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Article

Decolonizing Indigenous Drinking Water Challenges and Implications: Focusing on Indigenous Water Governance and Sovereignty

Margot Hurlbert Ph.D ¹, John Bosco Acharibasam, Ph. D ^{2,*}, Ranjan Datta, Ph. D ³, Elder Sharon Strongarm ⁴ and Elder Ethel Starblanket ⁴

¹ University of Regina; margot.hurlbert@uregina.ca; ORCID: 0000-0003-3825-8413

² Department of Humanities, Mount Royal University, Canada

³ Mount Royal University; rdatta@mtroyal.ca; ORCID: 0000-0001-7511-6583

⁴ Star Blanket Cree Nation; sstrongarm@icloud.com; ethel_dubois2020@icloud.com

* Correspondence: joa970@mail.usask.ca

Abstract: Indigenous Peoples in Canada have shown great strength and resilience in maintaining their cultures and ways of life to date in the face of settler colonialism. Centering the water crises within Indigenous sovereignty and self-determination, we explore the impacts these crises are having on community members. Particularly, the continuous failure of the Canadian government to end the water crises in remote Indigenous communities, Star Blanket Cree Nation, is investigated in this paper. What implications have these water governance gaps had on Indigenous Peoples' sovereignty and self-determination? We adopted an Indigenist theoretical framework to guide the study. Additionally, a community-based participatory research approach was adopted. To achieve our research goals of investigating the implications of the current water crises for Indigenous sovereignty and self-determination, specific methods of sharing circles were used to gather knowledge from community members, Elders, and knowledge keepers. The research findings strongly highlight the strength and resilience shown by remote Indigenous communities in the face of the current water crises and continuous government failure. Solving the current water crises will involve remote Indigenous communities taking charge of their own water governance through Indigenous-led water governance systems. Additionally, taking steps to rebuild trust through genuine reconciliation will be key. Therefore, listening to remote Indigenous communities and taking collaborative action is fundamental.

Keywords: water governance; gaps; indigenous people; sovereignty; self-determination; remote; communities; water safety

Introduction

The Canadian government still needs to meet its deadline of ending water advisories within Indigenous communities by 2021 (Taylor, 2022; Woods, 2021). Following this, a new deadline has been set to end long-term water advisories within Indigenous communities by 2026 (McDonald et al., 2021). Coupled with climate change impacts on water sources, the lack of progress in ending the long-term water advisories means remote Indigenous communities like the [community], which has been under a long-term water advisory since 2007, will continue to struggle to attain safe drinking water. About ten First Nations communities live under drinking water advisories in Saskatchewan (Saskatchewan First Nations Water Association, 2023). Studies show that the Canadian government has a history of failing Indigenous Peoples (Stelter, 2023; Deer, 2019). The continuous forms of broken promises create mistrust and do not demonstrate genuine efforts toward achieving reconciliation with Indigenous communities.

Many reasons for the lack of progress in ending long-term water advisories within Indigenous communities include inadequate funding, regulatory gaps, and the nonavailability of resources to support water management (Woods, 2021). However, we investigate this lack of progress in

Indigenous sovereignty and self-determination. Hurlbert (2022) observes a space exists within water governance to promote Indigenous sovereignty. Studies show collaborative water governance structures often emphasized by the Canadian government “are not necessarily compatible with the self-governance goals of Indigenous people” (von der Porten, S. & de Loë, 2013, p.2). Using the water crises within a remote Indigenous community, [the community], we highlight how water governance and Indigenous sovereignty are interconnected. According to Shrinkhal (2021), it is important to understand that “Indigenous peoples being original inhabitants of the land never consented or ratified European ownership of territory or sovereignty over them.” (p.73). In line with this, the OECD (2020) argues, “Land, and sovereignty over land, is at the heart of the relationship between Indigenous peoples and the Crown” (n.p.). Water is a way of life for Indigenous Peoples and critical for their sovereignty and self-determination. Despite several attempts to erase their culture and separate them from the Land and Water through settler colonialism (Daschuk, 2013; Matheson et al., 2022; Phillips, 2022; Stonechild, 2020), Indigenous People have resisted and shown great strength by maintaining important cultural practices that connect them with the Land and Water including Language, ceremonies, fishing, trapping, and hunting. These cultural activities and ways of life are critical for their sovereignty and self-determination. Following this, Indigenous-led water governance that promotes their jurisdiction over water is key to maintaining these cultural practices. To Indigenous Peoples, water governance goes beyond water supply to maintain important cultural practices that enhance their sovereignty as nations (Chief et al., 2021; Megdal, 2021). In line with this understanding, anything threatening these important cultural practices has implications for Indigenous sovereignty. These understandings are critical for water governance and policy decisions in Canada.

Advancing Indigenous sovereignty and self-determination can help address the current water crisis within Indigenous communities. There are recommendations that to understand the water crises within Indigenous communities, we must begin to examine these crises against Indigenous Peoples’ sovereignty and self-determination (Datta & Hurlbert, 2020; Hurlbert, 2022). Indigenous sovereignty is grounded in traditional knowledge and practices, spiritual ways, culture, Language, and relationships with Land, water, and Mother Earth (Indigenous Environmental Network, 2020). Embedded in Indigenous cultural practices, lies sacred and holistic rules and laws which determine the sustainable use of the gifts from Mother Earth including water (Hurlbert, 2022). These sacred and holistic rules and laws ensure equitable access to safe drinking water for all creations. There is a strong understanding within Indigenous cultures that all creations including our nonhuman relatives are critical to their survival. For example, nonhuman relatives including plants and wildlife provide food and medicines needed to survive. Given this understanding, these important cultural practices, including hunting, fishing, trapping, and traditional medicine all depend on living well with the Land and Water (Bruce et al., 2023; Kimmerer, 2017; Wildcat, 2018).

Following this, respecting, and living sustainably with Mother Earth helps enhance Indigenous sovereignty and self-determination (Datta & Hurlbert, 2020; Hurlbert, 2022; Bauder & Mueller, 2023). Against this background, anything threatening Indigenous Peoples’ sacred relationships with Land and water, including the current water crises, has implications for Indigenous sovereignty and self-determination. Evidence shows we cannot solve the current water crises without recognizing and respecting Indigenous Peoples’ sovereignty, including their treaty and Land rights (Datta & Hurlbert, 2020; Hurlbert, 2022). Indigenous sovereignty invites us to respect Indigenous water ontologies that view water not as a resource but as sacred and a relative, to which we owe the responsibility to protect (Wilson & Inkster, 2018).

Several studies on Indigenous water have called for the recognition of Indigenous water epistemologies in water governance (Bharadwaj & Bradford, 2018; Bradford et al., 2017; Chief et al., 2021; Hurlbert, 2022; Hurlbert & Datta, 2022; Goretzky, 2021; Wilson & Inkster, 2018). Yet, little has been achieved in increasing Indigenous Peoples’ involvement in water governance and decision-making within communities like the [community]. The lack of respect for Indigenous water epistemologies infringes on Indigenous knowledge sovereignty needed to “strengthen Indigenous knowledge systems and their transmission according to Indigenous governance

structures.” (Latulippe, & Klenk, 2020, p. 9). Indigenous Treaty rights cannot be respected without recognizing Indigenous Ways of Knowing and Doing. According to Elections Canada (2023), Indigenous treaty rights are “Agreements between specific groups of First Nations, Métis or Inuit and the Crown (government) that recognize certain rights, such as rights to land and resources” (para.9). As Datta and Hurlbert (2020) observed the signing of treaties to share the land and resources with settlers does not mean Indigenous Peoples agree for their own sovereignty to be subsumed under settler governance structures. Given this, studies argue that the current water governance structures have contributed to the water crises within Indigenous communities (Chief et al., 2021; Wilson et al., 2019). The recognition of holistic Indigenous water governance structures is crucial for the promotion of Indigenous sovereignty and self-determination.

Following an Indigenist theoretical framework and community-based participatory research approach (Datta, 2023), our study objectives were to: advance Indigenous water reconciliation, enhance access to safe drinking water within remote Indigenous communities, and promote Indigenous sovereignty and self-determination. We have situated our positionality in demonstrating what brings us to this research and the epistemologies that inform our work with remote Indigenous communities. Next, we outline our theoretical frameworks showing how we collected data and collaboratively interpreted our findings. This is followed by our results, discussion, and conclusion sections, showing the broader implications of our findings.

Researcher Positionality

We are a team of community-based researchers who engage in ethical Indigenous research. All our work is informed by our longstanding respectful and reciprocal relationships with Indigenous communities. Our main goal is to promote Indigenous Peoples’ sovereignty and self-determination through research. Studies argue that self-determination is the key to closing Indigenous inequities (Reading & Wien, 2009). Particularly, this research will help address the water crises within remote Indigenous communities by highlighting community-led water management and protection. The research will benefit the community by enhancing access to safe drinking water while promoting Indigenous-led water governance.

Theoretical Frameworks and Methodology

We used an Indigenist theoretical framework to learn from community Elders and Knowledge keepers the implications of the current water crises for Indigenous sovereignty and self-determination. The Indigenist theoretical framework upholds Indigenous Ways of Knowing and Doing including the worldviews and cultural practices (Wilson, 2008). These frameworks fit well with the community’s cultural knowledge-sharing (Stewart, Foster, & Usher, 2012). Our use of these theoretical frameworks also highlights the community’s position in the research as initiators and co-investigators (Stewart, Foster, & Usher, 2012). This approach helps to guide our explorations of the current water crises within an Indigenous community by centring Indigenous Knowledge in the research, promoting accountability to the community and our relationships with them, and enhancing respect for the community’s spiritual water ontologies (Reano, 2020).

The Indigenist theoretical framework creates the space for honouring Indigenous cultural practices including Language, hunting, fishing, trapping, and medicine picking which play important roles in enhancing Indigenous sovereignty and self-determination. Living respectfully with Mother Earth and water is therefore important for maintaining these important cultural practices. Our use of the Indigenist framework allows us to understand our responsibility toward Mother Earth and the sustainable use of the gifts she provides including water (Datta, 2023).

Following the Indigenist theoretical framework, we used a community-based participatory research approach (CBPR) to guide the study. The CBPR approach allows for the collaborative designing of the study with the community (Koster, Baccar & Lemelin, 2012), promotes ethical

research by upholding the community's cultural protocols (Hayward, Sjoblom, Sinclair, & Cidro, 2021), and addresses power relations within research (Castleden, Garvin, & Huu-ay-aht FirstNation, 2008). According to Datta et al. (2015), the CBPR empowers participants and promotes knowledge ownership in the research process. The CBPR guided the whole research through a Community Research Advisory Committee (CBPR). Following this, a Community Research Assistant facilitated the research.

Methods

In line with the Indigenist theoretical framework and CBPR methodology, we used sharing circles and deep listening methods to collect knowledge from seven community members including Elders and Knowledge keepers from the [community]. Through these methods, we learned from community members the implications of the current water crises for Indigenous sovereignty and self-determination. The sharing circles allowed for the respectful sharing of stories and experiences relating to the water crises (Kovach, 2009; Lavallée, 2009). The sharing circles also enhanced holistic healing by allowing the co-researchers to share from their hearts, minds, bodies, and spirits (Lavallée, 2009; Nabigon, Hagey, Webster, & MacKay, 1999). Studies show that the water crises within Indigenous communities negatively impact health and wellness (Bharadwaj & Bradford, 2018). Our use of sharing circles, therefore, created a space for healing. The offering of tobacco, prayers, and smudging were cultural protocols followed by this research.

Data Analysis Processes

We used a collaborative story-learning data analysis process engaging our co-researchers in the analysis process. Following our Indigenist research framework and the CBPR methodology, this was to ensure equality is maintained throughout all stages of the research (Drawson, Toombs, & Mushquash, 2017). The collaborative process prevented our voices from dominating those of the co-researchers (Birt et al., 2016). We first adopted a thematic analysis approach to analyze the data by "identifying, analyzing, and reporting patterns (themes) within data" (Braun & Clarke, 2006, p.6). Following this, we transcribed the recorded stories. For us to meaningfully capture the community members' views and ensure accuracy, we sent the transcripts back to the co-researchers for review. The next stage was manual coding and deductively categorizing codes into sub-themes. Examples of some of the codes included sovereignty, self-determination, trust, rebuilding, respect, Mother Earth, holistic, epistemologies, culture, and Indigenous-led among others. Manual thematic analysis was adopted to allow for critical thinking and understanding of the flow of our learning and to organize stories into themes. The coding and categorizing of codes into sub-themes were done to reduce the data size for the collaborative analysis process. About nine sub-themes emerged from this process, including Looking after Mother Earth, Indigenous epistemologies of water, Rebuilding trust, Reconnecting with culture, Trusted water sources, Rebuilding Indigenous governance systems, Health risks, Caring for Mother Earth, and Collective effort.

The above sub-themes were sent to all seven co-researchers for member checking. After this, the sub-themes were presented to a Community Research Advisory Committee (CRAC) for further analysis. The presentation allowed the co-researchers to participate in the data analysis process. The researchers and CRAC further categorized the sub-themes under major themes. The collaborative analysis process found four major themes including Water Crisis and Destruction of Indigenous-Gendered Governance Structures, Water Crisis and Health Implications, Solutions through Respect for Water, and Water Governance Implications for Sovereignty and Self-determination. For example, the sub-themes of Looking after Mother Earth, Indigenous epistemologies of water, Rebuilding trust, and Reconnecting with culture were categorized under the broader theme of Water Governance Implications for Sovereignty and Self-determination. Again, the sub-theme of Trusted water sources was also categorized under Respect for Water.

Results- Water Challenges and Land-based Solutions

From the stories the Elders and knowledge keepers shared, we learned that the current water crises emerged due to the lack of recognition of Indigenous Peoples' jurisdiction over Land. These crises have implications for Indigenous Peoples' sovereignty and self-determination. The water crises negatively impact all the important cultural practices that promote Indigenous sovereignty and self-determination. Following this, the co-researchers reported different ways in which the current water crises impact their sovereignty and self-determination. This was seen in *Water Crisis and Destruction of Indigenous-Gendered Governance Structures*, *Water Crisis and Health Implications*, *Solutions through Respect for Water*, and *Water Governance Implications for Sovereignty and Self-determination*. Indigenous sovereignty is drawn from their knowledge, spiritual ways, culture, language, and relationships with land and waters. Following this, the co-researchers reported anything that destroys the sacred relationship with and respect for Mother Earth and water has implications for Indigenous sovereignty. The current failures to end long-term water advisories within Indigenous communities are due to the lack of recognition for Indigenous sacred ways and respect for Mother Earth. These water crises also reflect the lack of progress in advancing Indigenous water reconciliation. We found the current water crises within remote Indigenous communities like [the community] cannot be addressed without respect for Indigenous Peoples' sovereignty and self-determination.

The continuous failure of the Canadian government to fulfill its treaty promises to Indigenous Peoples has eroded trust. This is manifested in the inability to provide safe drinking water for Indigenous communities. We found this mistrust is further exacerbated by the failure to center Indigenous sovereignty and self-determination in water governance regimes. Government bureaucracy and red tape have also led to unnecessary delays in addressing water challenges within Indigenous communities. In addition, current water governance systems marginalize Indigenous communities and their worldviews. All these have further created mistrust between Indigenous People and the Canadian government. Following this, we observed community members do not even trust some of the water treatment plants that are being provided by the Canadian government to end the long-term water advisories.

Water Crisis and Destruction of Indigenous-Gendered Governance Structures

Reclaiming Indigenous women's leadership roles is critical to maintaining Indigenous People's sovereignty and self-determination. An important outcome that emerged from the sharing circle was that traditionally, women played leadership roles within Indigenous communities including protecting water. Community members reported Indigenous women are life-givers. Following this, Indigenous women have sacred connections with the land and the water. They are the protectors of water, and holders of traditional knowledge as well as culture. Indigenous women play a significant role in the protection of the Land and water. Commenting on Indigenous women's leadership roles in water protection one of the Elders said

I really think our people especially the women have to take the lead in water decision-making because the women have a lot to do with Mother Earth. The women are the ones who more or less take care of Mother Earth and water. More women should come to the understanding that this is very important in our livelihood. And not only that but having a connection to the land helps us to secure our children and unborn generations. In that line of thinking. Also, there are different rights that women carry in order to look after the land. They come with gifts that help our community so that we can continue to live a good life and walk a good life. That is why I feel that more people in our community especially our women should start understanding and having that awareness to make things right (Co-research 2 Indigenous Woman Elder).

The community members reported that the current water crises within Indigenous communities further highlight how settler colonialism destroyed Indigenous governance structures and marginalized Indigenous women. The destruction of traditional gendered governance structures has huge implications for Indigenous people's sovereignty and self-determination. As one of the Elders observed,

co-researcher 2 spoke about women taking the lead, it is still not going to make a difference because they no longer think of us as the life givers. That is their way of thinking. Now you are just one of the people, the ladies are not the leaders anymore. We try to take care of our families and we keep getting pushed down day after day. How do we make a difference if we are constantly being pushed down the next step or controlled? That is why our government is controlling us, now we have to depend on them for everything. Because we are so used to it, even back then we still did things for ourselves (co-researcher 1 Indigenous Woman Elder).

Rebuilding Indigenous-gendered governance systems is key to addressing the water crises within Indigenous communities.

The destruction of Indigenous governance systems is further compounded by the Canadian government's failure to respect Indigenous Peoples' sovereignty and self-determination. The current patriarchal water governance regimes imposed on Indigenous communities do not do much to advance Indigenous self-determination. The Elder echoed this by stating that

We [women] are all supposed to be the caregivers the life givers that way, but they don't care. Get back there where you belong with your peers. It is very hard when you are dealing with our government, that top man that is supposed to be higher up but I don't think he is higher up because the only one that is higher up is the creator, not some man. I get discouraged, I always think about this and I get so mad. I always think we shouldn't be told what to do we should be given because we are here, the creator put us here. And Mother Earth, to look after our children and grand babies all those ones that are important to us. To look after their nourishment, to make them grow up to be respectable children and we expect that from the government to treat and give us all those things that we were always told by our great grandfather (co-researcher 1 Indigenous Woman Elder).

The current water crises invite the Canadian government to make meaningful efforts towards achieving Indigenous sovereignty and self-determination, this is crucial if reconciliation with Indigenous Peoples is to be achieved. Indigenous governance structures must be respected.

Water Crisis and Health Implications

The water crises within Indigenous communities have implications for their health and wellness. The lack of access to safe drinking water further compounds the health inequities remote Indigenous communities face. Following this, centering Indigenous sovereignty in water governance allows for addressing these health inequities since Indigenous sovereignty addresses social equity and justice. Commenting on some of the health risks associated with unsafe water, an Elder said

When we are washing our vegetables we use water. We got E. coli on the plants that we eat, salads, and even our fruits that are on top of them because they won't wash them (Co-researcher 1 Indigenous Woman Elder).

We found even traditional water sources were also polluted and posed a health risk to the community. The community members reported these natural sources of drinking water including slews and springs were easily accessible. However, land use activities including chemical runoff from farms have polluted these water sources. According to a community member,

In addition to the water in the slew is it gonna cause cancer? For example, coming down here I realized there were chemicals being applied. We rent out our lands to the farmers. All that is polluting our water sources. We have pig farms on either side of our reserve. When they drain out their farms it goes directly into our valley (co-researcher 4 Indigenous Knowledge Keeper).

We cannot build Indigenous water resiliency without returning traditional water sources to safer levels. Reclaiming Indigenous sovereignty and jurisdiction over water is critical to addressing some of the health issues emerging from unsafe drinking water.

To address the health risks emerging from the water crises, the Elders emphasized the need to care for Mother Earth. A much broader approach, encompassing land use activities must be adopted to end the water crises within Indigenous communities. When water governance is centered on Indigenous sovereignty, it allows for adopting a holistic approach to protecting water. It was reported land use activities including agricultural activities will have to be re-examined within the community. Against this background, an Elder noted

I don't even know if we can go back to our ways a long time ago. When we used to drink our water out of the slews and whatever. They are now contaminated by farms and pesticides. We don't even know what kind of chemicals they are using to spray. We hear people say the fish has mercury in it, where did the mercury come from you know? Even sewage was going into our water (co-researcher 1 Indigenous Woman Elder).

Acknowledging it will take different stakeholders to address the water crises within their community, the Elders and knowledge keepers emphasized adopting a collective effort to address their water crises. We found the community, government, farmers, and other stakeholders must work together to enhance access to safe drinking water. Commenting on the urgency of the collective effort, the Elder once again stated

I can't see a solution unless we all work together with the government and all the people that are so concerned about what is happening to Mother Earth. Now I can see it is kind of a bit too late because I can see all the damage has already been done how do we make it better if we keep adding more things to Mother Earth? Destroying her, destroying our water, and killing our fish (Co-researcher 1 Indigenous Woman Elder).

The centering of Indigenous sovereignty and self-determination in water governance is critical to rebuilding trust between Indigenous communities and the Canadian government. Trust is critical to ending the current water crises within Indigenous communities. The continuous marginalization of Indigenous sovereignty and self-determination in water governance will not help build trust with Indigenous People. Commenting on this, an Elder stated

Even our water treatment plant now we want the best but we don't get the best. We just get what is available and even with that, we have to beg for it. We have to beg for our money. Sometimes we don't get it. The government says we have good drinking water but we don't. maybe they do not us First Nations (Co-researcher 1 Indigenous Woman Elder).

Some community members observed even the treated water provided within their community was still contaminated. This further created mistrust that the community was given substandard water treatment plants. The mistrust has resulted in community members not wanting to let go of old habits of buying water. To create trust, the Elder observed,

Give us good drinking water, don't give us something that is just gonna be there to shut us up that is the way I look at it. We are getting a new water treatment, oh right on you have good water but that is not all you still have, like (co-researcher 3) said, she still has that habit of buying water because we are so scared, you can't drink tap water. It is contaminated and all that (Co-researcher 1 Indigenous Woman Elder).

To center Indigenous sovereignty and self-determination in water governance also calls for reconnecting with culture. Important cultural practices including Language, ceremonies, hunting, trapping, fishing, and medicine picking promote Indigenous sovereignty. Regarding water, Indigenous cultures respected and viewed water as sacred. Water is a part of the community's way of life and culture. There was a deep understanding within these cultures that water and other gifts from Mother Earth must be protected and used in a good way. Within this culture also laid the teachings of living well with community members by being respectful to the Elders and all. From the community, we observed one cannot live well with water if one does not live well with community members, the two are intertwined. This Wahkohtowin principle informed the utilization of the gifts from Mother Earth, with the understanding that we must use these gifts in a sustainable way that will not harm our relatives including nonhuman relatives. The community members reported these cultural practices are critical to their health and wellness. Unfortunately, it was observed residential

schools have separated community members from this important culture. Following this, centering Indigenous sovereignty and self-determination in water governance will create the space to reconnect community members with their culture including language and land-based practices. According to one of the Elders,

You know talking about how we lived back in the day. How we respected what was given to us, what Mother Earth had to nourish us like our water, our food, our vegetables, and how we see things grow. We want that, we want to see it flourish and become abundant so that we can live that healthy lifestyle. But nowadays because of the way our residential schools or day schools or whatever. How do we grow from that? Because we were taught when we were growing up to be good. But with the residential school, we learned how to be mean and disrespectful to each other. How our language was bad, that it was the devil's language they used to say. When you are talking about our natural resources like our water and how we live here, they tried to take that away and said that is not the way we should live. We should live the way they wanted us to live. Some have us have come to the realization that we can't live the life I was told to live I have to go back to live in a humble way respectable Wahkohtowin. All those things that our teachings were made of. when you are talking about clean drinking water, we want clean drinking water, we want to clean Mother Earth. we don't want her destroyed by man-made things. Because that is how we destroy our own livelihood (Co-researcher 1 Indigenous Woman Elder).

Situating Indigenous sovereignty and self-determination in water governance allows for a broader rethinking of water governance and focusing on sustainability in general. In addressing the current water crises within Indigenous communities, Indigenous-led water governance and holistic Indigenous worldviews are crucial.

Again, we observed that Indigenous sovereignty and self-determination were critical to returning the community's drinking water to safer levels. Reconnecting Indigenous Peoples with their culture including language, relationship to Land and water is crucial to maintaining sovereignty and self-determination. We cannot continue to impose water governance on Indigenous communities without any recognition of their water epistemologies. As nations, Indigenous communities have continuously advocated for Indigenous-led water governance to be upheld. These would allow Indigenous People to have jurisdiction over their water. This can enhance their sovereignty and self-determination. Indigenous communities are aware that the current water regimes cannot advance their sovereignty and self-determination. Acknowledging the challenges with current water governance regimes within the community, an Elder concluded

We can no longer go back to those old days when you can just walk up to a slew and get a pail of clean drinking water and take it home so others can drink from it (Co-researcher 1 Indigenous Woman Elder).

It emerged that promoting Indigenous sovereignty and self-determination in water governance will lead to creating hope and reawakening communities. The Canadian government's continuous failure to honour its treaty promises has made community members less critical of whatever is provided to the community including water. As an Elder went on to observe,

I don't know, I don't remember, and we are so caught up and our minds get tired, our brains get tired of thinking so much of the good things and the bad things that we don't care anymore. Like we don't care what kind of water we are drinking. Some of us do but other ones say we don't care. Is there something that is given to us? what have they given to us? We don't know whether it is safe. It is like a can of pop and water and I think someone will take pop because it is sweet. But for the body, I will take the water. They give us what they want to give us. To keep us quiet. Our water treatment plant, we will upgrade the water treatment plant so you can have good drinking water. Because this and that goes into the water and we drink it. We don't know how much chlorine is in there, how much whatever they put in there. Anyway, let's get your water cleaned but if your

water comes out smelling, or discolored like co-researcher 3 said. Be satisfied we gave you that, the government again, take it or leave it (Co-researcher 1 Indigenous Woman Elder).

Indigenous sovereignty will place water back under Indigenous Peoples' jurisdiction. Hence, allowing Indigenous communities to take charge of their water. This means communities will have a voice in what chemicals are used to treat the water within their communities.

Solutions through Respect for Water

Acknowledging Indigenous sovereignty and self-determination means respecting water and viewing water as a gift from Mother Earth. It was reported we cannot solve the current water crises within Indigenous communities without developing respect for water and Mother Earth first. Respecting water means we have a responsibility to protect it. It is only when we respect water that we can protect water as a gift from Mother Earth. Part of this comes with re-examining how our land use activities affect our water sources. Safe water source is crucial to ending the water crises within Indigenous communities. Indigenous water epistemologies can promote trust in water sources. We found a water source is a place that community members identify with. There was trust that the water was safe and pure. According to an Elder,

You know when a baby is born, it is pure, that was how our water was. When you think about that and you look back on our childhood wherever there was water you drank it. you just used your hand to drink the water. Now we can't even do that. That water tasted so good than what we have now. You know when you taste water, you want to know where the water comes from. We got accustomed to those tastes, it was always nice and cold. There was nothing in there, there was no grease stuff in the water. Even our fish, where is our fish now they are dead. What caused that? (co-researcher 1 Indigenous Woman Elder).

The lack of respect for water and access to safe drinking water sources is impacting negatively on community members. Even normal daily activities like having a cup of coffee are being impacted by the water crises. According to an Elder,

Even when we are drinking coffee we have to look to see if there is something on top of it. Back in the day, we didn't have to worry about these things. That is how we respected that water (co-researcher 1 Indigenous Woman Elder).

Situating Indigenous sovereignty and self-determination in water governance will create the space to respect the water.

Water Governance Implications for Sovereignty and Self-determination

Indigenous sovereignty and self-determination border on Indigenous Peoples' survival. Water governance must go beyond supply to focus on protecting the Land and Mother Earth. Given that sacred Indigenous water epistemologies do not inform current water governance regimes, water governance structures within Indigenous communities have taken a narrow approach focusing on supply and failed to protect Mother Earth and the Land. As a result, this adversely affects Indigenous Peoples' sovereignty and self-determination. Ending drinking water advisories must be closely linked to protecting Indigenous communities from Land use activities that continue to pollute their Lands like agricultural runoffs. We cannot protect water resources if we do not protect the Land. For example, Indigenous People depend directly on the Land for their traditional food and medicine. Following this, if the Land is polluted their food sources become unsafe and this impacts their food sovereignty. Indigenous-led water governance systems take a broader and more holistic approach to protecting the Land as a whole. Indigenous People know their sovereignty and self-determination are intertwined with living sustainably with Mother Earth. To enhance their sovereignty and self-determination, the community members reported we must urgently rethink water governance to focus on looking after Mother Earth. Following this, one of the Elders said,

Now I can see it is kind of a bit too late because I can see all the damage has already been done how do we make it better if we keep adding more things to Mother Earth? Destroying her, destroying our water, and killing our fish. The water was so scarce a couple of years back there even our food source there was nothing there to survive. People are destroying mother earth with fires; all these add to when we take Mother Earth into our bodies that destroys everything. We have to look after Mother Earth. They are gonna do everything, non-First Nations People gonna destroy the water (co-researcher 1 Indigenous Women Elder 1 Indigenous Woman Elder).

Centering Indigenous sovereignty and self-determination in water governance allows for a much broader view of protecting water and Mother Earth. To protect and manage water we must focus on protecting Mother Earth and the Land.

Another important reason why we must situate Indigenous sovereignty in water governance is that it allows for recognizing holistic Indigenous epistemologies of water. We observed Indigenous Peoples' Ways of Knowing and Doing to inform their sovereignty and self-determination. Indigenous water epistemologies are critical to protecting and living well with water. These epistemologies view water as sacred and used in ceremonies. We found the failure to center water governance around Indigenous sovereignty has led to mistrust that the water crises can ever be solved within their communities. One of the Elders observed,

Water is sacred, we use those in ceremonies. We use those to nourish our bodies, to keep us surviving. You know we can fight the government; we can fight the big boss, but we are not gonna win because they are still gonna destroy us. Look at the food prices, that were predicted, that was prophesied by the old people. That food is gonna be gone and scarce. I can see it now. If you don't see it your children will see it, they used to say. That is why our old people used to say look after our Mother Earth. I remember we used to have enough water to drink we didn't need to worry about what was in it. We got accustomed to it and all of a sudden you can't drink that water. It is very scary, and I don't think it is gonna get any better. We were on a boiled water advisory for years. We are still on it; we don't even know if it is gonna go away. That is my story, and I am sticking to it (Co-researcher 1 Indigenous Woman Elder).

We observed focusing on water supply alone in current water governance systems will not enhance access to safe drinking water within Indigenous communities. We must equally incorporate the holistic Indigenous principles of environmental sustainability that focus on protecting all the ecosystems within remote Indigenous communities.

Indigenous sovereignty and self-determination are strongly connected to the Land and Water. Understanding this, Indigenous cultures highlight the need to live sustainably with Mother Earth. Therefore, we cannot solve the current water crises within Indigenous communities without addressing the land use activities that threaten their water sources.

Discussion and Relational Learning Reflections

The findings from this study invite us to rethink water governance within remote Indigenous communities. We cannot address access to safe drinking water within remote Indigenous communities or advance water reconciliation with Indigenous Peoples without recognizing Indigenous sovereignty and self-determination (Datta & Hurlbert, 2020; Hurlbert, 2022). Fundamental to Indigenous sovereignty is Indigenous Knowledge and way of life including important cultural practices of Language, fishing, hunting, trapping, medicine picking, and ceremonies which all are strongly connected to water. Therefore, relations with water shape Indigenous Peoples' sovereignty and self-determination. Indigenous People emphasize respect for Mother Earth as being key to their self-determination. The lack of access to safe drinking water impacts everything that is needed for Indigenous Peoples' survival. As Hanrahan, Sarkar, and Hudson (2016) highlighted, water insecurity is linked to "poverty, food insecurity, men's health, and mental health" (p.270). Following this, Wilson et al. (2019) argued that current governance

structures have contributed to the water crises within Indigenous communities. Similarly, Chief et al. (2021) conclude “Existing resilience frameworks aim to co-manage resources and keep Indigenous people within an unjust and colonial system” (p.31). As Datta and Hurlbert (2020) observe, current settler governance structures have often aimed at subsuming holistic Indigenous governance systems. Resisting this, Indigenous People are beginning to introduce their own governance systems based on their Ways of Knowing and Doing to take charge of their lives (Abele, et al., 2009; Borrows, 2010). The recognition of holistic Indigenous water governance structures and epistemologies is crucial to their sovereignty and self-determination.

Indigenous Water Epistemologies Implications for Sovereignty and Self-determination

We found the current water challenges within Indigenous communities reflect a lack of recognition of Indigenous epistemologies, and therefore sovereignty and self-determination. Given that Indigenous worldviews promote sovereignty and self-determination, making space for Indigenous water epistemologies is critical. Indigenous sovereignty confronts the idea of Western worldviews dominating Indigenous sacred views about water (Shrinkhal, 2021). This is seen in the lack of respect for Indigenous Land and Treaty rights including holistic water epistemologies (Dickson & Koenig 2023). As Bradford et al. (2017) observed, “Indigenous People have traditionally had a lack of voice, and little participation or significant representation at higher political points of authority to influence or sanction laws of water protection, regulation and enforcement on traditional territories” (p.269). Consistently, there has been a lack of recognition for traditional Indigenous governance structures and Treaty rights by the Canadian government (Datta & Hurlbert, 2020; Hurlbert, 2022). Lack of recognition occurs even when these holistic governance structures prove effective in managing and protecting the sacred gifts from Mother Earth including water (Diver, 2018; McGregor, 2008). This lack of recognition for holistic Indigenous governance structures has implications for Indigenous Peoples’ sovereignty and self-determination. Particularly, a lack of respect for Indigenous water epistemologies infringes on Indigenous knowledge sovereignty that is needed to “strengthen Indigenous knowledge systems and their transmission according to Indigenous governance structures..” (Latulippe, & Klenk, 2020, p.9). Following this, Karim, (n.d) observes “Indigenous Sovereignty arises from Indigenous Traditional Knowledge, belonging to each Indigenous nation, tribe, and community” (para.1). Indigenous Knowledge including holistic water ontologies provides the structures for achieving sovereignty and self-determination. As Karim, (n.d) noted, “Traditional Indigenous knowledge consists of spiritual ways, culture, language, social and legal systems, political structures, and inherent relationships with lands, waters, and all upon them” (para.2). It involves Indigenous Peoples having jurisdiction over the Land and water and respect for Mother Earth. The centering of Indigenous sovereignty in water governance can lead to the recognition of Indigenous sacred water epistemologies that promote respect for Mother Earth.

Reclaiming Gendered Indigenous Governance Structures

Another important finding is that recognizing traditional Indigenous governance structures is key to promoting Indigenous sovereignty in water governance. Addressing access to safe drinking water and promoting Indigenous sovereignty will involve reclaiming women’s environmental leadership roles in water protection. Settler colonialism has destroyed Indigenous matriarchal governance structures leading to the dominance of patriarchal systems of governance. Patriarchal water governance systems have impacted negatively on Indigenous women’s roles in water protection (Hanrahan, Sarkar, & Hudson, 2016). Evidence shows traditionally, Indigenous women played leadership roles in the protection and management of water for their communities (Chiblow, 2020; Hanrahan, Sarkar, & Hudson, 2016; Ornelas, 2011). Studies show “..Indigenous women share a sacred connection to the spirit of water through their role as child bearers, and have particular responsibilities to protect and nurture water” (Cave & McKay, 2016, p.1). Current water governance regimes have marginalized Indigenous women who are at the forefront of water protection and

management (Cave & McKay, 2016). Following this, situating Indigenous sovereignty and self-determination within water governance will allow for restoring Indigenous women's place in water governance. Acknowledging women's roles in water protection Schaffer (2006 cited in Ornelas, 2011) highlights the importance of prayers from grandmothers that can help purify Mother Earth including water. These prayers provide the foundation for respectful, sustainable water governance.

Rebuilding Trust in Water Governance through Indigenous Sovereignty

The research findings also determined that Indigenous sovereignty and self-determination can contribute to rebuilding trust between remote Indigenous communities and the Canadian government. Combined with historical government policies including residential schools and the Indian Act, current failed promises to provide clean drinking water have led to mistrust between Indigenous Peoples and the Canadian government (Deer, 2019). According to Deer (2019), Indigenous People feel disappointed and not respected by the Canadian government. The [community], for example, has been under a water advisory since 2007 (Pearce, 2020). However, it took the community several years of negotiations before a new water treatment plant was approved by the Canadian government. Community members indicated they had to practically 'beg' for a new water treatment plant just so they could have access to safe drinking water. Government bureaucracy has led to delays in responding to Indigenous Peoples' water needs and does not help in building trust either. Delays such as these make Indigenous People also doubt the genuineness of the Canadian government in achieving reconciliation. This mistrust has implications for addressing the water crises within remote Indigenous communities. We found community members do not even trust the water from the treatment plants yet. The current water crises further highlight the failure to respect Indigenous sovereignty and self-determination. Indigenous-led water governance systems will be a great step toward rebuilding trust. Indigenous-led water governance systems that are centered on holistic water epistemologies have been highlighted as key to addressing the water crises within remote Indigenous communities and rebuilding trust over time (Hurlbert, 2022; Hurlbert & Datta, 2022). Again, access to alternative community funding can help address settler land use activities, including agriculture, that continue to pollute traditional water sources within Indigenous communities. This will also help address the water crises within Indigenous communities.

This article addressed the current water governance gaps within remote Indigenous communities. Adopting an Indigenist theoretical framework, we re-examined the implications of these water crises on Indigenous Peoples' sovereignty and self-determination. Indigenous sovereignty and self-determination are strongly connected to the Land and water. The capacity of water governance systems to maintain important cultural practices including Language, hunting, fishing trapping, medicine picking, and ceremonies will enhance Indigenous sovereignty and self-determination. The current water crises further highlight the challenges Indigenous people must face due to the continuous process of colonialism. Irrespective of all these challenges Indigenous communities in Canada have shown great strength and resilience over the years in maintaining important water cultural practices that are critical to their sovereignty. Addressing the current water crises within remote Indigenous communities, we found situating Indigenous sovereignty and self-determination in the current water crises allows us to truly appreciate the extent to which these crises are impacting remote Indigenous communities. The water governance gaps reflect the continuous lack of recognition of Indigenous Peoples' sovereignty and self-governance.

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