (see Game theory, negotiation, multi-objective optimisation, multi-criteria analysis). In practice such techniques include compensation (financial or compromises within other policy-related fields) or by means of issue linkage (dealing simultaneously with different issues in a way of re-allocating benefits to the conflicting parties).

Identifying the different sources-types of conflicts guides for applying the proper mechanisms for resolving them. In practice it is more complex, and it majorly relies on the ability of the facilitator(s). Additional helpful strategies may refer to:

- Discussions on the fundamental scientific principles and the problems – issues faced, in order to understand their overall importance and start from an agreed base (which will lead to higher willingness to cooperate to address common problems using common-sense making). Background papers, reading groups, distributing material, or workshops and webinars could help. Often bringing up topics or examples will help the stakeholders to see things from a more 'objective' point of view, without feeling that they are part of those problems.
- Similarly, using arguments and 'negotiating' the overall position using similar examples from the international experience, by identifying common mindsets that led to successful and unsuccessful results.
- Being prepared for the topics of the discussion and the contextual factors (science, stakeholder mapping, political situation, institutional context, organizational structure and accountability).

When discussing within MSP, there are multiple methods that can be used to help the dialogue to articulate rival views as well as the assumptions underlying these views (e.g. value-focused thinking, Q Methodology, Semantic Differential, repertory grid, dialectical approach, etc.) (van de Kerkhof, 2006). Such methods are mainly technical – analytical ways (like group exercises) to uncover people's patterns of beliefs, and to identify the prevailing views that people have with regard to a certain matter (option, alternative, decision, etc.). Such approaches can be found in the literature as a 'Collaborative Learning process', where a group improves its capacity, knowledge, experience, and understanding of the perspectives of other parties (Koundouri, 2021). Of course, this cannot solve problems itself, but it is an important factor that reduces conflicts by improving the existing understanding and perception of the situations (Bonnell, 2002). As Innes (1996; 2004) indicates, collaborative planning requires a process that is facilitated rather than just chaired, and ideally should be viewed as part of a broader, continuous training and capacity building process.

Concluding remarks

This paper presented some MSP examples, described good practice approaches, and analyzed potential ways for managing conflicts within MSP. The main take-away messages that have been found to be successful internationally, are summarized below:

1. Using research and science as mechanisms to minimize dispute and reach consensus within MSP. The facilitating team must study and understand first the research outcomes, and then it is equally important to communicate them appropriately (Haydon and Kuang, 2013). During that process, the true sources

of conflicts may be uncovered, together with potential solutions. Practically this could be achieved by: i) background papers as rough presentations of the state-of-the-art research on certain topics; ii) building a network of external (independent) associates from the academic community who will be keen on giving brief presentations and talks on their areas of expertise, when such issues arise; iii) strengthen the voice of scientists by attracting stakeholders with relevant backgrounds (e.g. engineers, water economists, academics, etc.).

2. Continuous education, training and capacity building, with emphasis on science, accountability, effective communication and facilitation. To make a consensus building process work, it is helpful to have a strong knowledge base, identify the types and sources of conflicts and elaborate of potential solutions (e.g. Table 2). Structured communication, preparation and problem definition play a key role, while the technical-scientific insights are equally important.
3. Creating stakeholder committees within MSP for specific topics (to ensure the appropriate expertise and experience). The potential consideration of sub-committees on 3-4 major topics (e.g. water economics and management, water supply and wastewater, rural water) could be practically helpful and allow more targeted input to policy submissions and consultations.
4. Making stakeholders part of the solution by exploiting their influence to their organizations and communities, or how they could assist in the implementation/ mainstreaming of certain actions and good practices. Stakeholder mapping is key to identify connections, responsibilities and power relations.
5. Developing positions (for usage as reference principles) on several water-related topics, such as: Climate mitigation and adaptation policies; Extremes (flood and drought) management; Digital Water Management; Economic Instruments for Water Management (including water pricing); Coupling socio-economics and environmental science; Ecosystem Services; Water conservation; Marine and Bathing sites Management; Public acceptance of water innovations; Transboundary water management; Water supply; Wastewater; Water related Regulations; Forestry; (Irish) Water and Energy; Agricultural Policies and water management; Hydro-informatics; Wter policy coherence; Soil erosion – Hydromorphology; Regulation and performance assessment of public water services, etc.
6. Considering regional MPS based on basin (not administrative) boundaries, to focus on specific issues, under a national MPS and common principles. This will allow pushing for specific actions, have more detailed assessments, targeted and diverse measures and management approaches per Basin District, the in-depth consultation of specific works and projects that cannot be achieved by high-level documents and discussions. The chances to make a difference in any management practice are extremely low if the outcomes of a consensus process rely on an agreement over imprecise or general principles, rather than concrete operational results (van de Kerkhof, 2006; Emerson et al., 2009).

References

Akhmouch, Aziza, and Delphine Clavreul. 2016. “Stakeholder Engagement for Inclusive Water Governance: ‘Practicing What We Preach’ with the OECD Water Governance Initiative.” *Water* 8 (5): 204. https://doi.org/10.3390/w8050204.

Alamanos, Angelos, and Qingmin Zeng. 2020. “Water Scarcity, Conflicts, and the Role of Integrated Water Resources Management: The Case of Urumqi River Basin, China.” In

Sustainable Development Goals in Central Asia and the Challenges of COVID-19. Nur-Sultan, Kazakhstan.

Alamanos, Angelos, and Qingming Zeng. 2021. "Managing Scarce Water Resources for Socially Acceptable Solutions, through Hydrological and Econometric Modeling." *Central Asian Journal of Water Research* 7 (March): 84–101. https://doi.org/10.29258/CAJWR/2021-R1.v7-1/84-101.eng.

Alamanos, Angelos, and Suzanne Linnane. 2021. "Estimating SDG Indicators in Data-Scarce Areas: The Transition to the Use of New Technologies and Multidisciplinary Studies." *Earth* 2 (3): 635–52. https://doi.org/10.3390/earth2030037.

Alamanos, Angelos, Phoebe Koundouri, Lydia Papadaki, and Tatiana Pliakou. 2022. "A System Innovation Approach for Science-Stakeholder Interface: Theory and Application to Water-Land-Food-Energy Nexus." *Frontiers in Water* 3. https://www.frontiersin.org/article/10.3389/frwa.2021.744773.

Alamanos, Angelos. 2021. "Public Policy to Support Environmental Sustainability and Circular Economy: Efforts towards Integrated Approaches." In *2nd Symposium on on Circular Economy and Sustainability. 14-16 July, 2021.* Alexandroupolis, Greece.

Albiac, J., E. Calvo, and E. Esteban. 2012. "River Basin Governance and Water Policies in Spain." In *The Challenge of Regional Development in a World of Changing Hegemonies: Knowledge, Competitiveness and Austerity*, 15. Bilbao, Spain.

Berg, Sanford V. 2007. "Conflict Resolution: Benchmarking Water Utility Performance." *Public Administration and Development* 27 (1): 1–11. https://doi.org/10.1002/pad.437.

Bonnell, Joseph E. 2002. "Working Through Environmental Conflict: The Collaborative Learning Approach." *The Journal of Environmental Education* 33 (3): 42.

Boyle Richard, O'Riordan Joanne, O'Leary Fergal, Shannon Laura. 2021b. "Using an Experimental Governance Lens to Examine Governance of the River Basin Management Plan for Ireland 2018–2021". *EPA Report No. 373.* https://dcuwater.ie/wp-content/uploads/2021/08/Research_Report_373.pdf

Boyle Richard, O'Riordan Joanne, O'Leary Fergal, Shannon Laura. 2021a. "Structured, formal engagement of stakeholders in public policy – The case of An Fóram Uisce (The Water Forum)". *Administration 69*(4): 39–55. doi: 10.2478/admin-2021-0027

Castro D. (2019). Multi-stakeholder platforms. Foundation for Law & International Affairs.

De Cosmi, Debora, and Brian Reed. 2009. "Communication within Multi-Stakeholder Platforms in Water Resource Management: Ethiopian Case Study," January. https://repository.lboro.ac.uk/articles/conference_contribution/Communication_within_multi-stakeholder_platforms_in_water_resource_management_Ethiopian_case_study/9585782/1.

Düring, Michael, and Patrick Pascheka. 2014. "Cooperative Decentralized Decision Making for Conflict Resolution among Autonomous Agents." In *2014 IEEE International Symposium on Innovations in Intelligent Systems and Applications (INISTA) Proceedings*, 154–61. https://doi.org/10.1109/INISTA.2014.6873612.

Elliott, Michael L., and Bruce Stiftel. 2005. "Societal Effects of Collaborative Decision-Making in Florida: The Impact of Environmental Conflict Resolution Institutions on Public Choice, Civic Culture and Environmental Management Systems." SSRN Scholarly Paper ID 728429. Rochester, NY: Social Science Research Network. https://doi.org/10.2139/ssrn.728429.

Emerson, Kirk, Patricia J. Orr, Dale L. Keyes, and Katherine M. Mcknight. 2009. "Environmental Conflict Resolution: Evaluating Performance Outcomes and Contributing Factors." *Conflict Resolution Quarterly* 27 (1): 27–64. https://doi.org/10.1002/crq.247.

Estrée, Tamra Pearson d', and Bonnie G. Colby, eds. 2004. "Patterns in Environmental Conflict Resolution." In *Braving the Currents: Evaluating Environmental Conflict*

Resolution in the River Basins of the American West, 207–38. Natural Resource Management and Policy. Boston, MA: Springer US. https://doi.org/10.1007/1-4020-8129-4_8.

Fisher, Franklin M., Shaul Arlosoroff, Zvi Eckstein, Munther Haddadin, Salem G. Hamati, Annette Huber-Lee, Ammar Jarrar, Anan Jayyousi, Uri Shamir, and Hans Wesseling. 2002. "Optimal Water Management and Conflict Resolution: The Middle East Water Project." *Water Resources Research* 38 (11): 25-1-25–17. https://doi.org/10.1029/2001WR000943.

Fisher, Joshua. 2014. "Managing Environmental Conflict." In *The Handbook of Conflict Resolution: Theory and Practice. 3rd Edition*, Ch. 55. John Wiley & Sons.

Fritsch, Oliver. 2019. "Participatory Water Governance and Organisational Change: Implementing the Water Framework Directive in England and Wales." *Water* 11 (5): 996. https://doi.org/10.3390/w11050996.

Hammond, Felix Nikoi, and Colin A. Booth. 2009. "Environmental Stakeholder Management." In *Construction Stakeholder Management*, 317–37. John Wiley & Sons, Ltd. https://doi.org/10.1002/9781444315349.ch18.

Haydon, J. J., and J. Kuang. 2013. "Using Environmental Conflict Resolution and Consensus Building towards Improved Sustainability." In , 81–92. Putrajaya, Malaysia. https://doi.org/10.2495/SC130071.

Hovelja, Tomaz, Olegas Vasilecas, and Rok Rupnik. 2013. "A Model of Influences of Environmental Stakeholders on Strategic Information Systems Planning Success in an Enterprise." *Technological and Economic Development of Economy* 19 (3): 465–88. https://doi.org/10.3846/20294913.2013.818591.

Innes, Judith E. 1996. "Planning Through Consensus Building: A New View of the Comprehensive Planning Ideal." *Journal of the American Planning Association* 62 (4): 460–72. https://doi.org/10.1080/01944369608975712.

Innes, Judith E. 2004. "Consensus Building: Clarifications for the Critics." *Planning Theory* 3 (1): 5–20. https://doi.org/10.1177/1473095204042315.

Jager, Nicolas W., Edward Challies, Elisa Kochskämper, Jens Newig, David Benson, Kirsty Blackstock, Kevin Collins, et al. 2016. "Transforming European Water Governance? Participation and River Basin Management under the EU Water Framework Directive in 13 Member States." *Water* 8 (4): 156. https://doi.org/10.3390/w8040156.

Kerkhof, Marleen van de. 2006. "Making a Difference: On the Constraints of Consensus Building and the Relevance of Deliberation in Stakeholder Dialogues." *Policy Sciences* 39 (3): 279–99. https://doi.org/10.1007/s11077-006-9024-5.

Koundouri, Phoebe, ed. 2021. The Ocean of Tomorrow: The Transition to Sustainability – Volume 2. Environment & Policy. Springer International Publishing. https://doi.org/10.1007/978-3-030-56847-4.

Koundouri, Phoebe, Nicolaos Theodossiou, Yannis Ioannidis, Haris Papageorgiou, Andreas Papandreou, Lydia Papadaki, and Charalampos Stavridis. 2022. "Accelerating Science-Driven Blue Growth via a Competitive Intelligence Cloud/HPC Platform for AI-Based STI Policy Making." *Environmental Sciences Proceedings* 15 (1): 68. https://doi.org/10.3390/environsciproc2022015068.

Lim, Seunghoo. 2021. "Multiplex Dynamics for the Co-Evolution of Formal and Informal Policy Networks in the Environmental Conflict Resolution Process." In *Policy Network Ties in the Dynamic Process of Environmental Conflict Resolution: Uncovering the Evolution of Environmental Governance*, edited by Seunghoo Lim, 69–96. Environment & Policy. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-70855-9_4.

McLeod, Fraser, Leela Viswanathan, Graham S. Whitelaw, Jared Macbeth, Carolyn King, Dan McCarthy, and Erin Alexiuk. 2016. "Finding Common Ground: A Critical Review of Land Use and Resource Management Policies in Ontario, Canada and Their Intersection

with First Nations." *The International Indigenous Policy Journal* 6 (1). https://qspace.library.queensu.ca/handle/1974/14012.

Mostert, Erik. 1998. "A Framework for Conflict Resolution." *Water International* 23 (4): 206–15. https://doi.org/10.1080/02508069808686774.

OECD. 2015. *Toolkit for Water Policies and Governance: Converging Towards the OECD Council Recommendation on Water*. Paris: Organisation for Economic Co-operation and Development. https://www.oecd-ilibrary.org/environment/toolkit-for-water-policies-and-governance_ed1a7936-en.

Scheffran, Jürgen, and Susanne Stoll-Kleemann. 2003. "Participatory Governance in Environmental Conflict Resolution." In *Transition Towards Sustainable Development in South Asia*, 307–27. Kaushik Deb, Leena Srivastava (Eds). The Energy and Resources Institute, New Delhi.

Squintani, Lorenzo, Ernst Plambeck, and Marleen van Rijswick. 2017. "Strengths and Weaknesses of the Dutch Implementation of the Water Framework Directive." *Journal for European Environmental & Planning Law* 14 (3–4): 269–93. https://doi.org/10.1163/18760104-01403002.

Tint, Barbara S. 2011. "Conflict Management, Resolution, and Transformation." In *The Encyclopedia of Peace Psychology*. John Wiley & Sons, Ltd. https://doi.org/10.1002/9780470672532.wbepp046.

Valdés-Pineda, Rodrigo, Roberto Pizarro, Pablo García-Chevesich, Juan B. Valdés, Claudio Olivares, Mauricio Vera, Francisco Balocchi, et al. 2014. "Water Governance in Chile: Availability, Management and Climate Change." *Journal of Hydrology*, Water governance across competing scales: Coupling land and water management, 519 (November): 2538–67. https://doi.org/10.1016/j.jhydrol.2014.04.016.

Warner, Jeroen F. 2006. "More Sustainable Participation? Multi-Stakeholder Platforms for Integrated Catchment Management." *International Journal of Water Resources Development* 22 (1): 15–35. https://doi.org/10.1080/07900620500404992.