

Building bridges over troubled waters

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Building Bridges over Troubled Waters

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Abstract

Water security is a global threat that is intensifying with increasing demands for freshwater and climate change. Scientific advances provide tools to address issues of water quantity and quality, but new advances in conflict resolution (CR) theory are also required. Here, we discuss new CR theory (conflict analysis as the intervention, and the use of middle-influencers as key players), along with a case-study of the application of these CR advances in a water-stressed region of Canada. We argue that continued adaptation, iteration, and refinement of CR theory involving both social and natural scientists is crucial for addressing water-related conflicts globally.

Plain Language Summary

Conflict surrounding freshwater resources is common in water-stressed regions, but is anticipated to expand globally and intensify as demands for water increase and supply declines. While scientific advances can aid in mitigating water availability and quality, this is also a social problem that requires the adaptation and application of conflict resolution theory to address fully. In this paper, we outline how new advances in conflict resolution theory can be applied specifically to water-related conflicts to begin to address, and ultimately improve issues surrounding freshwater across the globe.

Key Points

- Advances in conflict resolution theory can provide novel tools for water-related conflict
- Conflict analysis can itself serve as an intervention for conflict resolution
- Middle-influencers are key players to be engaged in the conflict resolution process

Introduction

Water security is a global threat with many high-risk communities already bearing the environmental, social, political, and economic consequences (WRI 2019). Demands for freshwater for human health, industry, agriculture, recreation, and traditional uses often exceed availability (Gleick 1993, 2014; Dinar 2002), leading to conflict. In addition to current stresses, continued climate change, population growth, and increasing global development are anticipated to exacerbate tensions. But water conservation is also a concern in freshwater-rich regions like Canada. Despite possessing nearly 20% of the world's total freshwater resources (Perez-Jvostov et al. 2020), much of Canada's water is non-renewable and unevenly distributed or inaccessible across the country (Government of Canada 2022). Here, we argue that advances in conflict analysis theory and their application to conservation conflict (Madden and McQuinn 2014; Zimmerman et al 2020; Minnes et al. 2020) provide an opportunity to find more sustainable solutions to water-related conflicts in Canada and globally.

Conservation scholars and practitioners are making significant progress adapting and evolving conflict resolution tools and practice to the unique features of conservation conflicts. It is an approach advocated by leading global conservation bodies, including the International Union for Conservation of Nature's Human-Wildlife Conflict and Coexistence working group (IUCN 2020). Much of this new theory and practice comes from a convergence approach with conservationists working closely with conflict resolution experts. For example, existing conflict analysis tools have been tailored to actors, processes, and issues specific to conservation conflicts (Redpath et al. 2013). An important lesson from this research and practice is that existing conflict resolution tools are useful starting points, but require substantial adaptation and advancement. In the past few years, these new theories and frameworks have been successfully applied to specific conservation conflicts providing new insights into the underlying conflicts and histories shaping stakeholders perception of the situation.

In this paper, we offer a pathway by which research on conservation conflict can itself serve as a conflict resolution intervention. Often, traditional conflict analysis is conducted with an expert-centered approach which can antagonize conflict by reinforcing deep-rooted perceptions of marginalised communities that society (embodied in researchers) is only interested in extracting information from them. We are instead proposing to use existing convergent research and practice to go beyond expert-led conflict analysis, and move towards (re)building relationships among the stakeholders and develop a shared understanding of the issues, values, and impacts of the conflict through an intervention approach. This approach carries additional risks because conveners eventually bring representatives from the conflict stakeholders together. But we argue that this risk can be mitigated through careful planning and collaborations.

We use an intervention in the province of Saskatchewan, Canada as a case study to show how a conflict analysis process can be reframed to serve as a conflict resolution intervention. Saskatchewan is a good candidate as there has been excellent research on water conflicts (Harrison and Loring 2020; Minnes et al. 2020), which have been shown to be intensifying because of increased demands from drinking and municipal water use, Indigenous rights, agricultural irrigation, livestock watering, and potash solution mining (Wheater and Gober 2013; Western Economic Diversification Canada 2020).

A Story of Two Conflict Analyses

Conflict resolution initiatives begin with an analysis of the conflict, which seeks to understand the history, actors, issues, and values at stake. There are many approaches and frameworks for analyzing conflict, many tailored to conservation applications (Burton 1990; Ledearch 2005; Sandole 2009; Fisher 2012; Ni Aoláin et al. 2018). Analysts tend to begin with a situation profile, which includes the broader social, economic, political, historical, and environmental context. Stakeholder analysis then explores stakeholders in the conflict in greater depth, irrespective of their decision-making power. Conservationists then explore the conflict itself – its presenting disputes and what lies below the surface (e.g., Madden and McQuinn 2014). Typically, the goal of conflict analysis is a written product providing insight into a conflict, forces shaping it, and potential avenues for resolution. The goal is the information and analysis, which is usually generated by an expert collecting data through secondary research and interviews with stakeholders.

An alternative scenario to the traditional conflict analyses is for researchers to use a conflict analysis as an intervention. This begins with the identification of crucial stakeholders and initiation of conversations about the conflict. These conversations would evaluate the stakeholders' interest in improving the situation and whether they would be willing to participate, along with other stakeholders in the conflict, in a conflict analysis process. The stakeholders agree - both to the process and those leading it - and participate in a dialogue to analyze the situation, generating an understanding of the competing issues, histories, and values. It is quite possible that in those discussions relationships could be frayed and tensions worsened, but if designed properly, it is also possible that the dialogue bridges differences among stakeholders and their experiences of the conflict.

The two scenarios outlined above are caricatures presented to provide an exaggerated contrast. In reality, conflict analysis conducted by an expert can serve as an excellent starting point for future interventions. Similarly, those using conflict analysis as an intervention need to conduct some preliminary analyses and discussions to ensure there is space to engage on the topic and that those intervening will be perceived as appropriate for the task. Nevertheless, the two scenarios help contrast crucial differences in the goals and role of stakeholders and those leading the conflict analysis (See Table 1 for a summary).

Table 1: Comparing Conflict Analysis as an Intervention versus Expert Analysis

	Expert Analysis	Intervention Process
Goals	Accurate and insightful analysis	Productive interaction among rights- and stakeholders while analyzing conflict
Decision-making power	The expert retains authority over what information is collected, from whom, and the subsequent analysis.	Rights- and stakeholders retain decision-making authority over information, analysis, and who should be included
Role of expert	Collect, analyze, and present information in accessible and insight ways	Convening the conflict stakeholders and facilitating the dialogue processes
Role of rights- and stakeholders	Source of information and receipts of analysis	Source of information and co-creator of analysis and potential solutions
Level of Risk	Lower risk. But not zero as some groups may feel alienated by the process, either because of who is conducting the research, their lack of involvement, or disagreeing with the findings.	Higher risk. Bringing stakeholders together can exacerbate tensions if not done carefully by experienced dialogue facilitators
Duration	Can be conducted relatively quickly	Usually longer in duration as rounds of consultations and dialogue require time and substantial preparation
Audience	Policy-makers, governments, academics, NGOs,, and other influencers	Rights-holders and stakeholders in the conflict

The crucial distinction between the two scenarios is the goal of the effort and how this purpose redefines the role of the stakeholders and those leading the process. As stated above, traditional conflict analysis treats stakeholders as sources of information with the expert retaining authority over the analysis and final product. By contrast, conflict analysis used as an intervention uses the tools to bring stakeholders together to dialogue, relegating the expert to the role of convenor and facilitator, and the stakeholders as the analysts. Again, neither process is better or worse, they just serve different purposes. In this paper, we argue that this second approach has the potential to not only produce useful analysis, it also has the potential to begin to address the conflict.

Using Conflict Analysis as an Intervention: Begin in the Middle

This theoretical approach of revising the roles of stakeholders and facilitators raises the practical question: who are the individuals representing the stakeholder groups that we should be working with? Efforts to resolve water conflicts can take many forms ranging from high-level negotiations between governments to community-based advocacy training. Historically, interventions tend to prioritize negotiations among leaders with the most decision-making power. In some situations this might be the most effective strategy. But a shortcoming of this approach is that these leaders are usually the least flexible in their positions and thinking. Moreover, once these representatives state their positions in a negotiation, it is very hard for them to back down.

In the authors' preparation for the intervention in Saskatchewan detailed below, we decided that a high-level negotiation was too risky at this stage in the conflict. As an alternative, we decided to engage representatives from the different sides that had a stake in the conflict but were more flexible in their position and mindset: middle-influencers. Adopting a middle-influencer strategy was first articulated by the renowned peacebuilding scholar John Paul Lederach (1996).

In any conflict, middle-influencers are members of a group or community that enjoy access to senior leaders but are not so senior as to be locked into a group or community position. At the same time, they are well connected to their respective constituencies so that they speak with authority about their concerns, history, and priorities. (see Figure 1). This “middle out” approach emerged in response to conflict management approaches that prioritized negotiations between senior leaders of the conflicting sides (Lederach 1997, 2010).

Building negotiations around middle-influencers has the advantage of influencing top-level leaders behind the scenes to reshape positions before they are formalized. Middle-influencers also have a greater interest in finding a solution to the conflicts harming their community. By contrast, top-level leaders often have more complicated interests and conflict can, perversely, serve their interests by creating scapegoats or the threat of external threats.

Conflict analysis workshops are an effective way to bring together middle-influencers. This approach also lowers the risk exacerbating the conflict as the goal is to better understand the situation and does not involve negotiating a solution. The goal of these workshops was to build a network of middle-influencers who could serve as bridges among conflicting parties, what Lederach (2012) called “peacebuilding infrastructure.” Selecting this approach also ensured that if our initiative did not continue after this stage, this network of relationships would remain as a resource, for example, to help back-channel communication in future conflict resolution efforts. In the following case study, we detail how such a process was initiated in the province of Saskatchewan, Canada.

Case Study: Water Conflicts in Saskatchewan, Canada

The southern third of the province of Saskatchewan, Canada is a semi-arid, primarily agricultural region with a long history of water conflicts that have escalated in recent years (Breen et al. 2018; Hassanzadeh et al 2019; Minnes et al. 2020). In the province, evaluations of water conflicts have provided valuable details to aid in the scoping of the issues (Breen et al. 2018; Hassanzadeh et al 2019), and causal analyses (Minnes et al. 2020). We (KF – water scientist and BM – conflict resolution expert) were inspired to further evaluate water conflict in this region after attending a public presentation where, by coincidence, a community

member used BM's Levels of Conflict theory (Madden and McQuinn 2014) to frame water conflicts in the province.

Over the next five months, we met with a variety of stakeholders and rights holders (Indigenous groups, municipal and provincial government, community groups, NGOs, industry). Through these discussions, we found a critical mass of individuals interested in participating in a conflict analysis process. Before proceeding we revisited the rights holders and stakeholders to seek permission to initiate a process. Without this mandate, however well-meaning our efforts, we could have exacerbated tensions by usurping rights holders' and stakeholders' decision-making power. In an effort to build momentum and generate the resources to advance the initiative, we worked with those involved to draft an application for funding through the Canadian Social Sciences and Humanities Research Council (SSHRC). The success of that proposal provided the impetus to expand the initiative. What followed was an initial collaboration between the authors and those interested in addressing water conflicts in Saskatchewan.

The five-month mapping process also helped identify a conflict resolution strategy for the initiative. Through substantial discussions with individuals from the rights and stakeholders, we concluded that the intensity and history of the conflicts, which included a long history of underlying and deep-rooted conflict, warranted a cautious approach. As a consequence, we proceeded with a middle-influencer strategy (Lederach 1997). For example, we did not focus on the Indigenous Chiefs, but instead on the individuals working in the Tribal Council who navigate between community needs and senior leadership's concerns.

As an initial step, we met with the participants to explore points of view, which set the tone for how information was to be gathered (i.e., directly from those involved and in the way they wished to contribute) and analyzed (i.e., in collaboration with the representatives in the mapping process). The approach produced the data and analysis for the mapping, but it also helped build relationships among the conflicting groups and communities. This group of individuals holds the potential to become a network throughout the province that could serve as backchannel lines of communication among the conflicting parties.

The issues raised by the rights- and stakeholders were evaluated through a lens of the "Levels of Conflict" to determine whether they were disputes, underlying, or deep-rooted in nature (Madden and McQuinn 2014). Disputes include issues such as the installation of tile-drainage on farmland, with implications for water availability on private land downstream. These Disputes often evolve into Underlying conflicts, when these disputes continue over decades and generations, or when drainage impacts farmers' abilities to make a living. Deep-rooted conflicts included First Nations' rights to sacred water sources and unimpeded use of the land and the role of agriculture as a livelihood for farmers. A full mapping of the issues is ongoing.

Initiatives addressing water conflict is a slow and deliberate process, and we are still in the early stages of this work in the province of Saskatchewan. Nevertheless, our progress is evidence that this approach will allow for successful conflict resolution. Thus, for us, Step 3 will be to bring the middle influencers together to discuss water conflict in the province.

Conclusions

Economic development, population growth, and climate change are increasing tension over access to freshwater. While scientific advancement may provide technical tools to address water scarcity, advances in CR theory provides new strategies and tools for understanding and engaging stakeholders in water conflicts to arrive at lasting solutions. In this paper, we described how conflict transformation theory and practice were adapted; turning conflict analysis into a process to engage stakeholders in water conflict in Saskatchewan, Canada. In the case study, we show how bringing stakeholders together to analyze the underlying dynamics driving tension can serve as a crucial first step in building relationships among conflicting parties. This process was also a way of identifying key middle-influencers in the conflict's stakeholders, who hold the potential to play a mediating role in addressing tensions. The middle-influencer strategy provides a cautious approach to engaging in a conflict resolution process when there is a history of deep-rooted conflict. The case study, while limited to Canada, provides a blueprint that can be adapted to other conflicts worldwide.

Conflict of Interest Statement

The authors declare that there is no conflict of interest.

References

- Ni Aoláin, F., Cahn, N.R., Haynes, D.F. and Valji, N. eds., 2018. *The Oxford handbook of gender and conflict*. Oxford University Press.
- Breen, S-P. W., P.A. Loring, H. Baulch. 2018. When a water problem is more than a water problem: fragmentation, framing, and the case of agricultural wetland drainage. *Frontiers in Environmental Science*. 30. <https://doi.org/10.3389/fenvs.2018.00129>
- Burton, J.W., (1990). "Conflict Resolution." *Prevention*. New York: St. Martin's Press.
- Dinar, S. (2002). Water, security, conflict, and cooperation. *SAIS Review*. 22(2): 229-253.
- Fisher, R.J., (2012). Comparing a problem-solving workshop to a conflict assessment framework: Conflict analysis versus conflict assessment in practice. *Journal of Peacebuilding & Development*, 7(1), pp.66-80.
- Gleick, P.H. (1993). Water and conflict: Freshwater resources and international security. *International security*. (18:1) 79-112.
- Gleick, P.H. (2014). Water drought, climate change, and conflict in Syria. *Weather, climate and society*. Doi: 10.1175/WCAS-D-13-00059.1
- Harrison, H.L., and Loring, P.A. (2020). Seeing beneath disputes: A transdisciplinary framework for diagnosing complex conservation conflicts. *Biological Conservation*. doi: 10.1016/j.biocon.2020.108670
- Hassanzadeh, E., Strickert, G., Morales-Marin, L. Noble, B., Baulch, H., Shupena-Soulodre, E., Lindenschmidt, K-E. (2019). A framework for engaging stakeholders in water quality modeling and management: Application to the Qu'Appelle river basin, Canada. *Journal of Environmental Management*. 231: 1117-1126.

Lederach, J.P. (1996). Preparing for peace: Conflict transformation across cultures. Syracuse University Press.

Lederach, J.P. (1997). Building peace: Sustainable reconciliation in divided societies. Washington, DC: USIP.

Lederach, J.P. and Appleby, R.S. (2010). Strategic peacebuilding: An overview. *Strategies of peace: Transforming conflict in a violent world*. Pp 19-44.

Harrison, H.L., and Loring, P.A. 2020. Seeing beneath disputes: A transdisciplinary framework for diagnosing complex conservation conflicts. *Biological Conservation*. 248, 108670. <https://doi.org/10.1016/j.biocon.2020.108670>

IUCN (2020). IUCN SSC Position Statement on the Management of Human-Wildlife Conflict. IUCN Species Survival Commission (SSC) Human-Wildlife Conflict Task Force.

Madden, F. and B. McQuinn. 2014. Conservation's blind spot: The case for conflict transformation in wildlife conservation. *Biological Conservation*. 178: 97-106.

Minnes, S., Gaspard, V., Loring, P.A., Baulch, H., Breen, S.-P. (2020). Transforming conflict over natural resources: a socio-ecological systems analysis of agricultural drainage. *Facets* 5: 864-886. Doi: 10.1139/facets-2020-0031

Perez-Jvostov, F., Sutherland, W.J., Barrett, R.D.H., Brown, C.A., Cardille, J.A., Cooke, S. J., Cirstescu, M.E., St-Gelais, N.F., Fussmann, G.F., Griffiths, K., Hendrey, A.P., Lapointe, N.W.R., Nyboer, E.A., Pentland, R.L., Reid, A.J., Ricciardi, A., Sunday, J.M., Gregory-Eaves, I. (2020). Horizon scan of conservation issues for inland water in Canada. *Canadian Journal of Fisheries and Aquatic Sciences*. 77: 869-881. Doi: 10.1139/cjfas-2-19-0105

Redpath, S.M., Young, J., Evely, A., Adams, W.M., Sutherland, W.J., Whitehouse, A., Amar, A., Lambert, R.A., Linnell, J.D., Watt, A. and Gutierrez, R.J., 2013. Understanding and managing conservation conflicts. *Trends in ecology & evolution*, 28(2), pp.100-109.

Sandole, D.J., Byrne, S., Sandole-Staroste, I. and Senehi, J. eds., 2009. *Handbook of conflict analysis and resolution*. London: Routledge.

Western Economic Diversification (2020). Prairie prosperity: A vision for the management of water resources across Saskatchewan and the Prairies. Government of Canada. Cat. No lu-92-4/61-2020E-PDF

Wheater, H., and Gober, P. (2013). Water security in the Canadian Prairies: science and management challenges. *Philosophical transactions of the Royal Society A*. 371: 2012049.

World Resources Institute (WRI) 2019. WRI Aqueduct Tool. <https://www.wri.org/aqueduct/>

Zimmerman, A., McQuinn, B., and Macdonald, D.W. (2020). Levels of conflict over wildlife: Understanding and addressing the right problem. *Conservation Science and Practice*. <https://doi.org/10.1111/csp2.259>

