

# Briefing Note: Reciprocal Research and Learning with Indigenous Communities

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## SUMMARY

Within Indigenous communities, concerns regarding water quality from inadequate infrastructure and upstream industrial development, as well as ecosystem and human health effects from toxin release into the environment have increased significantly (Grinde 1995). This has led to a commonly encountered issue that many of the standards in place do not adequately account for or include a holistic approach for assessing the social, cultural, and spiritual values, beliefs, and practices that link First Nations peoples to their environment (Wolfley 1998). Many communities are now taking it upon themselves to identify environmental contamination problems and their sources, establish and enforce environmental regulations that include traditional ecological benchmarks, and develop sustainable, long term environmental protection objectives (O'Brien 2000).



## Issue

There are important practical challenges of constructing progressive water management strategies with First Nations communities that include:

1. The prevalence of Western laws and knowledge to assess ecosystem health, set guidelines and establish regulations for Environmental Assessments (EA)
2. The significant fundamental differences between Western Science, Traditional Indigenous and community knowledges as well as the pedagogy of these knowledge systems that appear to preclude respectful consideration in EA.
3. Historical and uneven power relations between Indigenous and non-Indigenous communities.
4. Ownership distribution and use issues with data produced from EAs which can negatively affect regulatory decisions and lead to distrust in the entire process.

Despite increasing interest from scientists and policy-makers toward Indigenous perspectives on climate change environmental sustainability and water policy , Indigenous knowledge is often marginalized by a dominant society (Agrawal, 1995; Nadasdy, 2003; Feit & Spaeder, 2005, Menzies & Butler 2006; Spak, 2013). Indigenous peoples continue to experience colonialism, creating conditions that leave communities vulnerable as evidenced in the continued water security challenges they face. These challenges are exacerbated by the current system of laws, sciences and policies in place that exclude Indigenous perspectives, knowledges, and worldviews (Phare, 2009). Western scientific frameworks often require additional “validation” of Indigenous knowledge before it can be recognized as legitimate. And when knowledge systems diverge, dominant institutions typically choose Western scientific knowledge as the final authority (Nadasdy 2003).

## Background

The intended outcomes for the Sustainable Water Governance and Indigenous Law project is *to create an Indigenous-led water monitoring program that is an expression of Indigenous legal traditions*. In this project, we hope to achieve Indigenous Co-Governance of water resources through 1) recognizing potential for

collaboration and “complementarity” between “western” and Indigenous water law and governance frameworks; 2) developing innovative methods for collaborative research on Indigenous water governance; 3) supporting improved water governance by developing and implementing a Community Environmental Monitoring and Information System (EMIS) which will be pilot tested within Indigenous communities across Canada; 4) creating innovative regulatory and policy tools and strategies for enhancing Indigenous community engagement in water governance; and 5) to disseminate findings using innovative techniques and multi-media platforms in multiple languages which can be accessed by diverse audiences. Through our collaborative research, we will discuss the following questions: What specific methodological and ethical challenges are posed by research on Indigenous water law? How might these challenges be addressed? How might the concept of Reciprocal Learning be enacted?

## Analysis

The first issue lies with scientific foundations being established without input from First Nations. This can impact Environmental Assessments to Indigenous projects or projects on First Nations lands in such a way that methods used to determine terms of reference may be unacceptable to concerned parties (McGregor, 2012). In addition, scientific studies, environmental assessments and debates are often used as tools by interested parties to manipulate public opinion, acquire government support, and negate adequate remediation and restoration proposals suggested by Indigenous communities to the benefit of the polluter. The outcome is primarily project approval regardless of Indigenous concerns, which underscores the level of mistrust involved in the entire process (Mazzocchi, 2006). Although steps have been taken to improve First Nations involvement in the environmental assessment process, concerns raised by affected communities are still not adequately addressed using the methodology in place (Booth, 2011; O’Brien, 2000).

In attempting to overcome the challenges associated with assessments that involve Indigenous lands and communities, we look to cutting-edge research labs, developed based on the philosophies of Indigenous research. The Indigenous Community-Based Health Research Lab funded by Canada Foundation for Innovation located at the First Nations University of Canada in Regina, Saskatchewan is an excellent example of Indigenous research methods in practice. This laboratory is being run by Dr. Carrie Bourassa who works with several Indigenous communities on and off-reserve, rural, remote and urban.

The labs are original and innovative in that they support the training of undergraduate and graduate students as well as the creation of a community lab. The community lab is a safe space for Indigenous community partners to engage in various Indigenous community-based research projects. While research is currently being conducted in their communities, they expressed a need to have their own space on campus and this lab provides them with that space. Some examples of the kind of research that takes place in the lab are using Indigenous methodologies to code data; prepare tobacco bundles under the guidance of a research team Elder for project participants; review and edit video footage; learn about 'body mapping' and other Indigenous research methods. The labs are also a space where critical mentorship of emerging health researchers takes place. As mentioned previously, a "Two-Eyed Seeing Model" is used in the lab and this method is promoted by the Institute of Aboriginal Peoples' Health (IAPH) (Ermine et al. 2004). In 2013, the IAPH, Canadian Institutes of Health Research signed a Tripartite Agreement with their sister institutions in Australia and New Zealand after an Indigenous Health Mentorship Workshop in Australia. The Tripartite Agreement highlights how research can help reduce the increasing health disparities among Indigenous people by increasing capacity of health researchers. The agreement called for increased mentorship and proposed to develop a plan to link mentors internationally.

The student training lab fosters a team environment where undergraduate, graduate and post-doctoral trainees are supervised by Dr. Bourassa and her academic team. Elders are also actively involved in guiding every research project as they play a critical role in lab and are always available to the student trainees. Innovative Indigenous research methodologies are blended with Western methodologies to exemplify the "Two-Eyed Seeing Model" in both labs (Baydala et al. 2006; Castleden and Gavin 2008; Tobias 2010). An example of the successful interplay between two competing knowledge systems was the Indigenous Storytelling methodology which collected data from participants by employing Nvivo to do the initial coding of data in the student training lab. Afterward, the entire research team used the community lab for second and third level coding where Indigenous methods analyze the data collectively (Collective Consensual Data Analytic Procedure - CCDAP).

Mentorship in the lab happens not only between academic supervisor/student but also between students as well as between Elders and students, community members and students and, especially, between community members and academics. Academic team members often remark how much they learn from the Elders and community members in this setting. The "Two-Eyed Seeing Model" is

beneficial at many levels.

Indigenous Community-Based Research is based on **four core values** (often referred to as the “4 Rs”): respect, responsibility, reciprocity and relevance (Kirkness and Barnhardt, 1991). These values are embodied by the mentorship model practiced in the laboratories, as it is understood that the same model must be used in the training lab as well as in the communities served.

## Conclusion

Indigenous Traditional Knowledge, which is often passed orally or through land based pedagogies, adopts a more holistic approach by recognizing the interconnectedness of natural systems and can adapt dynamically as these complex systems change. Traditional Knowledge can be used with western science in ways that transform the way we develop assessment strategies and transmit knowledge (Nakashima & Roué, 2002). This concept, although not new, still requires significant work as Western Science has thus far been the measuring stick to which all other knowledge systems are compared and Indigenous concerns are still largely excluded from the final decision making process. This presents an unfair bias for validating any supplementary knowledge system as better or worse Traditional Knowledge is in itself quite challenging to validate, which can hamper combinatory efforts (Matsui 2015).

The Indigenous Research Methods Working Group aspires to include Traditional Knowledge as their underlying principle for improving assessment strategies and advocating for the training and hiring of Indigenous scientists to carry out field work and assessment experiments when setting baseline limits. We believe that this is a direct method to improve data collection, build trust between parties and produce more accurate and sustainable assessment paradigms for human health and the environment (MacDonald, 2009). In addition, recognizing the dynamic nature of natural ecosystems through Traditional Knowledge can dramatically improve monitoring activities and assessment strategies for current projects to better handle changes to ecosystems as they occur (MacDonald 2009). As Indigenous communities are often primarily affected by industrial processes, and Traditional Knowledge accumulated over many years can provide the most relevant data on ecosystem health, establishing relevant and useful baseline data should always include First Nations criteria (MacDonald 2009).

Based on the information contained with this briefing, Indigenous co-governance and law on water resources is an irrefutable answer to many of the challenging issues surrounding water resources. Borrows, Phare, Edwards et al, Tobias, Cote-Meek and Tuhiwai-Smith all concur that increasing community capacity for research, establishing a network of research to disseminate information, and integrating Indigenous law into current environmental practices is a necessary transformative change. In conclusion, Dr. John Borrows offers the best explanation on the significance of traditional knowledge and peoples and the teachings they can provide to all:

these so-called Indigenous or tribal peoples of the world ‘are the repositories of vast accumulations of traditional knowledge and experience that links humanity with its ancient origins... these groups’ own institutions to regulate rights and obligations are crucial for maintaining the harmony with nature and the environmental awareness characteristic of the traditional way of life. Hence the recognition of traditional rights must go hand in hand with measures to protect local institutions that enforce responsibility in resource use. And this recognition must also give communities a decisive voice in the decisions about resource use in their area. (Borrows, 1997, p. 423)

## Recommendations

The Indigenous Research Methodologies working group recommends the following:

- Training and hiring Indigenous scientists to carry out field work and assessment experiments
- Incorporating diverse Indigenous knowledges into current and future initiatives to complement existing law, environmental and western science frameworks
- Acknowledge and account for the effects of colonization when considering potential solutions and recommendations for Indigenous peoples
- Utilizing the “two-eyed” seeing method in current and future research initiatives and recognizing that “two-eyed” seeing can encompass more than just “western” and “Indigenous” knowledge
- Utilizing the lab methods practiced by Dr. Carrie Bourassa

These recommendations should ensure that Western scientific methods are not prevalent in the Working Group initiatives, that a power balance is created between the communities and the researchers, and issues of distrust with owner distribution and data use are mitigated by providing lab access to the communities sharing the data.

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