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Braids Are Stronger Than Twists: Strengthening Adaptive Resilience in First Nations Communities Through the Braiding of Knowledge Systems

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Retreating from Risk
Decision-supports for the equitable implementation of retreat to build climate resilience

Introduction

First Nation communities in Canada are disproportionately affected by climatic changes, including intensifying pluvial events, recurring wildfires, extreme heat, and severe floods.

Outdated colonial practices and systems, the intentional exclusion of Indigenous Knowledge (IK) from resilience frameworks, and unequal investment in First Nation communities are only some of the exacerbating risk factors.

In an era of reconciliation, this research upholds the necessity of recognizing why IK has been historically excluded, and how in more recent years IK has been acknowledged, yet its application has been forced to integrate within methodologies developed by eurocentric philosophies of thought; thus diminishing its holistic potential.

To envision a new way forward, the research team set out to identify pivotal literature incorporating IK, either through meaningful partnership or Indigenous-led research, and then sought to recommend pathways to advance this work further.

Background

Indigenous Knowledge (IK) is the cumulative body of knowledge, practices, and beliefs developed by Indigenous Peoples through generations of interaction with their natural environments. Rooted in oral traditions, land-based observation, and relational worldviews, IK encompasses ecological, cultural, and spiritual dimensions that are deeply embedded in specific places and communities (Battiste, 2002).

Unlike Western scientific paradigms, which often isolate knowledge into disciplines, IK systems are holistic, intergenerational, and emphasize the interconnectedness of humans, non-humans, and the environment (McGregor, 2004). IK is increasingly recognized as vital for addressing contemporary global challenges such as climate change and biodiversity loss, offering localized, adaptive, and ethical approaches to environmental stewardship (Whyte, 2013).

Respecting and revitalizing IK is not only a matter of environmental sustainability but also one of justice, cultural survival, and epistemic equity.

Research Objectives & Data Collection

The objective of this review is to a create a map of evidence for existing research, best practices, and theories as they pertain to the successful knowledge coexistence between Western Science and Indigenous Knowledge, especially in disaster management, and climate resilience frameworks.

This scoping review was conducted by screening peer-reviewed publications, against a strategic set of inclusion and exclusion criteria. Papers were evaluated based on their date of publication, the inclusion of Indigenous researchers or partnership with Indigenous community partners, epistemological relevance, and geographic location.

Results



The Past
Colonial Science & Exclusion of IK

- Pre-contact: Indigenous Peoples were stewards of the land with complex, knowledge systems.
- Colonization: IK is deemed primitive and lesser than Western Science.
- Initial inclusion: IK only acknowledged when it aligns with Western data

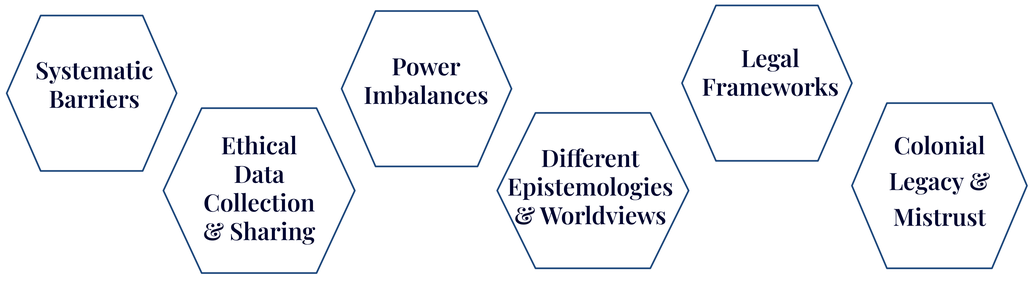
The Present
Recognition & Respect

- IK is recognized for its expansiveness
- IK is starting to be used in climate resilience, land management, biodiversity conservation
- Challenges remain: tokenism, lack of co-leadership, and ethical concerns.

The Future
A Braided Future: Ethical, Co-Led, Resilient

- Long-term, meaningful partnerships & not extractive consultation
- IK stands alongside Western science — not beneath it
- Focus on adaptive resilience to climate impacts
- Ethical application: relationship-led & place-based

Challenges with Integration



Conclusion | The Braided Path Forward

The research shows progress has been made; albeit gradually and inconsistently. Recognizing that the inclusion of IK not only benefits to holistic, systems-level climate solutions, but also plays a key role in Indigenous self-determination, supporting efforts to decolonize dominant systems, the research team strongly upholds the meaningful and intentional incorporation of IK (Simpson, 2014).

Indigenous Knowledge cannot be seen as an add-on to enhance Western science. IK was gathered for millennia before colonial contact, it has sustained generations of communities, and as a deeply complex and interconnected knowledge system, it should be considered equally as rigorous.

Reconciliation is not a destination but rather an ongoing partnership. IK helps to bridge the gap between research and practice, and strengthens the diversity of solutions to complex problems. (Bartlett et al., 2012; Evans, et al., 2014). We are stronger together.

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7 Generations refers to the belief that decisions made today should consider the wisdom of the past, and the well-being of the future, seven generations.

Reflexivity is a practice of self-examination for researchers to recognize how their biases and beliefs influence the research.

Two-Eyed Seeing is a Mi'kmaw concept that encourages learning by incorporating both Indigenous and Western ways of knowing.

Self Determination is the collective right to make decisions and freely pursue cultural, economic, and social development.

Reciprocity is an important principle in a culture of gratitude that emphasises mutual respect, humility, and interconnectedness.