

# **Beyond Physical: Social Dimensions of the Water Crisis on Canada's First Nations and Considerations for Governance**

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## **Abstract**

The provision of safe drinking water is one of the most pressing health issues facing First Nations communities in Canada. Despite numerous government assessments, training initiatives, and billions of dollars in targeted funding, access to safe drinking water continues to be a perennial problem in communities nationwide. The water crisis in these communities, characterized by poor access to safe, sustainable, and reliable drinking water sources, is greater than that perceived by the alarming incidence reports of physical illness, waterborne infections and boil water advisories. A host of issues related to inequity, justice, and institutional trends are reflective of, and contribute to, an erosion of the social, cultural and spiritual health of First Nations in Canada. We seek to provide an overview of the social dimensions of the water crisis. By situating the issues in this broader context, we hope to provide the basis for greater dialogue and depth of study into the socio-cultural implications of the water crisis. If tenable solutions to the myriad of water issues affecting First Nations people in Canada are to be realized, an acknowledgement and understanding of the historical, cultural, social, political, economic and legal framework that have steered our arrival at the current situation must be considered.

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## Introduction

Effects on the physical health of First Nations <sup>1</sup>people due to contaminated water sources, poor sanitation, and the absence of standardized water testing, have been the subject of numerous academic papers, news stories, and governmental reviews (Polaris Institute, 2008). Reports indicate the incidence of waterborne infections in First Nations communities is 26 times the national average, approximately 30% of community water systems are classified as posing a high risk to water quality (Clark, 1999; Health Canada, 2000; NAHO, 2002) and boil water advisories have been in effect for more than a decade in communities such as the Pikangikum, and Neskantaga First Nations of northern Ontario (Polaris Institute, 2008). In October 2005, high *E. coli* levels were reported in the drinking water supply of the Kashechewan Cree First Nation community located near James Bay, ON. Residents were under a boil water advisory for 2 years, and excessive chlorine added to the drinking water led to a worsening of common skin conditions (e.g., scabies and impetigo) among reserve children (Christensen et al., 2010). As of January 31<sup>st</sup> 2012, 116 First Nations communities were under drinking water advisories with an average duration of 343 days (Health Canada, 2010a, 2010b, 2009).

With such an emphasis being placed on physical and often discrete impacts of various water issues, the effect on social, cultural and spiritual aspects of First Nations is often overlooked. In addition to limited and uneven access to safe drinking water, manipulations of water in other ways is having other implications for First Nations health in Canada. Contamination of water from mining, hydroelectric development, agricultural practices, waste disposal, and other large scale activities interfere with traditional activities and the way First Nations experience the environment (Arquette et al., 2002; Laboucan-Massimo, 2010). The manipulation of water sources through the construction of dams and the chemical pollution to water sources due to unmonitored industrial activity on waterways have been long-standing concerns for many First Nations people within Canada (Blackstock, 2001; Arquette et al., 2002). One of the first well-documented cases to the present issue includes mercury poisoning in the Grassy Narrows and White Dog First Nation communities in northwestern Ontario. Mercury poisoning was a consequence of the 1960s Reed Paper Company Pulp mill operation in Dryden Ontario. Reed paper released mercury into the English-Wabigoon river system, a main water source for these communities. Community members suffered economically, socially and culturally as a direct result of mercury contamination to their water system (Harada et al., 2011). The communities who once made a living by commercial fishing, hunting, guiding, forestry and gathering wild rice, were forced to surrender their way of life. Alcoholism, suicide and unemployment rose in these communities and some 50 years later, there are still government enforced restrictions on game fishing and fish consumption (Harada et al., 2011; Shkilnyk, 1985). Today community members still suffer the social, health and cultural impacts of mercury contamination (Harada et al., 2011).

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<sup>1</sup> For the purpose of this paper, the term ‘First Nations’ is applied to those people deemed to be ‘Indian’ or ‘Native Indian’ under the *Indian Act* of Canada (1985) and do not apply to people of Inuit and Metis descent. The terms ‘Indigenous’ and ‘Aboriginal’ will be used interchangeably and refer to people in Canada and the United States of Indian, Metis and Inuit ancestry and combinations thereof. The terms ‘non-Native’ or ‘non-Indigenous’ apply to those people in North America that are not of First Nation, Inuit or Metis descent, and are meant to be respectful of the myriad of cultural groups that have come to call Canada home.

In 2005, the Auditor General of Canada's review of drinking water in First Nations communities clearly identified an imbalance in the provision of safe drinking water in Canada (CESD, 2005). The Auditor General documented issues within all phases of water treatment, which under current government strategies, are today, still largely unaddressed in communities across Canada. Issues related to inadequate funding and training of water operators and the conception, design, construction, management and monitoring of water/waste management facilities, were found as key obstacles to the provision of drinking water in First Nation communities. The review also identified serious deficiencies within the governing and regulatory frameworks and the parliamentary reporting of results (CESD, 2005). In the public inquiry report into the contamination of Walkerton Ontario's municipal drinking water supply, Justice Dennis O'Connor identified First Nation communities as having "some of the poorest quality water in the province" (O'Connor, 2002a, 2002b).

The water crisis in Walkerton, followed by similar situations in North Battleford, SK and Kashechewan, ON, drew national and international attention, yet few changes to the quality and availability of water on reserves have occurred, and water problems akin to those mentioned above remain unresolved and commonplace (McGregor, 2008). As a result of the Walkerton inquiry and increased public concern, Canadian provinces incorporated a number of regulatory changes to ensure that residents on public drinking water supplies are provided with safe drinking water from source to tap. However, provincial water regulations do not apply to First Nations communities on reserves; where a complex tri-departmental federal structure (Aboriginal Affairs and Northern Development Canada (AANDC), Health Canada, and Environment Canada) has shared responsibility for safe delivery of drinking water. Additionally, Chief and Council are responsible for the design and construction of water and wastewater systems on each reserve, must assume 20% of the cost, and are tasked with operation and maintenance, including monitoring water safety and ensuring the presence of trained operators. As a result, uncertainties, inconsistencies, and failed systems have been the norm in First Nation communities. To address this regulatory gap, on May 26, 2010, the Federal Government introduced *Bill S-11* (Auclair and Simeone, 2010), *An Act respecting the safety of drinking water on First Nation Lands*, also known as the *Safe Drinking Water for First Nations Act*. *Bill S-11* subsequently expired on March 26<sup>th</sup>, 2011. On February 29<sup>th</sup>, 2012 *Bill S-8*, the second legislative initiative and successor to *Bill-S11* was introduced to Senate. *Bill-S8* essentially retains a majority of the features of the former *Bill S-11* (Simeone and Troniak, 2012). Although barriers to safe drinking water have commonly been identified as inadequate water management on reserves with respect to policy, funding and lack of standardization on a national scale (CMAJ, 2008), simply changing the regulatory framework or indiscriminately directing additional financial resources to the problem is not expected to result in significant changes (Lebel and Reed, 2010).

The water crisis on First Nations reserves is reflective of a host of unresolved issues that speak to issues of equity, justice, and institutional trends, resulting in impacts that go beyond physical illness to affect the social, cultural, and spiritual health of First Nations in Canada (Gregory and Trousdale, 2009). The 'beyond physical' impacts have garnered less attention in part because they are more difficult to perceive and harder to measure (Turner et al., 2008). These impacts refer to those immeasurable losses to cultural identity, knowledge, and tradition as well as the loss of engagement in First Nations ways of

life. Given the disproportionate attention in the media and to governance strategies placed on water issues in non-Indigenous communities compared to those occurring in First Nation communities, there is a perception that governments and perhaps Canadian society at large care little about conditions facing First Nations in this country (Hanrahan, 2003; Patrick, 2011). Opportunities for discovery and discussion on these issues have thus been limited. We suggest that a holistic and participatory approach is required to more effectively address disparities in First Nation health issues. The strategies we recommend would recognize social structure, cultural and spiritual dimensions, as well as “agency”. Agency in this case refers to the ability of First Nations to participate in water policy initiatives and environmental decision-making in general over issues in which they are directly affected (Bharadwaj et al., 2006; Frohlich and Potvin, 2010; Mescarenhas, 2007).

## **The Significance of Water**

### **A Matter of Worldview**

In the dominant view typically held by industry and government, water is simply a resource to be used for commercial gain (Bakker and Cook, 2011). This outlook, termed *developmental exploitation* (Matthews et al, 2007) was brought to Canada by European settlers. Changes in the economy brought about by the Industrial Revolution placed greater focus on land and resource acquisition and less focus on impacts to water or the environment (Mann, 2003). In this way, Canadian society was built on a culture of environmental exploitation.

Conversely, First Nations’ identity, culture and spirituality have traditionally been and in many cases continue to be fundamentally intertwined with all expressions of the natural world (Windsor and Mcvey, 2005). Water is considered to be the lifeblood of Mother Earth; a sacred gift from the Creator that connects all things and must be cared for and protected for the future generations of all life; water gives and sustains life; it must be honoured, respected, kept clean, and recognized in ceremony; humans, and in particular women, have a responsibility to care for water (Kairos and Akaitcho, 2006; Polaris, 2008; Chiefs of Ontario, 2008; McGregor, 2008; Walkem, 2007). These understandings infuse the fabric of First Nations society and culture, thus it is easy to understand that when various issues arise with respect to water, all aspects of life are affected.

The way in which a landscape is perceived can affect the kinds of decisions made about ways in which to use the land and resources (Bertolas, 1998). Holistic, interconnected, and community-based values characterize First Nations cultures, whereas Euro-Canadian<sup>2</sup> cultures typically value individual capital gains (Fixico, 1995). When applied to approaches to the natural environment and water, these divergent worldviews tend to be forces of polarization (Anderson and Bone, 2003). In Canada, water management decisions are made by either federal, provincial/territorial or municipal governments, depending on the legislation that applies in a given circumstance and jurisdiction (Hill et al., 2007). Unless part of an explicit arrangement (eg. co-management agreement, negotiated treaty conditions), First Nations communities do not have a voice in decision-making with respect to water or other resources. Policies and practices employed by government and industry not only disregard a First

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<sup>2</sup> The term Euro-Canadian is used here to reflect the dominant settler society and governance structures that arose through the process of colonization. It is not meant to make generalizations about all Canadians.

Nations view of water, but in many cases implementation has negatively impacted First Nations through dispossession of lands, relocation of residences, and pollution of water and surrounding environments (Turner et al., 2008).

To simply reiterate that ‘water is life’ does not convey the profound and deep relationship that Indigenous peoples have with water. In traditional Aboriginal society, water has deep cultural and spiritual significance (McGregor, 2008; Phare, 2011) and is much more than simply an element to be used, bought, sold, and manipulated. Divergent interests end up creating competing agendas with respect to the earth and water, with First Nations asserting the need for stewardship while Euro-Canadians assert the need for ownership and development (Mescarenhas, 2007).

### **Sense of Place, Sense of Self**

In addition to being a physical geographic location, the concept of place is also a way to know and comprehend the world (Cresswell, 2005). This is an important cultural phenomenon that should be considered with respect to First Nations in Canada. The ideas of place and self are completely connected from the viewpoint of Indigenous understanding. In this way, the state or health of the environment has a direct impact on the state or health of traditional Indigenous peoples living in close concert with the land (Wheatley, 1997). Not only is Indigenous health tied to the land, but the very idea of ‘health’ is one that is holistic and encompasses emotional, spiritual, physical and mental states (Adelson, 2005; Hunter et al., 2006). Therefore, when environments become degraded or people become displaced, both cultural and individual health is affected (Statt, 2003). Externally imposed regulations, environmental policies and decisions have had, and continue to have a negative impact on, and in some cases, prohibit First Nations way of life. The cultural values, interests, principles, and activities fundamentally tied to this way of life are also often lost or affected as a result of these external forces (Turner et al., 2008). Sense of place and self are connected to these fundamental cultural values, traditions and practices. A loss of sense of place and self is a direct consequence of a disruption in the engagement of traditional ways of life. The communities of Grassy Narrows and White Dog are just two examples where profound changes to traditional ways resulted in key impacts to these communities’ sense of self and place. The consequent high unemployment, suicide, and alcoholism rates appear as insufficient measures to indicate the impacts to communities displaced and disconnected from place and self. It is not surprising then, that resource management decisions regarding large projects and land use changes have resulted in quite significant displacement of First Nations people in Canada (Windsor and Mcvey, 2005).

One of the greatest misunderstandings exhibited by government, industry, and potentially an uninformed public, is that displacement of people is a minor inconvenience that can be easily addressed by relocating a community to someplace new. For people who have a relational way of experiencing their place in the world, what may seem like a simple relocation to non-Indigenous resource managers can have devastating cultural impacts for the First Nations who are experiencing the relocation (Windsor and Mcvey, 2005). They become separated from their traditional land and territory, separated from their ancestors, and separated from their traditional ways of life that have in some cases occurred for innumerable generations in a given area. A prime example is the community of Grassy Narrows, where in the 1950s, hydro dam development and operation flooded the low-lying valleys on which this

community lived. Ways of life were lost, fur-bearing animals were driven away, and wild rice beds and sacred spiritual sites were submerged. The Canadian federal government relocated the community in the early 1960s, away from the water system that sustained their traditions and livelihood. Another example is the community of Kashechewan Cree First Nation where the entire community was displaced from their homes three times in one year. In 2005, this community was relocated twice as a result of flooding and again due to the discovery of high *E.coli* levels in their community drinking water supply. The community was not only disconnected from their land but also separated from one another. Their displacement involved being relocated and assigned to one of three distinct northern Ontario communities.

### **The Path to Inequity: The Canadian Context**

Much of the current disparity between First Nations and the rest of Canadian society can be traced to the settlement process first initiated by European powers and continued by the Dominion of Canada (Adelson, 2005). In part, the problems experienced in Canada relating to water and First Nations are due to the existing governance frameworks in place. The other part has to do with erosion of the environment which impacts sense of place, culture, identity, and the fact that land use decisions have and continue to be made largely without consideration of, and engagement with, Indigenous peoples (Walkem, 2007).

In order to understand the various issues around water and First Nations, it is necessary to consider the context in which these issues occur. Although the initial relationships between settlers and Indigenous peoples were entered into from a nation-to-nation perspective, evidenced by the *Royal Proclamation of 1763*, the nature of that relationship changed in 1867 when, as Canada became a country, it co-opted responsibility for “Indians and lands reserved for Indians” without the knowledge or consent of First Nations (Phare, 2009:25). The earliest agreements made between First Nations and the newcomers were in the form of ‘friendship treaties’ and as settlers expanded throughout Canada, more formal treaties between First Nations groups and the Crown were formed. These formal treaties were intended to support mutually beneficial cooperation between two independent nations and facilitate the peaceful continental expansion of Canadian settlers (McGregor, 2011). Given the fact that similar treaties and agreements existed between various First Nations groups prior to European contact, that these agreements were typically made for the purpose of sharing access to resources, and that First Nations did not view the land and resources as exploitable property, it is likely that the spirit and intent of these agreements meant different things to First Nations than they did to colonialist powers (Statt, 2003). Instead, legislation and policy was created with embedded inequity that survives to this day.

### **Colonialism**

Saul (2009:19) describes colonialism as “a denial of the reality of self in favour of an imaginary special position inside the mythology of someone else’s empire” and situates it in the present tense. Fundamental differences in the approach towards the natural world between Aboriginal people in Canada and European descendants form one of the marked distinguishing features between these cultural groups. Conflicts of varying degrees that began at the time of contact when Aboriginal people throughout the country relied on a subsistence economy persist in the present day. Protocols with respect to resource harvesting were already put in place by the myriad of Indigenous groups present,

reflecting the importance of nature in their culture and spirituality. Conversely, the first ambassadors of colonial powers approached the biophysical environment as a force to be reckoned with and ultimately conquered (Mahony, 2009). According to Bertolas (1998), strategies in determining how resources will be used are influenced by underlying perceptions. It stands to reason therefore that the differences in perceptions and relationship to the land are at least partially at the root of resource management conflicts between Aboriginal and Euro-Canadian interests.

Central to the problems of water issues and First Nations is the position of Aboriginal people within Canadian society. Colonialism and the relocation of First Nations people to reserves (Dupuis, 2002) has had a lasting impact on First Nations people (Rutherford, 2010). In the Canadian context, colonial strategies were aimed at assimilating Indigenous cultures into the dominant European settler society through policy initiatives and law, while at the same time marginalizing those who resisted the pressures of acculturation (Ball, 2009). The legislated separation of First Nations people from their traditions through the prohibition of practicing various ceremonies, and residential school programs that both separated entire generations from their ancestral relationships and actively discouraged speaking of native languages, have doubtlessly brought about devastating cultural and social impacts. As summarized by AFN National Chief Shawn Atleo at the special Chief Assembly in Ottawa, December 6<sup>th</sup>, 2011: “Failed colonial policies plague First Nations to this day and are the biggest obstacle to progress”.

Over time, the effects of colonization policies have contributed to the erosion of First Nations’ resource base, livelihood systems, and culture. These policies and their implications have included residential schooling; the disruption and decay of cultural practices and participation in traditional economy (hunting, fishing, trapping); the allocation of inadequate reserves; land degradation and losses due to both imposed governmental policies and large-scale development projects (e.g., mining, logging, oil infrastructure); and the unresolved issue of poor access to safe, sustainable, and reliable drinking water sources (Waldrum et al., 2006; Adelson, 2005; Arquette et al., 2002). This erosion of culture has had a negative impact on the health and well-being of individuals, their families, and communities and has contributed to the current inequity in the health status of Aboriginal Canadians (Waldrum et al., 2006). Conditions such as diabetes (considered epidemic in some communities), obesity, acute myocardial infarction, waterborne infections, and infectious diseases (e.g. tuberculosis, HIV/AIDS, hepatitis C) are steadily increasing in First Nations populations and can be linked to environmental conditions, poverty, and the loss of traditional diet and lifestyles (Adelson, 2005; Ayach and Korda, 2006).

The Pikangikum First Nation, a remote Ojibway community in Northwestern Ontario is reported to have the highest suicide rate in the world (Elliot, 2000). In the last decade, more than 60 young people, under the age of 25, have killed themselves in this small community of 2400 people (Elliot, 2000). Colonization, residential schools, laws banning First Nations ceremonies, missionaries dismissive of their practices and the eventual erosion of their culture in the 1970s are largely to blame for the high suicide rates experienced in this community (CBC, 2011). The disruption in education due to a school closure as a result of an oil leak to the water supply, the uncertainty of a sustainable community water supply and the economic burden of purchasing bottled water at a cost of \$5.99 per 4-litre jug can only exacerbate the impacts of colonization currently observed in this community (Elliot, 2000).

Although a fundamental understanding of these impacts seems prudent, discussions about the implications of colonialism on Aboriginal people are virtually non-existent both in the Canadian education system as well as resource management practices and policy development at federal, provincial and municipal levels of government (Hill et al., 2007). Forces of colonialism are central to understanding the Canadian context and Canada's relationship with First Nations because it helps to define the nature of the relationships both in historical and current contexts.

### **The Indian Act**

The *Indian Act* is a specific piece of legislation that was designed to facilitate the colonialist agenda. It is considered to be Canada's "most oppressive and effective colonial instrument" (Ouellette, 2002:91), and is probably the most significant piece of legislation that continues to reinforce the unidirectional relationship between First Nations and the federal government (Abu-Laban, 2001). Established in 1876, this national legislation was an amalgamation of the existing provincial and territorial legislation that governed Aboriginal people in Canada and was created in an effort to harmonize federal government dealings with "Indians" (Bartlett, 1978), and was primarily instituted to facilitate assimilation of First Nations into Euro-Canadian society (Abu-Laban, 2001). Although amended several times, it is still the act in place that 'governs' First Nations, placing them in a position of being wards of the Crown.

### **Institutionalized Inequity**

Governance issues with respect to water and First Nations arguably stem from the influences of colonialism in general, and in particular, the *Indian Act*. The current relationship between First Nations and Canada has been shaped by historical circumstances, attitudes, beliefs, and legislation (Phare, 2009). Not only are the underpinnings of Canada colonial in nature, legislation such as the *Indian Act* is still in existence and has changed relatively little since its creation in 1876 (Dupuis, 2002). Although created more than a hundred years ago, the *Indian Act* continues to influence current legislation and reinforce inequity. For example, the only exception in the Canadian Human Rights Act (1978) was the exemption of the *Indian Act* and all that flows from it (Dupuis, 2002). This means that the Canadian Human Rights Act does not apply to those people in Canada who are governed under the *Indian Act*. These unfortunate realities have necessarily affected the relationship between First Nations and non-First Nations in this country. Unresolved inequities permeate Canadian institutions and policy with a cascade of impacts on First Nations, particularly with respect to environment and resource issues (Turner et al., 2008).

### **Issues of Justice**

A major barrier to overcoming access to safe water has and continues to be the resulting limited control, representation, and input that First Nations have over water in policy and practice (Bharadwaj et al., 2006). The majority of First Nations people in Canada live on reserves that are located in remote areas and are economically depressed (Loo, 2007). Living in isolated and impoverished conditions adds to marginalization and lack of agency (Durie, 2003; Frohlich and Potvin, 2010; Kirmayer et al., 2000). These inequalities transcend concerns over access to safe drinking water and spill into the arenas of social and environmental justice.

Problems of access to sources of safe and reliable drinking water are much more than simple matters of proximity. Canada is a country rich in resources. In fact, the land that holds these resources or access to these resources has and continues to be an underlying cause of various environmental conflicts (Mercredi and Turpel, 1994:134). Deleterious impacts of the resource sector that are focused on extraction and energy production are not limited to the natural environment. Indigenous peoples have often borne the brunt of resulting environmental degradation either because they have been displaced, have experienced contamination of food and water resources, or have experienced perturbations in their ability to carry out traditional cultural and spiritual practices (Johansen, 2003). Unfortunately, the assertion by Aboriginal communities that a host of social and cultural impacts are known to occur as a result of environmental degradation has garnered little or no traction (Arquette et al., 2002).

### **The Question of ‘Rights’**

Water availability is challenged by climate change (Phare, 2011) and with ever-increasing demands for water from multiple groups, competing interests often end up triggering debates on who has the ‘right’ to water. The rights to water (as in user rights) remain a contentious issue throughout the country partly because the responsibility for water governance is not delineated in the Canadian Constitution, and partly because disagreement exists between government, industry and First Nations organizations on the Aboriginal right to water (Phare, 2009). As Duncan and Bowden (2009) explain, determining Aboriginal rights to water in a legal sense requires making reference to conditions stipulated in treaties. This can be problematic because the treaties were created at different times, and not all treaties in Canada expressly addressed issues of access to water. In the Prairie Provinces for example, what little input First Nations retained over water was lost in practice when the federal government devolved its responsibility to manage water to the provinces through the *Natural Resources Transfer Act* (NRTA) of 1931, though the validity of the NRTA is questionable as it appears to be in contravention of the treaties between the Crown and First Nations. The assumption that provinces ‘own’ rights to water has not yet been corrected (Phare, 2011). It has been a common and ongoing criticism by First Nations that ‘Canada’ tends to interpret treaties unilaterally or in such a way that is prejudiced against First Nations (Erasmus, 1992:296) and furthermore, not all First Nations are treaty Nations. Often, in instances of disputes over water, the courts are charged with interpreting rights to water on a case by case basis.

In discussions about legal technicalities, it is easy to lose sight of the fact that when water conflicts arise, either because of an imminent large-scale development such as a mining operation or because of potential water diversion, as is the case with hydroelectric dams, the impacted First Nations communities must enter into expensive and potentially lengthy legal battles with relatively well-resourced proponents of these projects.

### **Future Directions**

A host of water issues that affect the health, society, culture and economies of First Nations in Canada continue to remain unaddressed. Our hope is that this paper provided a synthesis of ideas that lead to a more complete perspective on why, despite funding initiatives and increased awareness, problems persist.

In exploring the underlying causes in resource conflicts with respect to First Nations in Canada, a range of seemingly unrelated issues must be taken into account. Historical relationships, belief systems and worldviews, and issues relating to environmental and social justice converge.

The historical context of Canada as a colonialist settler society needs to be recognized, as mechanisms (such as the *Indian Act*) remain in place that continue to reinforce inequities, even as new policy and legislation is created. The underpinnings of Canadian society are Eurocentric and are in part, expressed through different approaches to and meanings of water compared to the underlying beliefs of First Nations culture. Rather than ignoring the more holistic and interconnected view of water and how it interacts with humans, animals, and the environment, decision-making with respect to water should incorporate First Nations' perspectives. If government and industry recognize and attempt to address issues around colonialism in its current expression and become open and willing to recognize the role of water as fundamental to First Nations' culture, it will be a step towards rectifying some of the current issues pertaining to social and environmental justice.

Water issues clearly encompass a wide range of issues, and there are several lessons that can be gleaned from considering both problems and impacts in a holistic manner with respect to how future research can be informed. Facilitation of community-based research that involves those who are directly affected, and is inclusive of issues perceived to be relevant to the communities in question, is increasingly identified as a necessary approach (Arquette, 2002; McGregor, 2008). This type of research will not only allow for a comprehensive examination of water issues, but due to its participatory and inclusive nature, can offer a mutually beneficial framework satisfactory to all parties working with Indigenous communities (Castleden 2008; Kovach, 2009). Community-based research is still relatively new in academic circles, yet it has a great deal of potential to inform government policy and industry practice as it gives a voice to First Nations and other Aboriginal groups in Canada on aspects of water and other environmental issues where there may not be an existing mechanism for communication in place.

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