



RESEAU
centre for mobilizing innovation



Water: The Life of a Community

Can a shift from the politics of stakeholder self-interest to a new paradigm of strategic partnerships solve First Nations' water woes?

Since the release of the Truth and Reconciliation Commission's (TRC's) 94 calls to action, RESEAU has accelerated collaborations with public- and private-sector partner organizations. Together, we share a common goal — repairing the harm done to drinking water ecosystems attributable to numerous social and economic inequities that First Nations face.

To test our collective understanding of the United Nations Declaration on the Rights of Indigenous People (UNDIRP) and the TRC's work as it relates to water, we sought the perspectives of local leaders and community members, including professionals and researchers, who influence the implementation of sustainable healthy water solutions within First Nations communities. The result of these efforts became *Water: The Life of a Community*, an ongoing series of workshops focusing on indigenous peoples' relationship with water.

The results of these discussions inform the evolution of RESEAU's Community Circle Model for Strategic Innovation. Launched in 2013, the model incorporates communities, operators and all stakeholders' expertise and insights at the earliest stages of the innovation and problem-solving process. We work closely with communities to understand the limitations and constraints they face. Then, we identify research priorities and design and execute research to produce knowledge and integrated, game-changing solutions. These approaches are then validated by industry so that they can be readily diffused and adopted.

In 2017, three workshops were held — in St Eugene's Mission Resort at Cranbrook, the Anderson Creek Facility near Boston Bar and Sty-Wet-Tan Great Hall First Nations Longhouse at the University of British Columbia.

Over 100 people participated in the events, with representation from ʔaq̓əm of the Ktunaxa

Nation, Neskonlith Indian Band, T'it'q'et Administration, Snuneymuxw First Nation, Lhoosk'uz Dené Nation, Neskonlith Indian Band, Siska First Nations, Ts'msyen Nation, Lytton First Nations, the First Nations Operators Water Network of BC and Yukon, First Nations Health Authorities, Indigenous and Northern Affairs Canada, Assembly of First Nations, First Nations House of Learning, the RCMP Foundation, Interior Health, Trojan Technologies, BI Pure Water, Associated Engineering, Kerr Wood Leidal, David Nairne & Associates, Urban Systems, Opus International, Canadian Columbia River Intertribal Fisheries Commission Initiatives, the David Suzuki Foundation, the ERM Foundation and KPMG, along with researchers and students.

Key to the success of these events was ensuring that delegates from participating First Nations were given space to share with non-Indigenous professionals, researchers and policymakers. Our goal was to build breakthroughs in awareness and understanding that support the recasting of systems necessary to address complex water issues as they exist at the local level and beyond. In other words, we asked: *What are the actionable, implementable steps to actualizing the UNDIRP and TRC recommendations to improve the ecosystem? How can RESEAU's Community Circles model be improved to embrace these approaches?*

Five Key Propositions for Stakeholders

We learned a great deal through working with and listening to water operators, community membership and elders about their priorities, values and perspectives. Participants told us that achieving socially and technologically sustainable outcomes in drinking water systems for small, rural and indigenous communities will require the production of new knowledge derived from the perspectives of various actors with different levels of cultural awareness (e.g., urban culture,

rural culture, production culture, financial culture, indigenous culture and academic culture, etc.). This is a significant deviation from conventional collaboration and innovation models.

We have captured the insights, attitudes and experiences as expressed during the workshops as five high-level propositions. Our previous experience engaging several First Nations communities over the past five years was also factored into our findings. These can be used to guide the collaborations required to improve the drinking water situation — and community health in general — in Canada's indigenous communities.

PROPOSITION 1: CROSS-SECTOR STRATEGIC PARTNERSHIPS CAN BRING ABOUT TANGIBLE VALUE TO THE COMMUNITIES.

As one band chief put it, *"There are many people who are part of this water community that we have been talking about. The private sector needs to remember that these are real people with families who need to be understood and heard...And then we have the public sector, and they move at the opposite speed (of business) sometimes — [we need to] balance out the two so they can work together. The community itself needs to remember that there are people that are out there that are willing to help us — to accept them into our community and to be ready to accept that change. We need to hold on as strongly as we can to our language, our culture, our understanding of who we are as a people from the past, but we need to always be ready to adapt and change and move into the future..."*

PROPOSITION 2: VALUE IS GENERATED THROUGH I) AWARENESS OF WATER HEALTH, II) SIMPLICITY OF OPERATION, III) EASE OF MAINTENANCE, IV) ABSENCE OF CHEMICALS AND V) ROBUSTNESS OF SOLUTIONS.

Inventions can only become innovations when communities and end-users buy into them. That

buy-in is earned when we work to understand people's difficulties to absorb and use new technologies, which in our model is equally as important as the capacity of trained engineers. In each workshop, we heard that the innovation agenda can no longer be controlled by supplier organizations. The concept of user-centric innovation is about understanding the capability of "late-comers" and/or their lack of compliance with suppliers and the impact that has on innovation processes.

One participant summed it up thusly: *"You can have a great plant, a Cadillac, and a not-so-good operator, [or] you can have a terrible plant and a great operator. I'll take the latter any time."*

PROPOSITION 3: HETEROGENEITY IMPACTS TECHNOLOGY/SOLUTION INNOVATION.

Every stakeholder group and sector that influences and delivers outcomes in indigenous communities brings its own history, operational paradigms, biases and territorial attitudes to the innovation process. The effect of environments that influence outcomes in First Nations determinants of community health — i.e., the economic, social, political and technological forces acting on the First Nations' food, education and water — are illustrated in Figure 1 below. Note that First Nations have long been excluded as stakeholders.

For too long, universities, government, industry, NGOs and foundations have worked in silos or near-sighted collaborations that resulted in a non-transparent, hierarchical and centralized approaches that ignored and continue to ignore the realities and needs of the marginalized communities we serve. The result in many cases has been to create bigger problems for these communities.

Real problem solving is often hindered when the sectors influencing outcomes can't agree whether the problem is rooted in technological, environmental,

Fig. 1: The Context of Historical Innovation in First Nations



economic, cultural or management/governance dysfunction. Within sectors, biases also play a key role — for example, when consultants tend to recommend technologies based on their experience and comfort level with them, rather than based on an understanding of a community's true requirements.

Therefore, there is a need to be mindful of how cross-sector strategic partnerships are formed, and that doing so is not a simple task. Overcoming the unintentional dysfunctional outcomes that stem from stakeholders' partial understanding or biased view of collaboration, coordination and the innovation process is possible, however — namely by improving the dialogue among stakeholders and achieving a more balanced view of the entire innovation process. This is the primary function of the Community Circles model.

PROPOSITION 4: UNDERMINING A COMMUNITY'S CONCERNS INHIBITS THE DIFFUSION OF SOLUTIONS.

The process of creating viable solutions that meet the needs of each community must start

from within the community itself, and all solutions must be aligned with its determinants of health and social values. This concept was illustrated by the many community members who voiced concerns about using chemicals to disinfect their drinking water. Representatives from government and the regulatory sector expressed the need to make social connections while using local language to communicate the value of approaches, such as chemical disinfection, so the pros and cons of this (and every) possible solution could be weighed by the community.

What was made abundantly clear is that the era in which external agencies determine what is best for each community has long passed us by.

What's urgently needed in Canada is the creation of a climate of sustainable innovation. Too often, innovation is oriented toward short-term goals — we cleverly create technologies that consume resources and solve problems, then move onto the next technology to resolve the problems created by previous technologies. We then unwisely consume more resources along the way.

PROPOSITION 5: PUSHING R&D TO FOCUS ON REDUCING THE COST OF EXISTING SOLUTIONS MAY DRIVE OUT INNOVATION AND DECREASE THE QUALITY OF INTERACTIONS WITHIN A STRATEGIC PARTNERSHIP.

Conventional marketing strategies, or policies that push innovators to focus on cost reduction or to offer cookie-cutter solutions, were highlighted as two sure-fire approaches to sinking a collaborative, sustainable approach to innovation. Similarly, a lack of understanding of the cultural

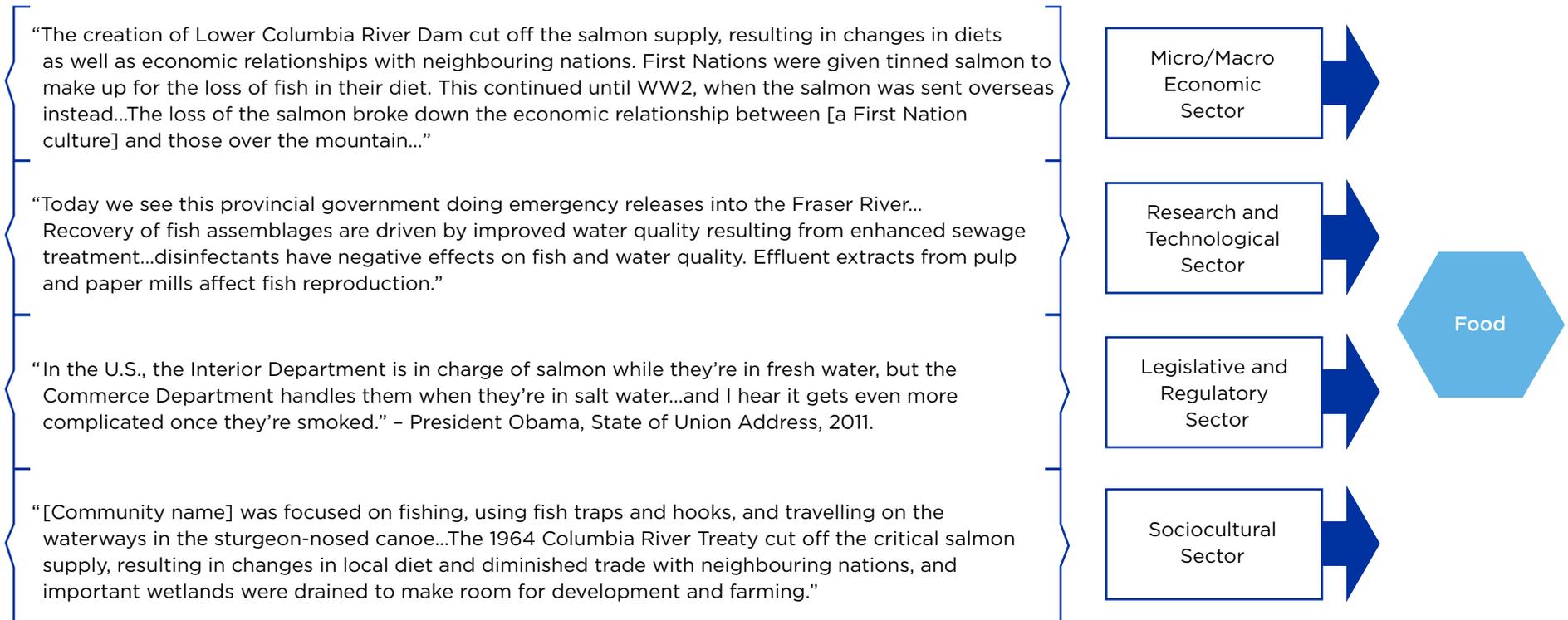
and situational reality within a community provides another arena in which negative interactions may take place.

Challenges in compliance with new regulations, concerns related to the age of existing infrastructures, ownership of liabilities and many other risk factors force consulting firms to become more conservative in their recommendations of new solutions to communities. This in turn negatively affects the process of diffusing new technologies

developed through a strategic partnership. Concepts such as risk, health (including epidemiological surveillance practices and understanding endemic illnesses), efficiency, affordability, acceptability, market space/profitability, economies of scale and size, demand and the community's size must be revisited through a new lens. Even the definition of acceptable water quality — and which players decide and enforce it — must now be reconsidered.

Appendix 1: Input Matrix — How Presentations and Discussions Informed Our Five Propositions

To shape the development of these principles, delegates' and discussants' comments and/or presented data and case studies were arranged according to the stakeholder influence model depicted in Figure 1 above. Examples of how these inputs were aligned with stakeholders' and sectors' viewpoints/mandates and how they impact community health in First Nations are laid out below.



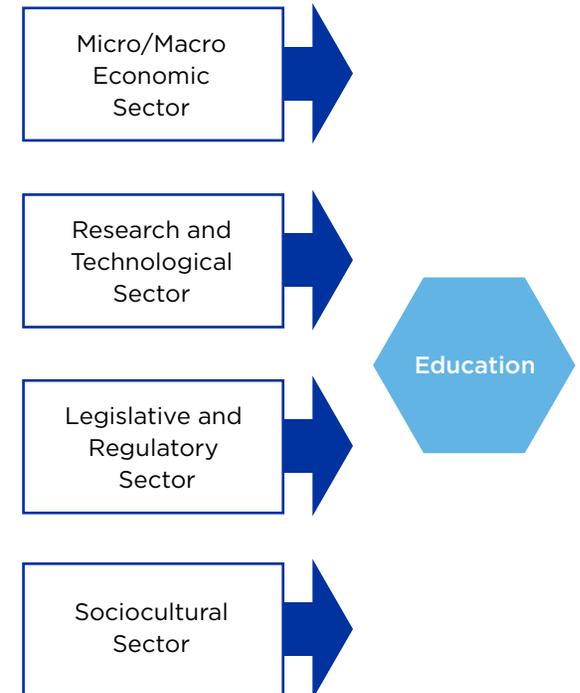


“We need to eliminate the educational and employment gap between First Nations and non-First Nations, on reserves and off reserves...We’re really in a defining moment in the country where we are now going to shift into a different kind of relationship between First Nations and non-First Nations and the Crown, and a different understanding by Canadians...of who they are and who we are together.”

“The proper historical writings have not been kept...but most of the teaching was oral...There is an urgent need to reconnect youth to what is important in their community, and this involves a grounded education. The Elders did their best to hand down the teachings on the sacredness of water...the teachings about water have been sleeping and the youth are responsible for waking them up. As one can witness, the youth can belt out a song at a pow wow...love and respect all things...never give up...”

“The policy behind the residential schools was ‘take the Indian out of the child.’ Our community members and Elders said, ‘since 1970 nobody had ever talked to us.’ Throughout modern history, [this Nation] was not included in the decision-making processes that drastically affected their lives and livelihood.”

“Negative experiences in residential school were associated with a history of abuse; effects on mental and emotional well-being included mental distress, depression, addictive behaviours and substance abuse, stress, and suicidal behaviours, anger, violence, etc. as a result of not learning the language and culture. [Speaker] had nine years of learning taken away from them as a result of residential schooling. We must develop culturally appropriate early childhood and enable parents to fully participate in the education of their children.”



“Water is important. But it’s being polluted. Why? Because of money, progress...They will never understand how we feel about the land, about the water, about what it means to us...They take it for granted...we need to recognize that current water issues are not a ‘crisis’ (i.e., not a short-term phenomenon).”

“Bad water means communities cannot attract professionals, such as teachers and nurses, to work there.” “Improvements are delayed or derailed due to long project development and approval times, and federal funding is not being dispersed by regional authorities quickly enough.”

“It’s all about empowerment — community-level decision making in determining what is right and good for the community...”

“Importance of getting kids interested in science and engineering, so that First Nation kids can become the next generation of water system engineers.

Viable relationships and partnerships can reduce the cost of research and development, while improving efficiency and sustainability.”

“Our issues, they are inherited problems from across generations, the result of a legacy of engineering approaches that discounted First Nation communities.”

“Operators want to start taking more ownership of our system, not only relying on circuit riders when crisis occurs, but getting our own operators and engineers...operators need to be involved in the design and development of drinking water systems. Too many systems are designed by outsiders that aren’t operable...”

“All decisions about water must be made through a lens of community health, as well as in the context of importance of water in indigenous cultures...you cannot push forward any legislation. You can’t come onto our land and tell us what to do.”

“It’s really hard to respect a government that has no respect for water.”

“Communities are overwhelmed and overworked with multiple issues (community issues, municipal issues, provincial and federal issues) — this needs to be kept in mind when understanding water issues relating to a community.”

“Anything that benefits First Nations benefits all Canadians, however, right now the opposite is true... and reconciliation is about improving things for all of Canada.”

“Improving water quality for First Nations benefits all Canadians because overall water quality and sustainability will be preserved.”

“The teachings about water have been sleeping and the youth are responsible for waking them up... Youth from across their nations are waking them up. As one can witness, the youth can belt out a song at a pow wow...We, the youth of the [redacted] Nation are urgently requesting the assistance of our country’s leaders to stop wasting and polluting our most important natural resource! It must be protected and made accessible for everyone!”

Micro/Macro
Economic
Sector



Research and
Technological
Sector



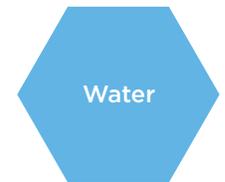
Legislative and
Regulatory
Sector



Sociocultural
Sector



Water



Appendix 2: Verbatims

The following statements were made by presenters and discussants during the three workshops in 2017 (as well as during several Community Circles projects since 2013) and have been used to guide our five stakeholder propositions.

“ Anything that benefits First Nations benefits all Canadians. However, right now the opposite is true. And reconciliation is about improving things for all of Canada.”

“ It’s all about empowerment — community-level decision making in determining what is right and good for the community,”

“ We’re really in a defining moment in the country where we are now going to shift into a different kind of relationship between First Nations and the Crown, and a different understanding by Canadians...of who they are and who we are together.”

“ You cannot push forward any legislation. You can’t come onto our land and tell us what to do.”

“ Water is important. But it’s being polluted. Why? Because of money, progress. They will never understand how we feel about the land, about the water. About what it means to us. They take it for granted.”

“ They came in [to our community] and said, ‘stop using the pond, drill a well and add bleach.’ That’s what we done and now the water is terrible...”

“ [Consider] waterborne pathogens, of which there are more than 100,000 that we are only starting to understand, versus chemical contamination, which is reasonably well understood. Are the recipients [of technology] aware of the issues surrounding water quality?”

“ A lack of coordination among the government, engineering firms, scientists and communities... can result in the misallocation of already scarce funding and in the poor design of treatment facilities. Coordination of these various stakeholders is necessary to make the most appropriate use of available funds.”

“ Traditional attitudes toward water are holistic and spiritual. The pervasiveness of this traditional view of the value of water and the related stewardship role for [a specific culture] gives a strong sense of how the goal of achieving safe drinking water on reserves should be pursued...”

“ One of the things we’ve observed in the past few years [is the need for] developing capacity for First Nations communities. I think we all recognize that, really, if something is going to happen in a more sustainable way [it will be when] communities and First Nations develop more self governance and capacity to move forward. Over and over it’s been proven that something coming from the outside will not be very sustainable.”

“ It’s really hard to respect a government that has no respect for water.”

“ Key in moving forward...[is] research and knowledge relationships. We don’t have the investment in intellectual infrastructure — we often talk about the building and so on but we really don’t talk about the pre-engagement ethics, the research relationships that it takes to ensure that a relationship that’s going to be of benefit to a community has actually got the right people at the table, and that’s not just our chiefs and councils.”



“ It is not from the benevolence of the individuals, or sectors that we don’t fall, but from their regards for their own fall. When the linkage breaks, we all fall.”

For more information about RESEAU and our Community Circles model, visit www.reseaucmi.org
