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We Have Always Been Here[1]

The Significance of Dene Knowledge[2]

[1] This Title statement is supported by a recently published scientific article revealing how DNA evidence shows that the modern Dene people originated in the area of the Canadian Arctic. This differs from previous theories, which posited that the Dene's ancestors migrated to the Canadian Arctic from northeast Asia. See Pavel Flegontov et al, "Palaeo-Eskimo genetic ancestry and the peopling of Chukotka and North America" (2019) Nature 1.

[2] This submission was prepared for Dene Nation by Cynthia Westaway and Leanna Reiss of Westaway Law Group in consultation with Trevor Teed, Dene Nation.

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Introduction

Canada developed Bill C-69 with a view to modernize the existing regime of environmental impact assessment. If passed, this federal Bill will repeal and replace the *Environmental Assessment Act, 2012*,[3] which was passed without any consultation with Dene people during the period of the Harper government. Bill C-69 intends to replace the *Environmental Assessment Act, 2012* with the proposed *Impact Assessment Act* ("IAA").[4] Additionally, the Bill will also enact the *Canadian Energy Regulator Act* ("CERA") and amend the *Navigation Protection Act, 2012* ("NPA") to create the *Canadian Navigable Waters Act*. Unlike their predecessors, the IAA, CERA, and amended NPA emphasize the importance of considering Indigenous Knowledge ("IK") in environmental impact assessments of proposed projects.

The federal government has approached the Dene Nation to ascertain key views, recommendations, and best practices on sharing and considering Indigenous Knowledge, or Dene Knowledge ("DK"), in the context of environmental decision-making. A conference was held on this topic in Dettah, Northwest Territories on May 28-30th, 2019. Many Elders and traditional knowledge holders attended and gave feedback on what DK meant to them, how it must be protected, and how it could be shared.

We provide this paper to inform the federal government's Indigenous Knowledge Policy Framework and to summarize the Dene viewpoints gleaned at the conference.

Who we are

The Dene Nation is located in Denendeh, meaning "the land of the people," which covers the majority of the NWT and is comprised of the Gwich'in, Sahtu, Dehcho, Tlicho and Akaitcho regions. Dene Elders have consistently proclaimed that "we have always been here" and younger Dene often assert, "we have been here since time immemorial". There are approximately 15,000 Dene in the North, who are signatories to Treaty 8 signed in 1899, and Treaty 11 signed in 1921, as well as Modern Treaty Agreements. The spirit and intent of Treaty includes: clean air, clean and abundant water that can sustain all living things, and land that is healthy and can sustain all that live on it, including the Dene. This is what existed when our ancestors signed the treaties and this is what we have both the right and the responsibility to protect to this very day. Self-determination in this region is widespread, and many public Indigenous governments and co-management authorities have been established through modern land claim and self-government agreements.

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[3] *Environmental Assessment Act, 2012*, SC 2012, c 19, s 52.

[4] Bill C-69, *An Act to enact the Impact Assessment Act and the Canadian Energy Regulator Act, to amend the Navigation Protection Act and to make consequential amendments to other Acts*, 3rd Sess, 42nd Parl, 2015 (as passed by the House of Commons 20 June 2018).

Key themes and recommendations

This paper discusses the following themes and recommendations:

A. **Definitions of Dene Knowledge (DK) and how it differs from western scientific knowledge:**

1. DK is connected to land (including water, air, and all life), language, spirituality, values, and notions of sovereignty;
2. DK is dynamic and grown in oral cultures.

B. **The potential problems and dangers of obtaining DK and incorporating DK into impact assessments and proposed best practice recommendations:**

1. **Problem:** DK is often not seen as valid by non-Dene.
   - **Recommendation:** DK must be acknowledged for its differences from western scientific knowledge; however, it is equally valid and must be respected and prioritized.

2. **Problem:** The goals and structures of environmental impact assessments do not align with Dene values.
   - **Recommendations:**
   - Be forthcoming about values and interests and do not interfere with the authority of Indigenous governments and governance;
   - Incorporate elements of Dene governance institutions;
   - Respect Dene timelines and priorities and allow sufficient time for engagement;
   - Prioritize use of Dene languages and translation; DK should be obtained in the Dene languages and translated into English.

3. **Problem:** The decision-making power of the Dene is not respected.
   - **Recommendation:** The Dene must have a real and substantial role in decision-making.

4. **Problem:** DK is rendered scientific, which devalues and decontextualizes DK.
   - **Recommendation:** DK must be valued, prioritized, and incorporated into decision-making.

5. **Problem:** Scientific studies in environmental impact assessments do not adequately consider the qualitative effects of projects on the future use of the land and the effects on the Dene.
   - **Recommendation:** Environmental decision-making must consider the qualitative effects of changes to the land on the Dene.

6. **Problem:** DK is not adequately integrated into environmental decision-making.
    - **Recommendations:**
    - The Dene must oversee the interpretation of their DK;
    - Government or industry proponents should inform themselves of the DK that has been shared in the past;
    - Government or industry proponents should be honest about the limitations of their understanding of Dene culture and the legacies of colonialism that affect relationships with the Dene today;
    - Government or industry proponents must visit Dene communities in person in order to learn and promote effective decision-making;
    - There must be permanent and sufficient funding structures to support Dene communities in engaging with Government or industry proponents;
    - Government or industry proponents must abide by ethical standards of research;
    - Government or industry proponents must abide by local and regional research and DK protocols as established by Dene communities;
    - Dene communities must jointly draft any regulations or policies in the implementation of Bill C-69.

A. Defining DK

1. DK is a product of Indigenous worldviews, which are intimately connected to the land

DK, and IK in general, arises locally from long-term occupation of a place. It refers to norms, social values, language, and spiritual principles. These principles operate to guide, organize, and regulate ways of living in and making sense of the world.[5] It is ever-developing and it is never frozen in time.

Dene worldviews arise from the relationship to territory. As Indigenous scholar James Youngblood Henderson explains,[6]

> Our cultures are not artificially created. We do not base our relationships on the Eurocentric categories of "rights", "race" or "blood". Our worldview is not an act of imagination, but a series of teachings about a particular place and about the proper way to relate to a whole and irrevocable ecosystem.

Place-based knowledge is a defining characteristic of DK. For instance, the Tlicho consider knowledge from each place to be different and so they value travelling and hearing about different ways of thinking about and describing these places.[7] As Tlicho member Gabrielle Mackenzie-Scott describes, knowledge is derived from the land by observing and respecting living and non-living things and participating in the renewal of creation. She describes how her father pointed to a squirrel and said: "this is the animal who knows everything about what is going on under the ground, just as Raven can see what is going on above ground. He told us we must pay attention and learn from both as they have different knowledge; they are from different places".[8] For the Tlicho, being knowledgeable means understanding one's place in creation, maintaining personal autonomy, and demonstrating respect and harmony with other-than human beings.[9]

DK in Dene territory is inseparably intertwined with Dene language, lifestyle, and concepts of nationhood and rights. As noted by a researcher studying uranium mining projects in the Dene region in northern Saskatchewan: "[t]he identification of the people of the Athabascan region with their traditional territory is so deep that Dene intervenors did not separate their empirical

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[5] Linda Tuhiwai Smith, *Decolonizing Methodologies: Research and Indigenous Peoples* (London: Zed Books, 1999), cited in Judy Iseke-Barnes, "Living and Writing Indigenous Spiritual Resistance" (2003) 24:3 J Intercultural Studies at 212.

[6] James (Sákéj) Youngblood Henderson, "Postcolonial Indigenous Legal Consciousness" (2002) 1 Indigenous LJ at 45.

[7] Allice Legat & Joanne Barnaby, *Walking the Land, Feeding the Fire: Knowledge and Stewardship Among the Tlicho Dene* (Tucson: University of Arizona Press, 2012) at 136.

[8] Gabrielle Mackenzie-Scott, quoted in Legat & Barnaby, *ibid* at 86.

[9] Johnny Eyakfwo, quoted in Legat & Barnaby, *ibid* at 87.

knowledge of the physical environment from their commitment to their heritage and their future as grounded in their rights to use and benefit from the land. Descriptions of the people's relationship with the environment were linked with assertions of the natural and legal rights of the people to the land".[10]

A review of the academic literature and common understandings of IK reveal that for many Indigenous people, it is impossible to speak of social relationships without reference to place, or to speak of a place without explaining how people who lived there were connected.[11] Territory can signify more than just geography; it is a spiritual landscape.[12] Indigenous Knowledge, values, spirituality, and law are grounded in millennia of observation and relationships with ecology.[13] Landscapes house stories, history, and spiritual teachings; therefore the integrity of the land must be protected. Rapid transformation of the land can break historical connections with the past, thus changing its meaning for current generations. Given that land is at the heart of Indigenous worldviews and knowledge, when land disappears or transforms too much, cultures and peoples are adversely affected.[14]

2. DK is dynamic

DK is informed by a plurality of collective memories. Former Akaitcho Territory Government Chief Negotiator, S. Venne, provides the example that in Cree culture, each Elder only knows a certain version of the complete story; therefore, Elders collectively share and fact check their stories against each other to arrive at a fulsome collective memory.[15] Thus, Indigenous peoples understand that knowledge is in a state of flux and subject to oppositional perspectives and constant reinterpretation.

Knowledge is personalized rather than universalized. The integrity of information and knowledge is derived from the knowledge holder, rather than from scientific method.[16] Knowledge is therefore dynamic rather than static. Knowledge is linked to the integrity and

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[10] Anne Wiles, John McEwen & M Husain Sadar, "Use of Traditional Ecological Knowledge in Environmental Assessment of Uranium Mining in the Athabasca Saskatchewan" (1999) 17:2 Impact Assessment & Project Appraisal 107 at 111.
[11] Julie Cruikshank, *Do Glaciers Listen? Local Knowledge, Colonial Encounters, and Social Imagination* (Vancouver: UBC Press, 2005) at 67.
[12] Wapshkaa Ma'iingan (Aaron Mills), "Aki, Anishinaabek, kaye tahsh Crown" (2010) 9:1 Indigenous LJ 107 at 138.
[13] Henderson, *supra* note 6 at 45.
[14] Nicolas Houde, "The EIA follow-up of Traditional Ecological Knowledge: Challenges and Opportunities for Canadian Co-Management Arrangements" (2007) 2:2 Ecology and Society [Houde, "EIA follow-up: Canadian Co-Management].
[15] Sharon Venne, "Understanding Treaty 6: An Indigenous Perspective" in Michael Asch, ed, *Aboriginal and Treaty Rights in Canada: Essays on Law, Equality, and Respect for Difference* (Vancouver: UBC Press, 2002) 173 at 176.
[16] See Alex WL Hawley, Erin E Sherry & Chris J Johnson, "A biologists' perspective on amalgamating traditional environmental knowledge and resource management" (2004) 5:1 BC Journal of Ecosystems and Management 36 at 41.

perceptiveness of the speaker rather than an objective and detached reality. This allows for necessarily contradictory perceptions to be accepted as valid.

3. DK is developed through practice in oral cultures

Knowledge can be obtained and transmitted through ceremony and practice. Anthropologist E. Beilawski noted that "Inuit knowledge resides less in what Inuit say than in how they say it and what they do."[17] DK comes from the experience of living life on the land. As a Kluane woman says, "IK is not really knowledge at all; it's more a way of life." Similarly, as academic author D. McGregor states, "IK is not just knowledge *about* the relationships with Creation, it *is* the relationship with Creation".[18] Tlicho elder, Romie Wetrade, describes how being knowledgeable and autonomous comes from knowing the land and the stories of one's elders. He says:

> As for myself, I do not understand English. None at all. I do not know how to read. None at all. I do not know how to read the white man's words. . . . Even so, my elderly parents raised me and I have lived a good life because I heard their stories. My predecessors' talk is like keeping a book. I remember it. . . . I have reached this age by living on the knowledge from my predecessors. Their knowledge comes from beyond books. . . . The knowledge my predecessors possessed that has brought me thus far makes me feel as if I were sitting next to them. If I were to think about it, I am sitting under all their knowledge.[19]

Therefore, DK cannot be transmitted through books and abstract concepts alone; DK must be lived and practiced through actions in a dynamic oral tradition and in the Dene languages.

Knowledge can be obtained and transmitted through storytelling, experience, intention, and connectedness. Knowledge is often contained in stories that provide information as well as entertainment, models of behavior, and warnings. S. Venne explains that "each Elder keeps the stories like a sacred trust to be handed down to the next generation. It is through continuous contact with the Elder that one will hear the complete story known by that Elder".[20] Storytelling often employs the structure of narrative and metaphor to teach without being intrusive. The metaphors guide moral choice, invite self-examination and apply to the listener to the degree that he or she is ready to accept. Knowledge can be shared to correspond to the specific path of the

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[17] Quoted in Chris Paci, Ann Tobin & Peter Robb, "Reconsidering the Canadian Environmental Impact Assessment Act: A place for traditional environmental knowledge" (2002) 22:2 *Environmental Impact Assessment Review* 111 at 122.

[18] Cited in Ryan Bowie, *Traditional Knowledge and Environmental Assessment: A Case Study of the Victor Diamond Project* (MA Thesis, Trent University Canadian Studies and Native Studies Program, 2007) at 55 [unpublished].

[19] Romie Wetrade, a Tłı̨chǫ elder, quoted in Legat & Barnaby, *supra* note 7 at 179.

[20] Sharon Venne, *supra* note 15 at 176.

listener. Elders will often only share with those who are ready and willing to hear the message. Elders impart knowledge according to the needs and capabilities of the listener.[21] Metaphors enable creative interpretation and problem solving, allowing for several possible explanations and interpretations.[22]

A single story does not contain all possible lessons or knowledge. The knowledge from each story is always situated, contextualized, and personalized to the maturity and understanding of the listener.[23] Knowledge is thus transferred through relationships. It is "grown" in the members of successive generations and shared through lifelong apprenticeship; it is not "passed down wholesale" from the previous generations.[24] The interactive and dialogical method of storytelling functions to socialize the listener, record the Nation's history, and validate Indigenous cosmology.

4. DK is connected to language

Indigenous languages are derived from culture which is intimately connected with the environment. Words and concepts from Indigenous languages are not easily translated into English, which can result in important meanings becoming lost. As academic author Leanne Simpson explains, "[w]hen knowledge is made into a text, it is translated from Indigenous languages into English, locking its interpretation in a cognitive box delineated by the structure of a language that evolved to communicate the worldview of the colonizers".[25] Translating Indigenous concepts into English erases their embedded, situated, collaborative, and performative nature.[26] Indigenous knowledge is weakened when it is objectified into a collection of individual facts and data, making it easier to critique, refute, and falsify.[27]

When DK and Dene interpretation over languages are removed from the Dene, they lose their meaning and are more likely to misrepresent Dene perspectives. When knowledge becomes a commodity it can be coopted, appropriated, and manipulated by the colonizer; it can be used irresponsibly, used to support the colonial status quo, and even used against the Dene.[28] As Indigenous activist Oren Lyons identifies, "when we speak your language, we come under your

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[21] Conference participant, Saskatoon IK Conference, Saskatoon, Saskatchewan, March 26-27, 2019 [Saskatoon IK Conference].
[22] Smith, *supra* note 5 at 217.
[23] *Ibid* at 214.
[24] Mark Nelson, "Paradigm Shifts in Aboriginal Cultures?: Understanding TEK in Historical and Cultural Context" (2005) 25:1 Can J Native Studies 289 at 301.
[25] Leanne R Simpson, "Anticolonial Strategies for the Recovery and Maintenance of Indigenous Knowledge" (2004) 28:3&4 American Indian Q 373 at 380 [Simpson, "Anticolonial Strategies"].
[26] Michael Christie, "Aboriginal Knowledge Traditions in Digital Environments" (2005) 34 Austl J Indigenous Education 61 at 61.
[27] Nelson, *supra* note 24 at 304.
[28] Leanne Simpson, "Aboriginal Peoples and Knowledge: Decolonizing Our Processes" (2001) 21:1 Can J Native Studies 137 at 140, 142 [Simpson, "Decolonizing Processes"].

empire".[29] Indigenous scholar John Borrows similarly underscores that "[w]hen [Indigenous] narratives are given to another culture to authoritatively judge their factual authenticity and meaning, [Indigenous] peoples lose some of their power of self-definition and self-determination".[30] Indigenous scholar Tracey Lindberg illustrates the incompatibility of colonial terms with Cree Indigenous concepts in her comparison of an Indigenous concept of the earth and the Euro-Canadian concept of land:

> Take, for example, the notion of our relationship as Nehiyaw with our Mother, the earth. Add a dollop of colonization to this discussion, and we are soon talking about land. A little more of the colonial linguistic elixir, and we are talking about land claims. Switching wholly to the royal Mother tongue, and we engage in a discussion about consultation and maybe accommodation of our "interests" in our land.[31]

T. Lindberg's example reveals how language affects not just how people describe the land, but also how the land is valued. If Dene languages and worldviews are maintained and applied in a contemporary context, the meanings are less likely to be lost in translation. The connection between language, culture, tradition, and DK entails that language if more than just important to Indigenous ways of life; indeed, languages are key to the survival and revitalization of culture and interactions with the land. As a Dene member states, "when people speak the language, it helps us to put food on the table… it's our foundation".[32]

5. DK resists documentation

Oral cultures acknowledge that the present generation's understanding and application of knowledge will differ from that of the previous generation.[33] Oral tradition "permits continuous revision of history by actively reinterpreting events and then incorporating such interpretations into the next generation of narrative".[34] Therefore, oral transmission of knowledge frees knowledge from being objectified in static terms, definitions, and documents. As such, the flexible nature of oral tradition is generally incompatible with the reductive and universalizing nature of documentation or codification. As academic authors Chris Paci, Ann Tobin, and Peter Robb note:

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[29] Oren Lyons, "Spirituality, Equality, and Natural Law" in Leroy Little Bear et al, eds, *Pathways to Self-Determination: Canadian Indians and the Canadian State* (Toronto: University of Toronto Press, 1992) 1 at 7.

[30] John Borrows, "'Because it does not make sense': sovereignty's power in the case of Delgamuukw v. The Queen 1997" in Diane Kirkby & Catharine Coleborne, eds, *Law, History, Colonialism: The Reach of Empire* (Manchester: Manchester University Press, 2001) 190 at 197.

[31] Tracey Lindberg, "Critical Indigenous Legal Theory Part 1: The Dialogue Within" (2015) 27:2 Can J Women & L 224 at 227.

[32] Dene participant, Dene Indigenous Knowledge Conference, Dettah, NWT, May 28-30, 2019 [Dettah DK Conference].

[33] Nelson, *supra* note 24 at 301.

[34] Cruikshank, *supra* note 11 at 62.

> The fundamental problem with documentation is that there is a growing need to write down stories, making them more accessible. However, this also removes them from context, which in turn has both immediate and long-term implications. Oral traditions are taught and learned under certain conditions, within a cultural milieu. The setting, actions and behaviours of both teacher/teller and learner/listener are important to the process. When traditions are written down, they tend to be thought of as authoritative, the last word on a subject. However, each telling of a story is different depending on the conditions of the narration. This reflexivity is impossible with written narratives, which may have more than one interpretation but never more than one version.[35]

Similarly, as former Chief Beaulieu of the Yellowknives Dene First Nation explains:

> [W]e don't want our cultural identity treated like points on a map that can be simply managed and mitigated or made less important. Those places, the cultural representations, the landscape and the information those places contain are not just archaeological sites. They're part of our social, spiritual and cultural identity. ... Those places out there are how we communicate who we are and ... pass on our culture to our children.[36]

Therefore, the Dene may insist on keeping DK within the communities and regions in order to maintain interpretive control over the information. In all cases, this information belongs to the Dene and ought to stay within the communities and regions. If outsiders wish to hear and learn from this knowledge, they must come to the community and sit with the community to receive the information in a holistic manner through dialogue, discussion, and observing the land.[37] If the listener or recipient of the DK receives the knowledge in a vacuum, the significance of the knowledge may be lost. As a First Nation Elder stated, "[IK] can't be learned from papers; you have to live it ... [IK] can guide but it cannot teach. Unless you learn the language and live an Indigenous life, you will never have the full picture."[38]

6. Transmission of DK: privacy, confidentiality, and respect

Indigenous knowledge, language, custom, spirituality, and law are interrelated. There are Indigenous legal orders and protocols governing knowledge transmission. A common legal order surrounding knowledge transmission is the notion of respect and responsibility. Both parties in the knowledge dialogue must follow the proper protocols to respect the content of the knowledge

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[35] Paci, Tobin & Robb, *supra* note 17 at 122.
[36] Quoted in Brenda Parlee, "Finding Voice in a Changing Ecological and Political Landscape — Traditional Knowledge and Resource Management in Settled and Unsettled Claim Areas of the Northwest Territories, Canada" (2012) 2:1 Aboriginal Policy Studies 56 at 73.
[37] Saskatchewan First Nation member, Saskatoon IK Conference, *supra* note 21.
[38] *Ibid.*

and how that knowledge should be shared. For example, some stories serve as factual recordings of historical events that are only meant to be told by certain families.[39] Some stories require several days to be told or must be told only in certain seasons.[40] Some knowledge is not meant to be shared with non-Indigenous peoples, such as information about traditional health care and medicines, which were specifically excluded by a medicine chest provision of a Treaty.[41]

Respect and responsibility are intertwined with the use and transfer of knowledge because of the personalized and contextualized nature of knowledge. Some Elders may refuse to have their stories transcribed because this eliminates the possibility of adjusting the lessons to the context and maturity of the listener. Recording stories objectifies knowledge such that it can be used generically like a toolbox, which can lead to cooptation and misinterpretation of knowledge. Elders have a duty towards knowledge. They are responsible for ensuring the Nation's information is used responsibly, such that the recipients of the information will use it in a good way.[42] As knowledge exchange is a dialogical process, the recipient of the information is obligated to use the knowledge responsibly.[43] This both acknowledges the Nation's protocols and the physical and spiritual energy the Elder expended to share the story.[44]

7. Types of DK in impact assessments

In the context of environmental impact assessment, some scholars have categorized IK into various categories. Without agreeing or disagreeing with the validity of these categories, a description of each follows below to help elucidate the depth and breadth of IK:[45]

1. Category 1: Factual observations, classifications, and naming of discrete components of the environment
    - This category of IK contains details about ecosystem elements such as: weather, ice, coastal waters, currents, animal behaviour, and traveling conditions.
    - This category of IK is typically derived from:
        - empirical observations by individuals of specific events or phenomena;
        - generalized observations based on numerous experiences over a long time;

        or

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[39] Chelsea Vowel, *Indigenous Writes: A Guide to First Nations, Metis, & Inuit Issues in Canada* (Winnipeg: HighWater Press, 2016) at 96.

[40] *Ibid.*

[41] Venne, *supra* note 20 at 194.

[42] Simpson, "Decolonizing Processes", *supra* note 28 at 142.

[43] Elina Hill, *Indigenous Knowledge Practices in British Columbia: A Study in Decolonization* (LLM Thesis, University of Victoria Department of History, 2012) at 119 [unpublished].

[44] Jeanette Bushnell, *"I can think of a lot of stories.": Shared Knowledges, Indigenous Methodology and Purposeful Conversations with Sixteen Native Women in Seattle* (PhD Thesis, University of Washington Women's Studies Department, 2009) ProQuest LLC at 193.

[45] Nicolas Houde, "The Six Faces of Traditional Ecological Knowledge: Challenges and Opportunities for Canadian Co-Management Arrangements" (2007) 2:2 Ecology and Society [Houde, "Six Faces of Ecological Knowledge].

- generalized observations based on personal experience reinforced by the accounts of others both living and dead.

- Academic author, P. Usher, adds that: "[t]he boundary between personal knowledge and observation and inference is not always evident because people may state as fact or consequence what scientists would characterize as inference or deduction".[46]

2. Category 2: Factual knowledge about sustainable use of the environment
   - This category of IK includes details about patterns of land use and occupancy, harvest levels, pest management, resource conservation, multiple cropping patterns and controlled fires.
   - It also includes statements about social or historical matters that impact on the traditional use of the environment and the rights and interests of the Indigenous people in those environments.
   - Statements of fact are based on a range of knowledge from personal experience and observation to oral history.
3. Category 3: Acknowledgement of the time dimension of traditional knowledge
   - This category of IK contains details about past and current uses of the environment that are transmitted through oral history, such as:
     - the knowledge of historical patterns of land use and settlement, occupancy, and harvest levels;
     - the location of medicinal plants; and
     - the location of cultural and historical sites.
4. Category 4: Value statements about how things should be
   - This category of IK contains details about the connection between the belief system (the fifth category) and the organization of facts and actions. This can include ethics, attitudes, and values regarding nonhuman animals, the environment in general, and among humans.
5. Category 5: The belief system
   - This category of IK contains details about stories, values, and social relations that reside in places and contribute to the survival, reproduction, and evolution of aboriginal cultures and identities.
6. Category 6: Culturally based cosmology / worldview
   - This category of IK contains details about the worldview that explain the way in which things are connected and outline the principles that regulate human–animal relations and the role of humans in the world. Generally, it involves assumptions and beliefs about how things work, similar to philosophy or religion.

Categories 1-3, which involve statements about the environment, are the most cognizable and most often used in state resource management. Categories 4-6, which involve value statements

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[46] Peter J Usher, "Traditional Ecological Knowledge in Environmental Assessment and Management" (2000) 53:2 Arctic 183 at 186.

about the environment and ecology, are not as easily cognizable to non-Indigenous actors and do not easily align with or become implemented in non-Indigenous institutions.

8. Deconstructing western/scientific knowledge

When discussing the consideration and incorporation of DK in environmental decision-making, it is important to deconstruct and identify the cultural values underpinning western science and knowledge vis a vis DK. Western science and rationality are often uncritically accepted as true in the context of environmental decision-making. However, western science has been deeply influenced by a Christian values system that can be critiqued in the same ways that IK has been critiqued for being speculative and value-laden.[47] Western epistemology and science are based in the assumption that the researcher can objectively observe nature while remaining apart from it. However, this idea is perhaps a myth; it is impossible to cease being socialized members of societies and cultures in the act of formulating research goals and designs.[48] There are always political circumstances associated with obtaining and producing knowledge. The pursuit of knowledge always contains a certain will or intention to understand, and our will to understand is politically conditioned.[49]

Western science is premised on a problematic quest for singular truths, such as "one true god, one true answer, and one right way".[50] Western regimes of truth posit that facts are objective, meaning that they are true anywhere and always, and do not depend upon who is telling the story.[51] Conversely, DK generally rejects the notion that there are "facts" that are universally true, given that Indigenous cultures conceptualize time, space, nature, and subjectivity differently than western cultures. Therefore, scientists and government representatives ought to realize that there is no such thing as pure objective knowledge. As Leroy Little Bear states, "anything you claim to know is your knowledge alone".[52]

In addition to the inherent epistemological shortcomings, western science may not fulsomely capture environmental realities due to poor study design and limited resources, such as inadequate plot sizes, short-time frames, and lack of consideration for ecosystem complexities.[53] As academic author P. Lyver points out, given such shortcomings, one could argue that western science is speculative and unprovable. This is particularly true if findings from one location are

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[47] Houde, "Six Faces of Ecological Knowledge", *supra* note 45.
[48] Richard Daly & Val Napoleon, "A Dialogue on the Effects of Aboriginal Rights Litigation and Activism on Aboriginal Communities in Northwestern British Columbia" (2003) 47:3 Social Analysis 108 at 109.
[49] Edward Said, *Orientalism* (New York: Vintage Books, 1979) at 10.
[50] Leroy Little Bear, "Jagged Worldviews Colliding" in Marie Battiste, ed, *Reclaiming Indigenous Voice and Vision* (Toronto: UBC Press, 2000) 77 at 82.
[51] Christie, *supra* note 26 at 64.
[52] Little Bear, *supra* note 50 at 85.
[53] Phil O'B Lyver, Christopher Jones & Henrick Moller, "Looking past the wallpaper: Considerate evaluation of traditional environmental knowledge by science" (2009) 39:4 Journal of the Royal Society of New Zealand 219 at 221.

applied in a different location or context, as opposed to DK, which has been developed from many observations gathered over long timeframes in a particular environment.

Scientists, proponents, and government representatives must both acknowledge western science's limited capacity to capture the complex natural environment and they must also ensure that western science does not dominate perception and decision-making.[54]

9. How DK becomes marginalized

Dene worldviews and concepts of knowledge have been excluded, marginalized, and 'othered' by western systems of knowledge because they are different. Practitioners who employ alternative ways of knowing are often dismissed as having invalid knowledge. For example, as academic author, C. Marlor, notes in analyzing IK in clam-digging practices among coastal B.C. First Nations:

> The Kwakwaka'wakw diggers' practices, in contrast, were not replicable and therefore did not have the appearance of transparency. First Nations diggers did not use standardized practices and often preferred not to verbalize what they knew or how they knew it. Their conclusions were not presented in standardized rhetoric that could be easily understood by others. Even scientists who accepted the validity of their knowledge could not justify this acceptance to others by means comparable to science. Justification for accepting their knowledge as legitimate could only be done by the means I have used here—by explaining how it makes logical sense, was empirically grounded and, when employed, was effective. But even using this approach was not straight forward in that the Kwakwaka'wakw diggers knew how to generate new knowledge, but were not necessarily cognizant of how they did it. For example, if one were to ask one of the Kwakwaka'wakw diggers what steps they took to assess the abundance of clams on a beach, they would not likely have a ready answer—it was something they did, not something they analyzed.[55]

Those who work in Dene territory on environmental projects must recognize and prioritize DK no matter how foreign, different, or contrasting it appears compared to western science. Ultimately, as researcher R. Bowie suggests, it is not up to the scientific community to validate, accept, or dismiss IK. Only Indigenous communities that are the source of IK can undertake that task.[56] It is more beneficial for scientists engaged with IK to ask why there are different views and how they can be reconciled, rather than accepting or dismissing the knowledge of Indigenous peoples based on scientific standards created outside their communities.[57] It is also

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[54] *Ibid.*
[55] Chantelle Marlor, "Knowledge Holders Have a Hard Time Being Taken Seriously" (2010) 33 Qual Sociol 513 at 528.
[56] Bowie, *supra* note 18 at 51.
[57] *Ibid.*

critical to recognize the diversity of the various Dene regions and the diversity of Dene knowledge and language.

B. Potential problems in attempting to incorporate DK into environmental decision-making

1. Problem: Lack of respect for DK

DK is often misunderstood and dismissed for appearing to lack scientific rigour, be too anecdotal, or be too imbued with sentiment, spirituality, or politics. Furthermore, DK has likely not been adequately translated into English.

Best practice recommendations

Some preliminary solutions to decolonizing this mindset are as follows:[58]

- **Substantive Equality:** DK should be treated with at least the same respect and validity as western scientific knowledge. The Dene are to be treated with the same respect as other stakeholders. DK holders are experts in their own field.
- **Uniqueness:** Each Dene group is unique and holds different forms of DK. Each Dene region also has its own institutional models for participation, representation, and decision-making that must be respected.
- **Acknowledge DK is diverse:** Indigenous people are not a melting pot. No two First Nations are the same. Indigenous groups differ according to: Treaty or non-Treaty; historic or modern Treaty; geography; economy; Métis; Inuit; and First Nation. First Nations cannot be painted with the same brush. Practices, spirituality, and DK will differ among Dene communities. This must be reflected in all activities in Dene territory.
- **Rights:** Dene rights to the natural resources on their traditional land must be acknowledged, respected, and promoted.
- **Sovereignty:** The Dene know and have always known that they are sovereign; they have always governed themselves as sovereign Nations. Dene have entered into historic and modern Treaties with other nations, including the Canadian state. The impact assessment process must not limit or deny this sovereignty.
- **Cultural Heritage:** Dene have the right to control intellectual property and other material items related to their heritage, in order to preserve their culture.

[58] P Croal, C Tetreault & members of the IAIA IP Section, "Respecting Indigenous Peoples and Traditional Knowledge: International Best Practice Principles" (2012) Special Publication Series No. 9. International Association for Impact Assessment 1 at 2.

- **Free Prior Informed Consent:** Dene must consent to entry onto ancestral land, studies of the land, and the gathering of DK by proponents or government representatives. Local protocols must be respected and followed.
- **Trust and Respect:** Researcher M.E. Buckham recommends that "[c]ommunity members must perceive and believe that the expressed political will by decision makers exists and will be acted on. Otherwise they are less likely to see the benefits of participation and feel further alienated from the decision-making process. Lack of trust can greatly hinder Indigenous peoples' motivation to not only participate in decision-making processes, but share their knowledge with policy makers".[59] This trust and respect must be built with the Dene throughout the assessment process.

2. Problem: Goals and structures of impact assessments are foreign to Indigenous groups

DK may be withheld by the Dene because of structural barriers that prevent DK from being appropriately heard, considered, and valued. Some of these structural barriers include the following:

Political concerns: DK may not be forthcoming due to political or self-government related tensions between the Dene and government and/or industry. A proposed development and impact assessment may directly implicate unresolved land claims or the negotiation of impact and benefit agreements.[60] It may not be appropriate to expect the Dene to share their DK with industry proponents due to concerns that information related to burial and spiritual sites, trap lines, fishing spots, or other resources will be catalogued somewhere and may in the future undermine potential modern treaty claims or other Dene rights and practices.

Externally imposed institutions: A major problem with reconciling and integrating DK into the environmental impact assessment process is that environmental legislation and the process of impact assessment is formulated outside Dene communities and then imposed on the communities. Ultimately, "a population cannot be invited to give its point of view when constricted by the imposition of norms foreign to that population".[61] The epistemological basis, timelines, and reporting structure of environmental impact assessments are set out by and designed for the federal government. None of these processes were designed to resemble traditional Indigenous institutions.

For example, the federal government has several departments relating to discrete environmental issues, such as fisheries and oceans (DFO), coast guard, environmental assessment, transport,

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[59] Meghan Elizabeth Buckham, *Barriers and Facilitators to Indigenous Knowledge Incorporation in Policy Making: the Nunatsiavut Case* (MA Thesis, Trent University Faculty of Arts and Science, 2013) Library and Archives Canada at 78-79.
[60] Usher, *supra* note 46 at 190.
[61] Paci, Tobin & Robb, *supra* note 17 at 123.

and natural resources. This bureaucratization of holistic issues such as the lands and waters can be nonsensical and counter-productive to effectively engaging and collaborating with the Dene. At a recent DK conference in Dettah, Northwest Territories, a Dene Elder asked a representative from the Canadian Coast Guard ("CCG") if the proposed list of CCG programs that affect the waters would address impacts on fish, to which the representative indicated that it is not within his department's authority to consider the fish.[62] The response highlighted the confusing and artificial way the federal authorities manage the environment. There is a tendency to make simple things quite technical. An Indigenous hunter in the Yukon territory similarly describes the confusion of managing resources through government-initiated regulations rather than elders' education:

> Natives use common sense, common knowledge, if they think and speak from their heart, they'll never have a problem. If you start speaking from your head in these boards and committees out there, governments, and pretty soon you're all mixed up and you don't even know what the decision is anymore. But if they think about it, go back to their elders, and these kids are smart now, in both worlds, I think they can take anybody on.[63]

Academic authors A. Angell and J. Parking note that "western institutional governing forms serve to erode Aboriginal Peoples' culture, values, and traditions because true power remains concentrated in Euro-Canadian bureaucratic structures, and Euro-Canadian values remain the primary basis for action".[64] Canadian governments are constrained and limited in their ability to fully engage on Indigenous terms due to the need to adhere to existing government bureaucratic and political processes.[65] The result is that the Dene are frequently alienated by the processes employed in environmental impact assessment. For example, impact assessment processes are often formal, technical, and at times adversarial. Industry tends to dominate and direct the development of the process. Translation facilities are often absent and standardized translations do not exist when translating the five Dene language into English or vice versa; this can result in each language being translated differently leading to wide variations in messages to government or industry. Additionally, the short time frames of impact assessments often cannot appropriately accommodate collective Dene decision-making.[66] Furthermore, federal environmental impact

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[62] Question by Dene Elder, Dettah DK Conference, *supra* note 32.
[63] Quoted in Elisabeth Padilla and Gary P Kofinas, "Letting the Leaders Pass: Barriers to Using Traditional Ecological Knowledge in Co-Management as the Basis of Formal Hunting Regulations" in B Parlee & K Caine, eds, *When the caribou do not come* (Vancouver: UBC Press, 2017) at 218.
[64] Angela C Angell & John R Parking, "Resource development and aboriginal culture in the Canadian north" (2011) 47:240 Polar Record 67 at 75.
[65] Deborah McGregor, "Lessons for Collaboration Involving Traditional Knowledge and Environmental Governance in Ontario, Canada" (2014) 10:4 AlterNative at 343.
[66] Ciaran O'Faircheallaigh, "Environmental agreements, EIA follow-up and aboriginal participation in environmental management: The Canadian experience" (2007) 27:4 Environmental Impact Assessment Review 319 at 325.

assessments come from national legislation and guidelines, which are not responsive to local variations.[67]

A case study of how non-Indigenous institutions generally will not foster successful sharing and implementation of IK comes from the Ontario Ministry of Natural Resources and Forestry (MNRF). The MNRF hosted IK workshops with Indigenous groups to create an IK policy, which was ultimately unsuccessful. As academic author D. McGregor explains:

> The lack of Indigenous buy-in was due to the fundamental difference in worldview among the indigenous participants to recognize MNR[F] as the ultimate authority over natural resource development and management matters in Ontario. In turn, MNR[F] was not prepared to recognize [Indigenous] authority over lands and resources... implicitly embedded in the MNRF approach was the intent to dissociate [IK] from its original holders and utilize it in the very resource management frameworks that [Indigenous] peoples challenge. The initiative was approached as a "oneoff" undertaking, rather than as a process for establishing and then *continuing* dialogue and relationship- building. The desired outcomes were thus different. MNR[F] sought [Indigenous] input for what was to be an MNR[F] TK policy, rather than developing collaborative relationships with [Indigenous] peoples in an ongoing dialogue.[68]

This example from MNRF reveals that attempting to create IK policies without questioning the bureaucratic mold or allowing for cross-cultural learning will generally not be successful. Government representatives, industry, scientists, and researchers must demonstrate a genuine effort to listen and engage. Otherwise, the resulting policy will only employ a tokenistic approach to integrating IK. Indigenous people have expressed that tokenistic initiatives are insulting in that they purport to demonstrate a diversity of viewpoints; however, in reality, these initiatives are not open to changing their structures and do not accept the views and contributions of Indigenous people.[69] As a result, Indigenous people frequently feel disillusioned and exploited by these initiatives and the trust is lost.

Effective impact assessment requires a commonality of goals and agreement to a process for how to get there. As academic author P. Nadasdy states, "to be 'empowered', local people must first agree to the rules of the game".[70]

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[67] Paci, Tobin & Robb, *supra* note 17 at 120.
[68] McGregor, *supra* note 65 at 348.
[69] Saskatoon IK Conference, *supra* note 21.
[70] Cited in Buckham, *supra* note 59 at 70.

Best practice recommendations

Political concerns:

It is important to identify and clarify the place of land claims, Treaty and Aboriginal rights, and self-government negotiations in the environmental assessment or the DK protocol development process before the process begins.[71] Dene groups and government representatives or industry must clearly communicate the goals and intentions of a project so that both parties can be on the same page regarding the values, risks, and implications of embarking on a project.

An example of an Ontario government initiative to obtain and consider IK in the context of environmental decision-making, that was much more successful than the MNRF initiative described above, came from the Ontario Ministry of the Environment and Climate Change.[72] The Ministry partnered with the Chiefs of Ontario in this six-year long initiative. This process was much more successful than the MNRF initiative because the Ministry established a long-term project and invested time in establishing shared goals and values to set the groundwork for the relationship. The initiative explored where the Ministry and First Nations had been, where they currently were, and where they would like to be. The Ministry was able to establish common values and interests with the Ontario First Nations because of the Ministry of the Environment and Climate Change's mandate to protect the environment, which was also shared by the First Nations.[73] Conversely, the MNRF's mandate is to govern and manage natural resources and lands, which many First Nations feel is their proper jurisdiction, or at least is governed according to Treaty relationships with the federal Crown.[74] This case study reveals the importance of each party being aware of their historical and institutional relationships to Indigenous people and that trust will not be easily forthcoming when a government institution or industry proponent are generally adverse in interest.

Externally imposed institutions:

DK is more likely to be shared when the process reflects and respects Dene practices and lifestyles. The process must be compatible with a community's culture and values. For example, the engagement process could employ consensus-based decision-making, if that reflects the governing model of the particular Dene region.[75] The engagement process must at least be jointly designed with the Dene and must be transparent. To ensure a positive relationship with partners in resource development, the way the proponent or government representative gathers

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[71] Bowie, *supra* note 18 at 176.
[72] McGregor, *supra* note 65 at 349.
[73] McGregor, *supra* note 65 at 349.
[74] The tension between many Treaty First Nations and the province often comes from the lack of First Nation consent to provincial Natural Resources Transfer Acts where jurisdiction over property was delegated to the provinces.
[75] Angell & Parking, *supra* note 64 at 75.

information, processes ideas, reaches decisions, and formulates and implements policies is just as important as the actual decisions.[76]

An example of a resource development project that implemented many successful practices was the Enbridge Line 21 Replacement Program under the Mackenzie River in Northwest Territories.[77] Dene leaders affirmed that they would ensure that this project would be done properly. The project began with both Enbridge and Dene groups communicating about the goals and concerns of this project. The application went to the National Energy Board, which provided a neutral and court-like role in arbitering between the Dene groups and the proponent. Dene Elders, DK holders, and leaders from four communities got together to discuss the project plan and set the protocols on how the proponent could proceed. The communities decided that the proponent could not break ground during the winter and it could not proceed without completing a heritage study. Also, prior to breaking ground, the Dene communities instructed the proponent to walk the ground with them, so that the Dene could point out important aspects of the land and also so the Dene could hear and see what the proponent planned to do. There were discussions between the Dene and the proponent on the concerns prior to drilling. The Dene communities insisted on learning the proponent's drilling process and they insisted on being trained as environmental monitors, which included training to collect samples and drive the boats on the river. DK protocols were also negotiated between the Dene and the proponent. Ceremonies and traditional protocols were also followed, such as feeding the fire and making offerings. The communities needed to be informed every step of the way, therefore community meetings were arranged on a monthly basis to ensure community members and political leadership felt comfortable with the project itself. Records were kept of all meetings and decisions and all issues were discussed. It was crucial that the proponent become educated to think like the Dene and understand the Dene way of life. The project resulted in increased training and skill development for Dene community members, but also the proponent learned a great deal from the Dene.[78]

Timing:

There must be enough time and resources allocated to establishing a relationship with Dene communities, describing the proposed project, and determining how the impact assessment or project will be carried out. Communities cannot be rushed through this process. Decisions involving land, culture, the environment, and economic development are not taken lightly by the community. Many Dene communities must consult with Elders and land users internally. Communities must also be informed of the technical details of a project and potential risks. Florence Catholique, former Chief of the Lutsel K'e Dene First Nation and negotiator during negotiations with BHP for the Ekati diamond mine in the Northwest Territories, points out that

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[76] Graham White, "Cultures in Collision: Traditional Knowledge and Euro-Canadian Governance Processes in Northern Land-Claim Boards" (2006) 59:4 Arctic 401 at 402.
[77] As described by a Dene leader at Dettah DK Conference, *supra* note 32.
[78] Dettah DK Conference, *ibid.*

the Lutsel K'e Dene First Nation was given only 60 days to negotiate an Environmental Agreement, a Socio-Economic Agreement, and an Impact Benefit Agreement. The short timeframe and the fact that the community was not given appropriate resources to prepare properly resulted in agreements that were very weak. She explains that "we are not against development, but it shouldn't be done at our expense".[79] If communities are given enough time and resources to participate, the process will be perceived to be fair and communities will be better informed. Failure to properly include Dene parties can only result in weak agreements and poor relationships.

Participation and engagement opportunities must respect community priorities and be scheduled on dates and times that respect seasonal traditional activities, or else DK holders may not be available to participate.[80] For example, critical meetings during the spring hunting season would be unworkable. Consultations could take place outside of regular working hours on weeknights within the communities.[81] Communities must also stay informed throughout the engagement process through regular communication and feedback. Community members can be informed of meetings through Facebook, radio, paper form, or through a community messenger who notifies people of meetings and new developments. Written summaries of meetings and next steps can be useful as well.[82] Emails, faxes, and long technical, illegible papers in English only and full of government speech are not communication.

Language:

The impact assessment process can also inhibit the participation of Indigenous groups and the sharing of relevant knowledge due to language and interpretive barriers. The impact assessment processes can be a confusing labyrinth of dates, procedures and jargon, including political, legislative, and scientific terms.[83]

Additionally, colonial languages and scientific terms may not have an equivalent term in Indigenous languages. Many Dene words have environmentally descriptive names that lack an appropriate English translation. For example, in the Chipewyan language, there are many different types of lake trout, each with a traditional and environmentally descriptive name, while in English, there is only one word, which is "lake trout". Dene languages are very descriptive and so a single English word may require a sentence or two to be adequately translated into Dene. Many Dene words will not translate easily to English because the worldviews and assumptions underlying those terms are often irreconcilable.

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[79] Bowie, *supra* note 18 at 66.
[80] Buckham, *supra* note 59 at 82.
[81] *Ibid* at 138.
[82] *Ibid* at 136.
[83] Beth Bedard, *Resistance: Traditional Knowledge and Environmental Assessment among the Esketemc Canadian First Nation Community* (Doctoral thesis, Durham University, 2013) at 145.

The process of impact assessment may prove to be outside the experience of some Elders and knowledge keepers. This must be adequately appreciated by non-Indigenous proponents and government representatives. Communities may lack local interpreters who are sufficiently skilled in the translation and understanding of the scientific concepts. It can be problematic for communities to rely on expensive intermediaries whose role is to liaise between proponents or government representatives. Indigenous groups ought to be able to directly participate in the conversation and decision-making to ensure that the locus of control is not skewed towards industry or government.[84] The long-term goals should be to limit the role of professional intermediaries and ensure that Indigenous groups are directly involved in decision-making.[85]

A solution to the cultural and language barriers can involve internal workshops and meetings among the Indigenous groups to come to a consensus on the vocabulary and translations to be used in discussions with proponents or government representatives. Scientists, anthropologists, linguists, DK holders, Elders, and Dene translators and interpreters should together work to agree on mutually acceptable translations of words, terms, and phrases from Dene to English and English to Dene languages. This process should be financed by the governments and industry. In order for DK to be shared and properly understood by non-Dene there is a need to standardize the translation of English words, terms and phrases into the Dene languages and the translation of the Dene languages into English. Dene languages are very descriptive and single English words require a sentence or two to be adequately translated into Dene, and when Dene is translated into English it is compressed and true meaning is lost.

Western scientists could also learn the Dene vocabulary in order to better understand DK and speak more precisely about the environment. Translation from Dene languages to English should incorporate as much of the Dene descriptive phrases as possible, as opposed to using the simple English word. Community members could also decide on how DK stories, metaphors, and analogies should be conveyed to outsiders. Furthermore, industry and government must not force Indigenous groups to only engage through written submissions, given that many Indigenous groups create and share knowledge through an oral culture. Efforts should be made to accommodate, support, and accept Indigenous input via multiple methods, such as encouraging story-telling, or using audio or video recording, on consent.[86]

3. Problem: Lack of decision-making power

Dene communities must have an active role in decision-making and local DK must also strongly influence decision-making. Without the ability to directly influence decision-making, Dene communities may perceive that a final decision has already been made. DK will not be forthcoming if the Dene do not have control over managing their information and ensuring that it

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[84] *Ibid.*
[85] Buckham, *supra* note 59 at 88.
[86] *Ibid* at 91.

can influence the final decision that will shape the future of their communities. DK may not be shared if the Dene feel that their knowledge will be exploited, misinterpreted, or discarded when it does not align with the interests of proponents or government institutions or if the decision-making process is private or hidden from scrutiny.[87] For example, Dene and Métis groups affected by diamond mining in the Northwest Territories saw consultation as ad hoc, lacking in coordination, and exclusionary. Even though the proponents obtained information or views from the Indigenous groups on the impact of diamond mining, the proponents proceeded to make their own decisions, rather than integrate Indigenous people and Indigenous perspectives into the decision-making process.[88] This behaviour is bound to fracture the trust and goodwill among Dene communities and proponents or government representatives.

Best practice recommendations

The Dene must have a real and substantial role in decision-making:

Decision-making must remain connected to local communities. This means that regional land and water boards and impact review boards established within Constitutionally protected land claim agreements should not be merged into larger, super boards, jeopardizing regional autonomy and oversight mechanisms over local DK. Dene communities must be actively involved in setting the goals and procedure of impact assessment and must have the final say in whether a project goes forward. If there is no support, there cannot be a project. Furthermore, if DK is shared, it must be acknowledged and play an integral role in the assessment of a project's impacts. For example, the Mackenzie Valley Environmental and Impact Review Board decided that the proponent's diamond mining project could not proceed based on the community's concerns. The Indigenous voices spoke to the possibility of irreparable harm to their cultures and the land. The content of the DK caused the Board to find that the project was likely to cause an impact on the environment so significant that it could not be mitigated.[89]

4. Problem: Scientization of DK

IK researchers have coined the term "scientization" which speaks to when IK is rendered and reduced to scientific terms and is categorized, commodified, and bureaucratized according to the practices of resource development.[90] When this occurs, DK is stripped of its full meaning and context and it loses its power and authority to guide behaviour. Problematically, DK is often seen as legitimate only when it resembles science, such as being replicable or resembling the scientific method, or when it confirms scientific knowledge already in existence. For example,

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[87] Houde, "Six Faces of Ecological Knowledge", *supra* note 45.
[88] O'Faircheallaigh, *supra* note 66 at 334.
[89] Parlee, *supra* note 36 at 73.
[90] Stephen C Ellis, "Meaningful Consideration? A Review of Traditional Knowledge in Environmental Decision Making" (2005) 58:1 Arctic 66 at 72.

DK that predicts adverse or irreparable effects may not be taken seriously unless the technical scientific findings either support the DK results, or are inconclusive. In the case of the Inuit in Lancaster Sound, Nunavut, a court granted an injunction against an industry proponent to prevent them from conducting seismic testing; however, it appeared that the court was strongly influenced by the technical uncertainty of the impacts of seismic testing on marine mammals, rather than the clear message from the Inuit that seismic testing would cause adverse impacts.[91] This example suggests that there is bias to expect the Dene to scientize their DK in order to successfully question or disprove scientific results that contradict their DK.

The problem of scientization, as opposed to acknowledging and valuing DK in the context of its original form, is that it perpetuates the undervaluing of DK. DK is seen as inherently non-authoritative if it must be transformed in order to be credible enough to influence decision-making. As researcher and adopted Lutsel K'e member S. Ellis states, when descriptive stories and accounts are transformed into data, or when mythical stories are disregarded in the search for facts, it perpetuates the bias that anecdotal information is not real or not cognizable.[92] This is why academic author L. T. Smith states that "knowledge gained through our colonization has been used, in turn, to colonize us".[93] Science cannot ignore its connection to powers that have threatened Indigenous cultures and devalued IK.[94]

Best practice recommendations

DK must be valued:

Academic authors, Martha Johnson and Robert A. Ruttan, state that it appears that those Dene who have spent a large part of their life on the land possess as much understanding of wildlife and fisheries ecology as many non-Dene scientists.[95] They state:

> The observations made by Western scientists and Dene appear to differ in their emphasis; the two cultures look at different types of information to understand the environment. For example, not all hunters are familiar with certain minute details of moose habitat; however, they do know what is essential for moose at any given season, such as the required foods, escape cover, and terrain. An experienced hunter or ecologist looks at moose habitat in a holistic fashion in which the essentials stand out as indicators of habitat condition or habitat use. Inexperienced biologists and other outsiders tend to focus their entire attention on specific, isolated components of

[91] Sari Graben, "Resourceful Impacts: Harm and Valuation of the Sacred" (2014) 64:1 UTLJ 64 at 100.
[92] Ellis, *supra* note 90 at 73.
[93] Cited in Bowie, *supra* note 18 at 55.
[94] *Ibid.*
[95] Martha Johnson & Robert A Ruttan, "Traditional Environmental Knowledge of the Dene: A Pilot Project" in Martha Johnson, ed, *Lore: Capturing Traditional Environmental Knowledge* (Ottawa: Dene Cultural Institute and the International Development Research Centre, 1992).

> the ecosystem or animal populations. They often overlook less obvious factors or interrelationships that are critical to the survival and productivity of the population. For example, a biologist may see moose and an abundance of a preferred winter food species during a summer moose study and assume that it is excellent winter range. However, the Dene hunter/trapper knows the habits of moose and its use of habitat, sees no evidence of winter feeding (winter droppings, browsed twigs, etc.), and deduces that moose do not use the area in winter because of excessive snow depth, crusted snow, or some other factor.[96]

Therefore, DK must be valued for its uniquely specific yet holistic nature. It must be valued for its differences, its messages must be taken seriously, and it must be given significant weight in decision-making. As P. Lyver states:

> [I]f both science and [IK] can accept each other's legitimacy and power, space is created for appreciating the diversity of ways of understanding the world, and for motivating constructive solutions to solve environmental problems. Sometimes these solutions will be found and action motivated entirely within an [IK] world view, sometimes entirely within science, but increasingly within empowered and respectful partnerships of both.[97]

As stated by a Dene leader, "Western science seems to exist to prove us wrong. We need to develop these things to work together in both worlds".[98] To ensure transparency and equal treatment to both DK and western science, both perspectives should be equally acknowledged and documented, if permitted, and both must be addressed, including the weight attributed to both perspectives, in decision-making. There must also be an acknowledgement that DK does not have to be confined to the traditional activities of harvesting. DK can and must also inform modern technological questions related to chemistry, physics, and technology vis a vis land remediation.[99] DK must be acknowledged as more than just data; it is also a way of life.

5. Problem: Lack of qualitative and cumulative considerations

Environmental impact assessments must prioritize the qualitative components and concerns in DK rather than just quantitative data related to impacts on land and waters. DK does not necessarily distinguish between environmental health and sustainability and social and cultural health and sustainability. As such, environmental impact assessment studies should assess a project's effects on the social and mental health of communities and should prioritize projects

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[96] *Ibid* at 62.
[97] Lyver, Jones & Moller, *supra* note 53 at 222.
[98] Dene conference participant, Dettah DK Conference, *supra* note 32.
[99] John Sandlos & Arn Keeling, "Aboriginal communities, traditional knowledge, and the environmental legacies of extractive development in Canada" (2016) 3:2 The Extractive Industries and Society 278 at 285.

that will make positive contributions to sustainable communities.[100] Impact assessments have placed too much emphasis on science-based estimates of impacts, remediation, and land reclamation. Industry and government assessments may be limited in the ability to guarantee mitigation or reclamation of lands to the level that Indigenous groups expect and require. Projects have been considered on a case by case basis, without enough analysis of the cumulative and long-term effects of other projects operating in the region. As a result, when each project is considered in isolation, proponents are able to reset the environmental baseline to the beginning of each project. This masks the actual cumulative and compounding environmental impacts.[101] Furthermore, the baseline for a project is usually just the current environmental conditions, which are already weakened by pollution or a declining harvestable species. The proper baseline needs to be set at a level where Indigenous people can fully and meaningfully exercise their rights.[102] If the cumulative past and current effects of projects are not evaluated holistically, then the Dene experience a situation of "death by a thousand cuts" where cumulative adverse impacts amount to the destruction of lands and waters.

Industry promises of remediation may be at odds with the community's understanding of land remediation. Following a project, key species and landscapes may be diminished and unavailable to traditional land users. When the environment becomes polluted, animals become sick and are unavailable for hunting. Federal and provincial toxicity guidelines for the consumption of wild foods do not necessarily take into account impacts on those who eat such foods day after day for long periods of time or the anxiety the Dene experience in relying on potentially unsafe animals for food.[103] Classic examples can be found in the cases of high levels of mercury in the waters of Grassy Narrows First Nation after an oil spill.[104] The Dene have expressed that increased fires resulting from climate change are affecting the availability of the traditional foods, upon which 62% of Dene people rely.[105] Therefore, the adverse effects of development experienced by the Dene may not be taken seriously where the technical findings indicate that environmental impacts have been mitigated.[106]

Elders have stated that once the land has changed, it is no longer the same place, as it has lost its spirit and is considered to be contaminated and untrustworthy. When land is lost, language is

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[100] Angell & Parking, *supra* note 64 at 75.
[101] Bowie, *supra* note 18 at 68.
[102] Chief William Seymour, Re: Feedback on the Government of Canada's *Consultation Paper on Approach to Revising the Project List for the Proposed Impact Assessment Act*, Submission to CEAA (9 May 2018).
[103] Janelle Marie Baker & Clint N Westman, "Extracting knowledge: Social science, environmental impact assessment, and Indigenous consultation in the oil sands of Alberta, Canada" (2018) 5 The Extractive Industries and Society 144 at 147.
[104] H C George Wong, "Mercury Poisoning in the Grassy Narrows First Nation: History not Completed" (2017) 189:E784 Can Medical Association J, online (pdf): <www.cmaj.ca/content/cmaj/189/22/E784.full.pdf> (tonnes of mercury were dumped between 1962 and 1970); "Husky Energy Faces 10 Charges in 2016 Oil Spill Into Saskatchewan River", *CBC News* (26 March 2018), online: <www.cbc.ca/news/canada/saskatoon/husky-energy-charges-oil-spill-1.4593401>.
[105] Dene leader, Dettah DK Conference, *supra* note 32.
[106] Graben, *supra* note 91 at 100.

lost. Indigenous scholar L. Simpson explains that when land is destroyed, the community loses many things:

> The community loses food, medicines, and places to hunt, fish, and gather. Families lose opportunities to travel on the land and to be together. Animals, the clans that inform traditional governance and provide personal direction, lose places to live and food to eat. Spiritual places are destroyed and with them opportunities to maintain alliances with the essential forces of nature, the very alliances that are responsible for the transmission of Indigenous Knowledge. Opportunities for knowledge holders to pass their knowledge down to younger generations become fewer. As people have fewer reasons to go out on the land, there are fewer occasions for children to observe, experience, and learn from the natural world. The land is humiliated, and since Indigenous Peoples and our knowledge is part of the land, we all suffer.[107]

As an Esketemc woman advised in an environmental assessment meeting in British Columbia, a loss of land cannot be separated from a loss of self. She said:

> What goes through your mind, how do you sleep at night-how do you put a price on somebody's land? ... How are you going to rehabilitate the land? What would you put as the price on your land where your ancestors are from? We live out there for all of our lives, you want to take that away from us, how do you sleep at night. Seriously my ancestors were there. They tanned hide and lived there, how do you sleep at night knowing you are destroying somebody's land?[108]

Best practice recommendations

Consider all factors and the future capacity of the land:

Impact assessments must take into account qualitative, cumulative, social, cultural, and health factors that impact the daily life of the Dene. This involves listening and acting on warnings and predictions from the Dene. Impact assessments must include a restorative justice component. The far-reaching impacts of development must be acknowledged and the environmental studies and standards of remediation must include a broad mandate of issues.[109] This includes raising the standard of the definition of remediation. Mitigation and reclamation strategies must be planned and funded and be implemented long after projects are deemed to be completed. Impact assessments must be funded to ensure ongoing Dene monitoring of environmental quality.

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[107] Simpson, "Anticolonial Strategies", *supra* note 25 at 379.
[108] Bedard, *supra* note 83 at 134.
[109] Sandlos & Keeling, *supra* note 99 at 285.

6. Problem: Not integrating DK into decisions

DK's meaning and use can be irrevocably changed as it becomes used, integrated, or considered by outsiders. Scientists, adjudicators, and those outside of Indigenous communities who do not understand or accept DK's inferences or conclusions are liable to discount it as anecdotal or unreliable. This is why the interpretation of DK must always be in the hands of the communities. For example, in a study of an environmental assessment process in British Columbia, the industry proponent claimed to have appropriately considered IK because it considered all comments made by Indigenous Elders as IK; this has been criticized as an effort to pick comments that were less controversial or supported the proponent's purpose, and to de-emphasize dissenting opinions to neutralize significant issues.[110]

Thus, the incorporation of DK is not simply a benign or win-win scenario for all involved. For example, industry fears facing project opposition, and Indigenous groups fear that their DK could be coopted and used against them. Researchers have commented that traditional land use studies and environmental impact assessments are "extractive" in that they take knowledge from communities without the guarantee of giving back or protecting Treaty and other rights to land and livelihood.[111] Consequently, Indigenous groups often do not want to participate in a process of negative reciprocity. Once a study is completed and shared with the corporate sector, proponents are free to represent specific pieces of community knowledge for their own ends without regard to cultural context. This results in traditional land use information being misrepresented and used inappropriately.[112]

The method of obtaining DK must be planned and conducted in a respectful manner. An example of how Indigenous concerns were disregarded and opportunities for IK sharing were lost is found in a case study of an environmental assessment in British Columbia.[113] The problematic practices that occurred in this environmental assessment included:

- attendance was restricted;
- the meetings were summarized through general notes, but no verbatim notes or audio recordings were taken;
- the information that was recorded was selective and omitted many of the nuances, arguments, and discussions;
- an industry representative chaired the conversation and controlled disagreements; he would characterize whether Indigenous participation was a comment or question and would direct the industry representative whether to respond to it or not; stories of how the land was being degraded were characterized as comments or opinions and were not given a response;

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[110] Bowie, *supra* note 18 at 67.
[111] Baker & Westman, *supra* note 103 at 145.
[112] *Ibid* at 147.
[113] Bedard, *supra* note 83 at 183-186.

- the stated goal of the hearings was to obtain information or data; when Indigenous presenters became emotional, the Chair responded by stating that the Panel "has a pretty good sense of your concerns", as opposed to encouraging the individuals to continue and express all of their concerns;
- the chair described Indigenous presentations as beliefs, views, thoughts, and perspectives, which enabled him to minimize their concerns as idiosyncratic experiences rather than their information situated within IK.

Best practice recommendations

No DK interpretation without Dene involvement:

To promote effective relationship building, DK must be acknowledged, addressed, and kept confidential, if requested.[114] If proponents or government representatives are unsure of how to interpret the messages they are hearing, they should seek clarification and understanding rather than corroboration or refutation.[115] In addition to inviting Elders and land users and providing translation services, the conversation must not be constrained or dictated by proponents. Conversations and consultations could be moderated by a mixed Circle of Dene and industry. Environmental studies could be guided and supervised by a Circle of Dene, including Elders to monitor the role that DK is playing in the research. There must be regular meetings between Indigenous groups and proponents to ensure there is mutual understanding. As the Chief and Council of Attawapiskat First Nation stated in the context of an environmental assessment, "while De Beers may consider itself to be in a position to present its understanding of our traditional knowledge, as holders of that knowledge, we will assess whether De Beers' understanding is correct."[116]

"Do your homework"[117] (research requirement):

Government and proponents must also do their part to inquire into the DK that has already been shared. There have been many well-documented processes over the years to obtain IK and Indigenous viewpoints, such as the Royal Commission on Aboriginal Peoples, as well as the Truth and Reconciliation Commission and the Berger Inquiry. It is important for government and industry to learn what has been said by the Dene communities in the past before approaching a community to obtain the same information again. Communities are always in the position to have to teach, which can become exhausting when the community's position on basic issues such

[114] A Dene conference participant suggested that personal stories or events of a personal nature should be kept confidential: Dettah DK Conference, *supra* note 32.
[115] L Failing, R Gregory & M Harstone, "Integrating science and local knowledge in environmental risk management: A decision-focused approach" (2007) 64 Ecological Economics 47 at 50.
[116] Bowie, *supra* note 18 at 133.
[117] Dene conference participant, Dettah DK Conference, *supra* note 32.

as environmental protection has not changed. As a Dene member states, "we are still the stewards of the land and environment. … The problem isn't a lack of input. The problem is that government doesn't give [our DK] weight".[118]

Act in good faith:

Many Indigenous people have become skeptical of each new government initiative to renew the relationship with Indigenous people, when tangible results are rarely seen and mutual trust is not developed. Government and industry have been criticized for throwing around feel-good words; however, these words ring hollow if there is no long-term funded commitment to ongoing engagement on the community's terms. Government and industry should not claim something to be a partnership if the project has been pre-approved, without Dene involvement, and the process is already set in stone. If environmental management were a true partnership between government and Indigenous people, then the government would not need to approach communities asking how to start the relationship from scratch. Government must also approach communities with knowledge and acknowledgment of the failures and injustices of past policies. Healing and reconciliation require an acknowledgment of harmful impacts of the historical and current relationship between settlers and Indigenous people, and the promise not to repeat them. Building relationships and future policies with the Canadian State is not easy for many reasons. It is important for government to build relationships with this honesty, which will lead to the development of mutual trust.

Visit and learn from Dene communities in person:

Differences between Indigenous and non-Indigenous worldviews make collaborative decision-making difficult. The Dene insist that government and non-Indigenous proponents visit Dene communities to see how the Dene value and interact with the land. Environmental decision-making and joint drafting require understanding the environment from the Dene perspective. A Dene member described it this way:

> Imagine that the government really wanted to learn how to play baseball but refused to actually play the game. Imagine if they engaged with baseball teams and insisted that we describe to them again and again what it's like to hold a bat, pitch a ball, etc. You can't teach someone to play baseball just by telling them the rules. They have to play it. This is what it's like when the government asks us to tell them about our protocols, our DK, and how the environment is important to us. This won't work. Stop coming back to us asking for information and asking us to teach you; it will never make sense. Stop asking us to teach you if you will never go out onto the land. You have to live it. You have to get out of your comfort zone and ask us to take you

[118] Dene conference participant, Dettah DK Conference, *supra* note 32.

> out onto the land. This is the only way you will understand what's fundamental to us. Our interpretation of the land is different. When you ask what's important to us, it will be misinterpreted. We might say it's important to us to have a relationship with the Creator - but what does that look like? You might think it means prayer or a church - but for us, it's about land. Things are getting lost in translation because of differences in values. We cannot have knowledge extraction and misinterpretation. The Dene cannot remove themselves from the land. You cannot understand without us there.[119]

Government needs more than just a briefing note or a video about the Dene in order to claim they understand Dene concerns. Government must bring their technicians to the land and to the communities. Proper protocols must be followed. Conversations should take place in culturally appropriate settings, which could be in an office, but also out on the land. Government must also listen to the community members' stories and acknowledge that stories are being shared for a reason, which is to inspire action and change.

Stable funding:

To ensure that DK is obtained in a respectful and balanced way, consultations must be adequately funded. The development of policies and protocols should also be supported. Dene leaders are extremely busy; meanwhile, government departments have teams of people devoted to drafting, policy analysis, and engagement. Dene communities need equal resources in order to process the information and properly engage. Dene communities must also be compensated when sharing DK to acknowledge the value of DK and the time and energy it takes to share the DK.

Ethical standards for engagement:

Research studies should, at minimum, abide by ethical standards. An example of important ethical standards is the "Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans", Chapter 9, which involves ethical standards for research involving Indigenous peoples.[120] There are also other research guidelines that could be applied or developed. An example from the prairies is OCAP®, a policy created by the First Nations Information Governance Centre. The acronym stands for ownership, control, access and possession. The

[119] Dene conference participant (paraphrased), Dettah DK Conference, *ibid.*

[120] Canadian Institute of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada, "Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans", December 2014.

message behind OCAP® is that First Nations must have control over data collection processes in their communities, and that they own and control how this information can be used.[121]

Research and DK protocols:

The Na-Cho Nyak Dun Government in the Yukon protects its documented DK by maintaining a database of documented DK, which serves as the first point of contact for requests to access community DK. The Na-Cho Nyak Dun restricts access by preventing reproductions of documentation or electronic exchange of information. It protects against unauthorized disclosure by limiting information access to authorized employees, by specifying which additional persons may access information, and by allowing only users to view information.[122] This same idea is also being employed by the Yellowknives Dene First Nation ("YKDFN"). The YKDFN is digitizing its DK information into a GIS TK database program called "Trailmark" to help ensure its long-term safety and preservation in addition to making YKDFN's traditional knowledge more accessible to members and YKDFN decision-makers. This information provides invaluable support to the current land-claim negotiations and future land-use planning initiatives.[123]

It is important to note that many Dene communities will prefer to avoid documenting their DK as documentation splits knowledge away from its context. As L. Simpson stresses, "[r]ather than documenting knowledge we should be protecting the land and the Indigenous processes for the transmission of Indigenous Knowledge to younger generations."[124] Dene communities will continue to explore the option of audio and video recording for DK.

The Dene could also negotiate DK access agreements (also referred to as a protocol agreement, or memorandum of understanding) with industry or government representatives to create tailored policies and guidelines surrounding the collection and sharing of DK for a particular project or research request.[125]

Some communities have developed their own DK protocols and guidelines for future engagement with researchers, government, and industry proponents. The following DK policies apply to the Indigenous groups in the north:

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[121] First Nations Information Governance Centre, "The First Nations Principles of OCAP®", online: <http://fnigc.ca/ocapr.html>.
[122] Tesh W Dagne, "Protection of Biodiversity and Associated Traditional Knowledge (TK) in Canada: Ensuring Community Control in Access and Benefit-sharing (ABS)" (2017) 30:2 J Envtl L & Prac 97 at 115.
[123] Yellowknives Dene First Nation, "Traditional knowledge", online: <https://ykdene.com/land-environment/traditional-knowledge/>.
[124] Buckham, *supra* note 59 at 95.
[125] Dagne, *supra* note 122 at 110.

1. The Sambaa K'e Dene Band has published a policy regarding the gathering, use, and distribution of YÚNDÍIT'ÕH (Traditional Knowledge);[126]
2. The Gwich'in Tribal Council has published a Traditional Knowledge Policy;[127]
3. The Dehcho First Nations have published a Traditional Knowledge Research Protocol;[128]
4. The Mackenzie Valley Review Board has published Guidelines for Incorporating Traditional Knowledge into Environmental Impact Assessment;[129]
5. Inuvialuit Regional Corporation has published Guidelines for Research in the Inuvialuit Settlement Region;[130]
6. Northwest Territory Métis Nation has published a Traditional Knowledge Policy;[131]
7. The Government of the Northwest Territories has published a Traditional Knowledge Policy;[132]
8. In February, 2019, the Dene Nation unanimously passed two Motions to develop a Climate Change Traditional Knowledge Policy and a formal protocol and Dene code on Dene Traditional Knowledge.[133]

The Assembly of First Nations has also published a draft First Nation Ethics Guide on Research and Aboriginal Traditional Knowledge.[134] It outlines guiding principles on researching and using IK, such as informed consent, partnership, academic integrity, disclosure, equity and benefit sharing, and empowerment. This Ethics Guide and an AFN Discussion Paper on IK and intellectual property rights notes that western intellectual property regimes may not be a suitable

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[126] Sambaa K'e Dene Band, "Sambaa K'e Policy Regarding Yúndíit'ǒh" (26 February 2003), online: <https://nwtresearch.com/sites/default/files/sambaa-k-e-dene-band.pdf>.
[127] Gwich'in Tribal Council, "Traditional Knowledge Policy" (22 June 2004), online: <https://gwichin.ca/sites/default/files/gtc_final_tk_policy_2004.pdf>.
[128] Deh Cho First Nations, "Deh Cho First Nation Traditional Knowledge Research Protocol" (26-28 October 2004), online: <http://reviewboard.ca/upload/ref_library/DCFN%20TK%20research%20protocol.pdf>.
[129] Mackenzie Valley Environmental Impact Review Board, "Guidelines for Incorporating Traditional Knowledge into Environmental Impact Assessment July 2005" (July 2005), online: <http://reviewboard.ca/upload/ref_library/MVReviewBoard_Traditional_Knowledge_Guidelines_1247177561.pdf.
[130] Inuvialuit Regional Corporation, "Guidelines for Research in the Inuvialuit Settlement Region", online: <http://nwtresearch.com/sites/default/files/inuvialuit-regional-corporation.pdf>.
[131] Northwest Territory Métis Nation, "Traditional Knowledge Policy", (October 2012), online: <http://nwtmetisnation.ca/wp-content/uploads/2016/02/TKpolicy.pdf>.
[132] Government of the Northwest Territories (GNWT), Environment and Natural Resources, "Traditional Knowledge Policy", Policy No 53.03 (Yellowknife: Revised 10 March 2005), online: https://www.enr.gov.nt.ca/sites/enr/files/documents/53_03_traditional_knowledge_policy.pdf>.
[133] Motion No 18/19-005, *Traditional Knowledge*, February 11-15, Dene Leadership Meeting, Yellowknife NT, 2019, (adopted unanimously by Dene Leadership on 14 February 2019); Motion No 18/19-006, *Traditional Knowledge Policy on Climate Change*, February 11-15, Dene Leadership Meeting, Yellowknife NT, 2019, (adopted unanimously by Dene Leadership on 14 February 2019).
[134] Assembly of First Nations, "First Nation Ethics Guide on Research and Aboriginal Traditional Knowledge", online: <https://www.afn.ca/uploads/files/fn_ethics_guide_on_research_and_atk.pdf>.

mechanism to protect IK from theft, misuse, and misappropriation.[135] However, some Indigenous groups may prefer to adopt intellectual property protections for their IK.

Ultimately, if a Dene community chooses to document DK or create a protocol arrangement around sharing DK, the process and the DK must be under the complete ownership and control of the Indigenous group. Industry or government must follow the rules and guidelines of the community and should not attempt to apply DK to other ecosystems, other areas, or other projects than the ones the DK was specifically shared for.[136] DK must not be shared without permission and must not be used to interfere in a community's political affairs and rights claims.

Joint drafting:

If Bill C-69 receives Royal Assent, policies and regulations will need to be drafted. Dene Elders, knowledge holders, and technicians must be at the table to ensure the Dene perspective is incorporated. Community and regional-level meetings are the only way to jointly draft successfully. Dene leaders continue to emphasize the need to jointly draft any regulations and policies with the Dene. A Dene Elder suggested a consensus-based approach to jointly drafting policies between the Dene and other governments:

> The Elders said Canada can no longer make the laws by themselves… let's put our Treaty together and make it one: the government of Canada, the GNWT, the Dene First Nations. When you are asked to go fetch water down by the lake, you remove the snow, and then the ice to get to the water. We need to work together, to become one. We need to make this work. There is no right or wrong. We need to stop arguing. Work with your [non-Indigenous] brothers. Work together. Otherwise, it goes in circles. We need to make the territorial and federal government follow our law. Go around…keep going around until you agree.[137]

Conclusion

DK is distinct and integral to each Dene community and it must be respected as such. There are wide variations among the Dene Nations in how DK can be shared and used by Indigenous and non-Indigenous people. Government or proponents must engage with each community and throughout Dene regions to follow or develop DK-sharing protocols that respect the unique nature of DK. Regulations and policies must be jointly drafted and the use of Dene languages, with English translation, must be prioritized and properly funded by the governments and

[135] Assembly of First Nations, "Aboriginal Traditional Knowledge and Intellectual Property Rights", online: <https://www.afn.ca/uploads/files/env/atk_and_ip_considerations.pdf>.
[136] Croal, Tetreault & members of the IAIA IP Section, *supra* note 58 at 3.
[137] Dene Elder conference participant (paraphrased), Dettah DK Conference, *supra* note 32.

proponents. Proper sharing and consideration of DK is needed now more than ever in this era of resource development and climate change. Government and proponents have much to learn from the Dene, but learning can only occur in a respectful relationship that recognizes our knowledge and our sovereignty.

Mahsi Cho,

Norman Yakeleya
Dene National Chief
AFN Regional Chief, NWT