



Promoting Indigenous knowledge and values for more sustainable water resource management

Background

The beliefs and values of Indigenous peoples can provide important insights into human relationships with nature. Indigenous worldviews can offer alternative solutions to restoring degraded ecosystems and suggest new frameworks for building a more sustainable, holistic and equitable approach to the management of natural resources. Efforts to bring about transformations to sustainability therefore need to include Indigenous worldviews, knowledge and practices, including these groups fully in decision-making processes through a more participatory and equitable governance approach.

This Knowledge Brief is based on a peer-reviewed article¹ in which the authors discuss the efforts of Indigenous peoples to contest freshwater management regimes that are based on Western concepts and ideologies. Research for the paper was based on a literature analysis of 'settler' societies, i.e. countries from which Western colonizers, or settlers, never left (e.g. Aotearoa New Zealand, Australia and Canada), where Indigenous peoples are minorities and where transformations to sustainability must confront the legacy of colonization. The authors explored several real-life

examples, with a particular focus on how the Maori people in Aotearoa New Zealand are promoting their values and aspirations for a more sustainable and holistic approach to water resource management.

Indigenous relationships with nature

Indigenous peoples have intimate relationships with the water, land and other natural resources on which they depend. In addition to sustaining their cultures and livelihoods, these resources form a fundamental part of their identities, and sustain their spiritual and physical wellbeing.

Many Indigenous societies view water as a living being, whose 'spirit' needs to be respected. For example, the Maori people of Aotearoa New Zealand trace their genealogy to a specific river, which is considered to be their relative. They have a strong sense of responsibility over the protection and maintenance of water to ensure the health and wellbeing of the entire ecosystem, not just its human inhabitants. This contrasts with the language of 'rights' that is generally used in Western (European) traditions, and the view of water as a simple commodity that is free to use as desired. Indigenous responsibilities towards water emphasize connectivity, respect and vitality, with degradation of the environment considered to be a breach of their duty of care over traditional resources.

Indigenous versus Western knowledge systems in water management

Indigenous governance and management

- Reflects local settings and shared social norms
- Views water as a living entity
- Connects human and non-human entities with reciprocal responsibilities
- Highlights spiritual significance, honour and respect

Western governance and management

- Governed by formal, rules-based institutional arrangements
- Views water as a resource for human use
- Describes humans as separate from nature
- Increasingly recognizes the value of water to environmental needs
- Management aims to protect future human and environmental use



Shared future

- Cumulative knowledge
- Subject to modification and verification
- Acceptance of ecosystem interdependencies
- Legal recognition of Indigenous beliefs

- Social, political, economic, environmental benefits for all



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Addressing inequity and injustice in water management

Indigenous peoples around the world have experienced a legacy of inequality and exclusion that often impedes their access to natural resources, basic services, justice and decision making. Marginalizing Indigenous knowledge and responsibilities in relation to water resources has contributed to the degradation of their freshwater systems, and this can adversely affect the capacities of Indigenous peoples to maintain their relationships with water, land and other resources, further eroding their cultural identities, health and wellbeing.

Despite their obvious benefits in terms of sustainability, Indigenous management approaches have been largely excluded from state-controlled water management structures in the past. However, the last 20 years have seen increasing recognition of the rights of Indigenous peoples through the adoption of international instruments, such as the United Nations Declaration on the Rights of Indigenous Peoples (2007); and national or resource-based governance, such as river basin management plans. This development is creating space for more equitable governance and decision making. Efforts to reintegrate Indigenous legal traditions are starting to allow these societies to assert their authority and implement their knowledge and practices to address freshwater crises, with multiple benefits for social, political, economic and environmental systems.

The gulf between knowledge systems is also beginning to be bridged through increasing awareness of the need for a more integrated approach to water management, encompassing participatory, stakeholder-led decision making and governance structures. This includes recognizing Indigenous worldviews and empowering Indigenous groups to become fully involved in the management of water and other resources in culturally appropriate ways, particularly in embracing water as a living, spiritual entity.

For example, in Aotearoa New Zealand, the Waikato River Authority comprises 50% government representatives and 50% Maori stakeholders. Plans for the future management of the river recognize the Maori concept of guardianship and the 'legal personhood' of the river, thereby incorporating Maori and Western knowledge in new co-governance arrangements.

Enabling transformations to sustainability

The creation of more equitable freshwater governance arrangements will require fundamental transformations, away from historical models and perceptions, to incorporate new institutional arrangements that can accommodate Indigenous worldviews. This will require efforts to overcome the barriers to effective co-governance, which include pre-existing power dynamics, unequal capacities, and cross-cultural communication difficulties. Practical implementation is therefore likely to be

challenging, contentious and frustratingly slow. New legal mechanisms, such as the personhood of resources, are also currently untested.

Efforts to enable transformations to sustainability therefore need to acknowledge the limitations and challenges of new, participatory water governance approaches to ensure all stakeholders – especially Indigenous peoples – are included equally in decision making. Indigenous views encompass much of what is currently missing in the transition to more equitable and sustainable water (and other resource) management approaches. Addressing equitable sovereignty and authority over resources is therefore fundamental to building a more sustainable water future for the planet.

More research is needed on the best methods of co-governance and co-management, with a strong

focus on implementation (instead of on policy/legal dimensions), assessment of existing co-governance arrangements, and how co-governance can be used to address emerging problems related to climate change and wider issues of social, environmental and gender justice.

Endnote

- 1 Parsons, M. and Fisher, K. (2020). Indigenous peoples and transformations in freshwater governance and management. *Current Opinion in Environmental Sustainability*, in press. <https://doi.org/10.1016/j.cosust.2020.03.006>

Key messages

- Indigenous knowledge and beliefs have, until recently, been largely ignored in formal resource management strategies, since they are perceived to conflict with established, science-based management methods. This is slowly changing, as the value of Indigenous resource management practices is becoming recognized.
- Indigenous peoples commonly perceive land and water resources as animate beings that must be respected to maintain their way of life, health and cultural identity. Including Indigenous knowledge systems in government and management approaches can be effective in preventing and reversing degradation of resources, thus benefiting livelihoods and redressing social, political and economic inequities.
- Enhancing Indigenous peoples' connections with and rights over their cultures and resources includes introducing new governance and management arrangements designed to ensure Indigenous groups can exercise their duties of care over their traditional landscapes. Such approaches include empowering them to take practical action to restore degraded freshwater systems.
- Western and Indigenous knowledge systems can coexist and different worldviews can be incorporated in novel resource management models. These need to overcome the practical difficulties of co-governance (power dynamics, capacities, communication problems) and accept Indigenous knowledge as having equal value.
- There is a key role for the social sciences in researching how collaborative and co-management approaches can address the challenges posed by environmental degradation, climate change and inequalities.

This Knowledge Brief is one of a series based on recent peer-reviewed research on social transformations to sustainability. For more information and citation details, the article on which it is based is available at <https://doi.org/10.1016/j.cosust.2020.03.006>. The Knowledge Brief has been prepared by the International Science Council (ISC) Transformations to Sustainability (T2S) programme secretariat in collaboration with Meg Parsons and Karen Fisher. The views it expresses do not necessarily represent those of the International Science Council, nor of the programme's funders, the Swedish International Development Cooperation Agency (Sida). For any questions regarding this document, please contact Meg Parsons, meg.parsons@auckland.ac.nz.

The T2S programme understands transformation as a profound and complex socio-ecological process with both short- and long-term implications for the sustainability of natural and social systems. Find the full series of Knowledge Briefs at: <https://transformationstosustainability.org/document-type/briefs/>.



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