



Written Submission to the Standing Committee  
for Science and Research

Integration of Indigenous Traditional Knowledge and  
Science in Government Policy Development

**Immersing and Utilizing Indigenous Knowledges in  
Policy to Bridge Brain Science with the Future**

Submitted by:

Andrew Manitowabi (Mamaateshiins), B.A., B.B.A.

*Indigenous Initiatives Lead*

Canadian Brain Research Strategy

[andrew.manitowabi@canadianbrain.ca](mailto:andrew.manitowabi@canadianbrain.ca)

## RECOMMENDATION

The implementation and application of Indigenous Traditional Knowledge with governmental policy development is imperative for substantial growth in brain research.

## EXECUTIVE SUMMARY (NSWI MIIKAANHSAN: 3 PATHS)

The complexities of governmental policy development do not always align with the principles, values, and perspectives of Indigenous peoples in Canada. It is necessary for the Canadian government to display some flexibility in governmental policy development to reflect the realities, circumstances, and situations of what Indigenous peoples are currently experiencing. Forced assimilation, disparity in funding, and lack of capacity building has limited the ability for Indigenous Knowledges and Science to thrive. The Canadian Brain Research Strategy (CBRS) prioritizes its Indigenous Initiatives as an integral part of the national strategy on brain health and research. We propose a three-pronged approach for incorporating Traditional and Cultural Knowledges into governmental policy development: 1) Preserving and Restoring Indigenous Knowledges (IK); 2) Guiding and Mentoring Future Knowledge Sharers; and 3) Application of IK across Transdisciplinary Environments. We will outlay our approach to laying foundations for policy development with the rich and diverse nations of Indigenous peoples in Canada. Although our national strategy is focused on brain health and research, we believe it is applicable to many areas of government science policy.

## BACKGROUND

The Canadian Brain Research Strategy ([CBRS](#)) is leading a pan-Canadian effort to develop a national research strategy for brain and mental health. At the core of CBRS is the conviction that we need to foster better neurological and mental well-being for all Canadians. We achieve this by leveraging our strengths to drive progress by investing in a Canadian Brain Research Initiative.

Our brains define who we are, how we behave, what we strive for, and the ways we develop relationships within ourselves (spirit, mind, emotions, body), each other (honoring and following our traditions), and the land and water (reciprocity). Our brains

are integral to our capacities to live good lives and therefore, brain research has the promise to improve the lives of all Canadians.

Towards this goal, CBRS has engaged a broad coalition of stakeholders, including current and future research leaders, private and non-profit organizations, health charities, research funding agencies, industry, patients, and Indigenous partners. Through a consensus-building process, CBRS has developed a unifying framework that aligns and coordinates research efforts across the country towards a shared and pressing objective to understand the human brain for real-world impact.

In particular, amplifying the unique and diverse voices of Indigenous peoples in this country will allow for enriched brain research, as these voices have long been silenced via the colonial structures of Canada. As Western science comes to the realization that we must take a collaborative, transdisciplinary, open approach to make real advances in understanding complex systems like the brain, Indigenous Traditional Knowledges offer valuable insights into holistic approaches to health, including brain health and wellness. Indigenous cultures often view health as a balance between physical, mental, emotional, and spiritual well-being, emphasizing interconnectedness with nature and community. Applying this way of thinking in training the next generation of brain researchers in biology, physics, computer science, social science, and the humanities, will allow for greater and faster advances in understanding the brain. Canada has the opportunity to lead in honouring and respecting the vast, distinct, and rich Traditional Knowledge of Indigenous Peoples in Canada

## **APPROACHES TO OUTREACH AND ENGAGEMENT**

The CBRS formed the Indigenous Knowledges Holders Group (IKHG) in April 2021, at the onset of developing a national strategy by bringing together Indigenous leaders from across Canada with interests in brain and mental health research. We convened our first workshop in June 2021 to identify ways for Indigenous stakeholders to have an explicit voice in the initiative, to weave Indigenous knowledge into the fabric of the CBRS, and support Indigenous brain and mental wellness<sup>1</sup>.

---

<sup>1</sup> Perreault et al (2021) An Indigenous Lens on Priorities for the Canadian Brain Research Strategy. Can J Neurol Sci. [doi:10.1017/cjn.2021.501](https://doi.org/10.1017/cjn.2021.501)

Four guiding principles established in the workshop inform all aspects of our work:

1. Integration of Two-Eyed Seeing in research and education to combine Indigenous and mainstream knowledge.
2. Creation of partnerships embracing strength-based approaches and community engagement.
3. Understanding the diversity of Indigenous communities and their unique needs, desires, and challenges.
4. Strengthening connections between Indigenous researchers, investigators who conduct Indigenous research, and Indigenous communities.

CBRS Indigenous Initiatives is conducting ongoing Indigenous Outreach and Engagement on brain health and research. The initial phase (July 2022 - March 2023) involved seven intimate introductory meetings and small focus group discussions, with a total of 39 participants from various backgrounds, including Traditional Knowledge Holders, Indigenous scholars, brain researchers collaborating with Indigenous communities, community representatives, and health administrators. Concurrently, we orchestrated an Indigenous-focused Funders' Roundtable Discussion in May 2023, fostering dialogue between federal and provincial funding agencies, non-profits, health charities, private foundations, and brain research funding organizations. These groups delved into various topics, including Indigenous perspectives on brain and mental health, challenges faced by Indigenous communities, opportunities for collaboration, and the integration of Indigenous knowledge into research and policy initiatives.

Building on these foundational engagements, the second phase focused on gathering diverse stakeholders together into a workshop to discuss the integration of Indigenous and Western perspectives on brain health and research. The Two-Eyed Seeing Through Compound Eyes Workshop provided a platform for participants to explore how these two multifaceted knowledge systems can complement each other and contribute to a more holistic understanding of brain health and wellness. The workshop drew 118 participants across various fields, disciplines, and sectors including Traditional Knowledge Holders, Indigenous health organizations, government (Indigenous/Canada), academic researchers, funders, non-profit, industry and Indigenous community members (on-reserve/off-reserve/urban/non-Status). Through panel discussions and roundtable sessions, participants charted a path forward for research possibilities with Indigenous communities. The workshop worked to foster

relationships and develop concrete solutions for brain health research with Indigenous Peoples, with the aim of co-creating a pilot research project with an Indigenous community in our next phase of engagement.

From these consultations, we present 3 paths ahead as CBRS Indigenous Initiatives strives to acknowledge the past (including historical injustices), envision the future (healthy reciprocal relationships between Indigenous Peoples and Canada), and recognize the present where we can act now (appreciate Indigenous strengths in culture and language), in encompassing Indigenous Peoples in the Canadian brain research landscape.

## **1. PRESERVING AND RESTORING INDIGENOUS KNOWLEDGE**

For many communities across Canada, this is the last generation of fluent, firstborn Indigenous language speakers, who hold the vast majority of Traditional Indigenous Knowledge. Our perspectives, principles, and governance structures are built into our languages, and it is time imperative to preserve and restore IK via language and cultural revitalization. Canadian governmental policy development needs to alter the course of action in how languages are supported. Engaging with Traditional Knowledge Holders on a continuous and consistent basis is key to properly forging community partnerships; indeed, community IK is priceless, but Elders who should be financially compensated for their life work and maintaining the continuum of cultural knowledge. Acknowledging and Affirming Traditional teachings and lessons shared by communities is crucial to exploring partnerships and collaborations. Respecting and renewing those relationships are essential for reciprocal policy development.

### **Respect for Traditional and Cultural Teachings**

The heterogeneity of Indigenous knowledges has a richness and complexity, which is at times hard for Western ways of thinking to comprehend. Beliefs in different realms (such as the dream world), existence of beings on different planes (which co-exist with our physical world), as well as continuums of time (seven generations of ancestors/descendants), are not often in alignment with Western quantitative methods of research, program development, and project management. However, the blatant disregard (and often, disrespect) of these knowledges and teachings, cause Indigenous peoples to seek protection and safety away from the domineering nature of Western

protocols, procedures, and practices. Allowing spaces and room for flexibility for policy developers to engage with these teachings in a meaningful way, while still being recognized and honored by Western institutions and organizations in their achievements, is the only way for true reconciliation to occur.

### **Building, Maintaining, and Reaffirming Community Relationships**

In a similar manner to treaty-making, the relationships developed between policy developers and community should be refined by creating a reciprocal relationship, rather than being one-sided where governmental policy officials are taking from community.

### **Revising the Structure of Research Funding**

The current rigidity of research funding for Indigenous communities can create discomfort for Indigenous communities, as it operates on timelines which make it difficult to make lasting and continuous relationships for program developers and community members. Flexibility needs to be practiced and exercised to reflect the diversified needs of the heterogeneity Indigenous communities. Further, non-Indigenous researchers are being allocated funds meant for Indigenous research, which continues the cycle of Indigenous voices being silence; indeed, it should be a legal requirement for research grants to be given to Indigenous PIs and/or co-PIs. Putting less burden on strict reporting requirements, allows for more time and care to be spent with Traditional Knowledge Holders, who should take priority.

## **2. GUIDING AND MENTORING FUTURE INDIGENOUS KNOWLEDGE SHARERS**

The current generation of children and youth are the future Indigenous Knowledge sharers, who play an obligatory role in maintaining the continuum of IK, rooted in our stories, history, governance, culture, and language. As a result of the Residential School and historic colonialism, this continuum has been in disruption, discord, and at times disarray. Providing the resources (financial, human, and capital) to strengthen this IK continuum should occur across fields and disciplines, such as education, law, sciences, and governmental policy development. Especially in K-12 education, where there is broad implementation of provincial and federal educational guidelines, which do not incorporate enough land-based cultural activities (birchbark canoe marking, hunting, trapping, etc.), where most IK has developed over millennia. Also, during these activities,

there is history, genealogy, legends, familial bonding, which is passed on. Through these community bonding sessions, the effects of intergenerational trauma are counteracted and overcome, with self-confidence, self-respect, and ancestral pride. Recognizing that IK is at times in conflict with Western perspectives, there should be leeway in how IK is incorporated into current policies such as K-12 education guidelines, all the way up to procedures for funding-granting bodies, like CIHR and SSHRC.

### **Intergenerational Trauma**

Personal exploration, growth, and healing is needed by Indigenous peoples, as well as the rest of Canada, to overcome the institutional barriers of bias, discrimination, and racism which continues to persist in all layers of the fabric of Canadian society. As well, overcoming intergenerational trauma with babies, children, and youth via language and culture, is vital for Indigenous Knowledges to be passed down for the benefit of future generations.

### **Domination of Western Approaches to Policy Perspectives**

Overcoming the insistence and reliance on Western methodologies of data collection and analysis would allow for better collaboration between government officials and Indigenous community members (on-reserve/off-reserve/non-status/urban). Our ways of seeing the world are inherently different, and when Western approaches take precedence over the needs of Indigenous peoples, it leads to a feeling of resentment and oppression, which is highly reflective of the continued colonialism experienced by the people we are seeking to help. When conflict does arise, there should be mediation instead of arbitration. Storytelling is key in how conflicts are discussed and resolved.

### **Accessibility**

The level of access to resources and equipment for Indigenous communities was an issue which has highlighted in our outreach and engagement. Lack of availability to build infrastructure (such as an IK-educated work force, tools to enhance land-based learning, and integrating Indigenous Knowledges holders into these systems) allow the challenges of these disruptions to the continuum to persist, permeate, and pass on to next generations. Increasing access to tools, skills, and partnerships in research and policy development could help overcome some of the institutional barriers that underlie health disparities between Indigenous peoples and the rest of Canada.

## **Developing Human Capital & Capacity Building**

Investing into current Indigenous researchers, as well as future graduates, is needed for there to be ample human capital, when initiating new research, co-creating policies, and examining/evaluating the success of projects. Incorporating more Indigenous knowledge into K-12 education, easing burdens and requirements for Indigenous post-graduates, funding mentorship opportunities, and earmarking Indigenous positions at renowned institutions, would allow for more Indigenous human capital to take on the projects and workflows needed for Indigenous Knowledge Implementation to occur. It is essential that tools, such as platform development, are created alongside with Indigenous communities to better tailor the needs of each unique people and place.

## **3. APPLICATION OF INDIGENOUS KNOWLEDGE ACROSS TRANSDISCIPLINARY ENVIRONMENTS**

It is not enough to simply be knowledgeable about IK, one must be constantly utilizing the intelligence and expertise gained via our customs and traditions into making our own personal lives healthier, while influencing our communities to maintain balance. In Anishinaabe Aadziwin (Anishinaabe Culture), the concept is Mina Bimaadziwin, or “Good Life”. It is not a goal or checkmark to achieve; it is a continuous assessment and interpretation of our lives and how we should strive to better ourselves, our families, each other, and the entire community. We attain this by sharing and applying IK in our respective fields and disciplines, thus the Canadian government should not simply acknowledge IK in its systems but alter and shift the structures themselves to allow IK to thrive. Adapting Western systems to incorporate IK, while acknowledging we will have various perspectives on different things; however, the mutual respect that all our knowledges are equal needs to be held. There should be platforms and open data sharing amongst IK users to learn from one another. The Indigenous Knowledges held in Canada is vast, rich, and diverse; we are not all one, and should not be viewed in a monolithic way; as such, the solutions and models needed will vary across our geographies, locales, and belief systems.

### **Cultural Adaptability**

The need for Western research to think outside the confines of the scientific method is imperative for there to be any meaningful relationship-building between Indigenous communities and Western institutions.



### **Acceptance of Differing Perspectives**

Spirit exists outside of heart and mind; however, there is interconnectivity between these aspects of being. Measures of success in application of policy may differ from what has been established by Western institutions. Widespread acceptance of Indigenous Knowledge sharing methods such as praying, meditation, ceremonies, dance, and language transmissions (and how they are measured) should be accepted by Indigenous communities, organizations, and Western institutions; traditionally, these were ways of how we took care of ourselves and each other.

### **Knowledge Mobilization**

There needs to be continuous, ongoing, and relevant data sharing amongst Indigenous researchers, communities, and organizations. Opening dialogues and forums of discussion about how policy can be utilized as healing. Increased awareness of various brain conditions, and the availability of treatments, would allow for there to be deployment of ongoing and diversified research techniques which could potentially find solutions to the multitude of ailments afflicting Indigenous populations.

### **Varying Geographies and Politics of Demographics**

There needs to be recognition that Indigenous peoples come from varying backgrounds and demographics, such as on-reserve, off-reserve, urban, status, non-status, Metis, and Inuit people. Indigenous-led research, including methodology should take precedence over governmental records, at certain times. This affects funding models, levels of support, and research practices; thus, we should be able to conduct our own research, and these numbers be accepted by institutions and organizations.

### **Co-Creation and Continuums with Research and Care**

Allowing Indigenous communities to take lead on presented models of research, would enhance their ability to take ownership of the solutions co-developed in the community. Downloading responsibility to Indigenous communities, does not forebode well to a success of a project, if not enough resources (financial, human, and capital) are given to researchers, communities, and organizations within, to lead proposed projects properly and efficiently. Allowing more flexibility in time, for culturally-based solutions to evolve and grow within the community, will be more meaningful; thus, the rigidity of institutional practices must bend for prosperous progression in both research and care to occur.

## WALKING THESE PATHS

Balancing oneself in any trajectory and direction, especially in uncharted territory, can be daunting and astounding; indeed, we must rely on each in moving towards a reconciliatory relationship, which still faces its challenges and obstacles. Since time immemorial, Indigenous Knowledges have held the key to living a sustainable, prosperous, and continual life with the land and each other. We simply used what we needed, and left the rest for others, while maintaining our belief systems for the benefit of future generations. It is a critical time in human history as climate change, war, and economic disparities, risk our ways of living. Incorporating and integrating more Indigenous Knowledges into our ways of being, is crucial and fundamental to living *Mina Bimaadziwin* ("Good Life"); thus, the policies developed and implemented at the governmental level need to properly support this notion, without outdated colonial thinking, that "we know better for you". Articles 11-13, of the United Nations Declaration on the Rights of Indigenous People (UNDRIP), which was assented on June 21, 2021, outlines that the State must provide readdress through fair, transparent, and effective mechanisms to provide respect, affirmation, and recognition of Indigenous Knowledges. Governmental Policy Development is a mechanism for these Articles to be implemented; however, the belief that this process can occur is what needs to happen, and government officials must trust this process as well. It will take time, effort, and skills from all individuals, organizations, institutions, and Indigenous nations to work together, in a harmonious manner, to ensure the Integration of Indigenous Traditional Knowledge in Government Policy Development.