

What Role for Traditional Knowledge in the Conservation of Marine Biodiversity in the Arctic High Seas?

By: Mana Tugend

Matter commented on: the Role of Traditional Knowledge in the Conservation of Marine Biodiversity in the Arctic High Seas

1 Introduction

The rapidly evolving ocean technologies and environmental changes induced by anthropogenic climate change have led to unprecedented pressures on the ocean, leading *inter alia* to ocean acidification, loss of biodiversity and pollution of air, water and soil. The need for better governance of human activities in the ocean space has been widely recognized for years as the world drastically evolved since the establishment of the current international legal framework for ocean governance, the 1982 United Nations Convention on Law of the Sea ([UNCLOS](#)). A process towards the establishment of an international legally binding instrument (ILBI) under UNCLOS on the conservation and sustainable use of marine biodiversity located in areas beyond national jurisdiction (BBNJ) is currently ongoing. At the moment and until the BBNJ agreement is finalized, more than 40% of the Earth's surface receives limited effective legal protection for its natural environment and functional ecosystems ([Brodie Rudolph et al.](#) 2020). The BBNJ negotiations represent a historical opportunity to build a just and sustainable legal framework for ocean commons relying on an ecosystem-based approach for the benefit of both ecosystems and the people depending on these for survival. Indigenous peoples especially rely on a rich biodiversity and a healthy environment to maintain their traditional lifestyles. They developed and hold a vast amount of knowledge called traditional knowledge (TK), an integrated part of an Indigenous people's identity that is transmitted across generations. This blog post wishes to address the question of the use of TK for the conservation of marine biodiversity in areas beyond national jurisdiction (ABNJ), a question currently addressed at the negotiations for the establishment of a BBNJ instrument. The scope of the discussion especially focuses on the incorporation of Indigenous peoples and TK holders with respect to conservation mechanisms in Arctic ABNJ – the high seas and the deep seabed located beyond the limits of coastal states' jurisdiction ([Ardron et al.](#) 2013). This blog post primarily focuses on the relevance of TK with respect to the establishment of area-based management tools (ABMTs), including marine protected areas (MPAs), in Arctic ABNJ.

2 Traditional Knowledge and the BBNJ Negotiations

The international community became increasingly aware of the growing threats facing marine ecosystems and biodiversity in ABNJ. There exists important legal and governance gaps in the existing framework to address current issues, and especially in relation to marine biodiversity located in ABNJ. To remedy this shortcoming, the UN is currently negotiating an international legally binding instrument under the UNCLOS specially focusing on the conservation and

sustainable use of BBNJ. The basis of the negotiations is constituted of four items, namely marine genetic resources, including sharing of benefits; ABMTs, including MPAs; environmental impact assessments; and capacity building and the transfer of marine technology. Four substantive intergovernmental conferences (IGCs) were scheduled from December 2017 to March 2020. The global pandemic however postponed the last IGC to 2021.

Indigenous peoples and local communities have acquired a vast amount of knowledge, TK, connected to the area within which they traditionally live. The definition of TK that will be used throughout this blog post is the following: “a living body of knowledge, practices, skills and innovations [...] passed down through generations continuously and in locally meaningful contexts by [Indigenous peoples and local communities] who act as creators, developers, preservers, guardians, and custodians” ([Mulalap et al. 2020](#)). There exists TK attached to various fields such as agriculture, health and medicine, environmental management, as well as hunting and fishing. It should however be noted that there is no definitive, internationally accepted definition of TK in international law and discourse.

The importance of TK with respect to ABNJ was mentioned multiple times during the BBNJ negotiations (see e.g., [IGC-1](#) and [IGC-3](#)) and several delegations have advocated for the incorporation of TK and its holders within the text of the future ILBI. For instance, Nauru, speaking on behalf of the Pacific Small Island Developing States (PSIDS), “called for the ILBI to include the role of traditional knowledge and Indigenous peoples in the conservation and sustainable use of BBNJ”, while the Federated States of Micronesia (FSM) emphasized on “the connectivity of traditional knowledge and its holders to marine species” ([De Lucia 2019: 8](#)). FSM [further suggested](#) that “traditional knowledge amounts to best practices in the conservation and sustainable use of marine resources within national and beyond national jurisdiction” ([FSM Statement at PREPCOM 3](#)). This reflects views that affirms that “knowledge, innovations and practices of [Indigenous peoples and local communities] have global importance in informing strategies for conservation and sustainable use of marine species and habitats, by enriching the diversity of available approaches, worldviews, and solutions, and by elaborating on principles that are of direct relevance for ABNJ governance” ([Vierros et al. 2020: 2](#)).

Indigenous peoples around the world have established a strong bond with their traditional lands, territories and natural resources, including marine areas and marine living resources ([Enyew 2019](#)). While marine areas significantly contribute to ensuring the food security of indigenous coastal communities, they also forge Indigenous cultural identity (*ibid.*). The Gwich'in Council provides for example that the Gwich'in, an Indigenous people living on the Northern American continent, “see [themselves] as an integral part of the diversity of the landscape. [...] [Their] well-being is linked closely with [their] ability to live on and adapt with the land. [...] A tremendous sense of belonging and purpose is experienced as [they] survive on the land” ([Fleener 2004](#)). [Mulalap et al. \(2020\)](#) further held that “Indigenous peoples are connected to ABNJ through ecological and oceanographic pathways that include traditional knowledge, cultural practices, stewardship activities and subsistence use of migratory species that cross jurisdiction boundaries.” The specific relationships that indigenous peoples have with their lands, territories and resources is difficult to envisage according to the western concept of law which considers nature and humankind apart from one another. The dominant western worldview has been described as the root of the global

collapse of biodiversity as it creates a division between humans and nature and encourages over-exploitation of natural resources (Enns in [Vidal](#) 2019). Indigenous conservation perspectives follow a holistic approach and therefore differ from western ones ([Iccarino](#) 2003). Requiring participation of all users and custodians (e.g., villagers, governments and other ocean users) of natural resources is fostered by a holistic view of the ocean and coast ([Vierros et al.](#) 2020).

Furthermore, Indigenous peoples are entitled to the recognition of their rights and rightfully demand greater inclusion in matters affecting them ([Cambou](#) 2018). Indigenous peoples possess social, cultural and economic rights enshrined in the 2007 United Nations Declaration on the Rights of Indigenous Peoples ([UNDRIP](#)) and other global and regional instruments pertaining to indigenous peoples, such as the 1989 Indigenous and Tribal Peoples [Convention No. 169](#) of the International Labour Organisation. The development of the rights of Indigenous peoples long focused on territorial rights, although the ocean is part of the global territory of a state. The BBNJ negotiations are an opportunity to incorporate the rights of Indigenous peoples at the international level in instruments dealing with the law of the sea. Indigenous peoples wish to see their TK used at the same level as western science in order to complement it rather than replace it ([Suveinakama](#) 2019) as both complete each other ([Mazzocchi](#) 2006). Using them alongside each other enables a more complete understanding of the use and value of an area, and involves community members in the decision-making processes through the use of their TK. It therefore seems accurate to conceive conservation strategies which are not limited by the sovereignty of independent states, principle underpinned by the international legal system, and that implement the rights of Indigenous peoples.

3 Traditional Knowledge and Biodiversity Conservation in the Arctic

The Arctic region is experiencing some of the most rapid and large-scale climate and other CO₂-related changes occurring anywhere on the planet. These include for instance diminishing sea ice causing habitat loss, changes in ocean chemistry due to melting permafrost and glaciers and reduced snow cover, methane release, and increasing sea surface temperatures. Encircled by five coastal states (Canada, Greenland (as part of the Kingdom of Denmark), Norway, Russia and the USA), approximately [2,8 million km²](#) of the Central Arctic Ocean (CAO) lie beyond coastal state jurisdiction and qualify as ABNJ. The BBNJ instrument will thus have significant implications for the marine Arctic. The Arctic region is home to over 500,000 Indigenous peoples, which represents about 10 percent of the Arctic population ([Arctic Centre](#)). They are spread across 3 continents, 7 countries and 30 million km². Arctic Indigenous communities include the Inupiat, the Inuvialuit, the Yupik and the Aleut of Alaska, the Inuit of Greenland and Canada, the Chukchi, the Even, the Evenk, the Nivkhi, the Nenets and the Sámi of Russia and finally, the Sámi of Fennoscandia ([Poto](#) 2016). Among these we count *inter alia* reindeer herders, hunters and fishermen. A commonality between all is their dependency on a rich biodiversity and a healthy environment to maintain their traditional lifestyles ([Neumann](#) 2011). An unsustainable use of high seas marine biodiversity will have an impact on biodiversity within national jurisdiction, including species and resources of importance to Indigenous peoples. For this reason, and more than ever as we experience drastic changes in earth systems in the Anthropocene, it is crucial to protect and preserve biological diversity through, but not limited to, the designation of ABMTs, including MPAs.

ABMTs, including MPAs, are one of the four topics being addressed under the BBNJ negotiations. Each ABMT possesses delimited boundaries within which given activities are regulated ([De Santo 2018](#)). MPAs are ABMTs established specifically “to achieve long-term conservation of nature with associated ecosystem services and cultural values” ([IUCN Definition 2008](#)). When managed effectively, MPAs are key and flexible mechanism for the conservation and sustainable use of marine biodiversity, but their conservation capacity is closely interlinked with the efficiency of the chosen governance model and its implementation in practice. MPAs do not only target conservation purposes, but also has the ability to sustain cultural, social and economic values and ecosystem services ([Farran 2019](#)). It is essential to develop protected areas that also take the cultural significance of the area for indigenous peoples into account. This cannot be achieved without the inclusion in decision-making processes of Indigenous peoples and their TK which has sustained the lives of Arctic communities since time immemorial, especially since TK is arguably crucial for ecological purposes. In fact, whereas the approach to conservation long rested on the exclusion of indigenous peoples from the protected areas, dispossessing them from their territorial rights, the current approach generally aims to be more inclusive of Indigenous peoples in protection mechanisms (although that is not true everywhere). The inclusion of various rights- and stakeholders is increasingly recognized as beneficial for the achievement of conservation objectives as it enables management decisions and planning to be more informed ([Sargeant 2015](#)). Incorporating the knowledge, culture and traditional practices of Indigenous peoples contributes to sustainable and equitable development as well as sound management of the environment ([Norwegian Polar Institute 2009](#); [Lieberknecht 2020](#)). Indigenous peoples’ TK attached to a given area is valuable in the overall process connected to ABMTs, from the identification of the area, to its monitoring and management. In the history of environmental conservation, Indigenous peoples were initially neither consulted nor considered when it came to the establishment of protected areas whether for ecological or recreational purposes ([Langdon, Prosper and Gagnon 2010](#)).

There is general convergence in the [draft text](#) for the BBNJ instrument that ABMTs, including MPAs, should be identified on the basis of the best available science, TK of Indigenous peoples and local communities, the application of the precautionary approach or principle and an ecosystem approach (see e.g., Article 5 and Article 16 of the draft text). The draft text further emphasizes that TK and their holders should be included in the entire process and life of ABMTs (e.g., in consultation and proposals, Article 18; in monitoring and reviewing, Article 21). This is [supported](#) by the Alliance of Small Island States (AOSIS). Furthermore, [FSM highlighted](#) that not only is TK relevant to ABMTs, but it is already recognized in several major and multilateral processes related to the BBNJ instrument, such as the [Convention on Biological Diversity](#), the [Nagoya protocol](#), and the [Central Arctic Ocean Fisheries Agreement](#).

The UNCLOS calls upon states to take measures to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life ([Part XII UNCLOS](#)). ABMTs, including MPAs, have primarily been established under coastal states jurisdiction. For instance, the [Tallurutiup Imanga](#) National Marine Conservation Area (NMCA) located in Lancaster Sound, Nunavut, Canada was negotiated in close collaboration with the Inuit people and even pushed for by Inuit communities who identified this area as culturally, socially and ecologically significant. Inuit Quaijimajatuqangit (IQ), also referred to as Inuit TK, was

essential in understanding and delineating the Inuit perspective of the area, producing socio-ecological holistic boundary recommendations. IQ will continue to be used to inform the management of the NMCA. Undoubtedly, TK is valuable for the establishment of MPAs within national jurisdiction of coastal states, but Indigenous peoples on the coast are also connected to ABNJ. This occurs through oceanographic, ecological and cultural pathways ([Popova et al. 2019](#)) that include TK, cultural practices, stewardship activities and subsistence use of migratory species ([Mulalap et al. 2020](#)). Negative impacts related to fishing, pollution and exploitation in ABNJ will be communicated through oceanographic, ecological, and cultural pathways TK holders are custodians of important migratory species and their habitats during at least a portion of their migratory cycles ([Vierros et al. 2020](#)). TK related to highly migratory species is crucial in understanding their life cycles, histories and migratory patterns, prey and predator relationships, and habitat preferences, and therefore in identifying areas to be protected ([Mulalap et al. 2020](#); [Article 24 UNFSA](#)). Connectivity in relation to MPAs is informed by connectivity in relation to species, nutrients and other marine processes, and Indigenous peoples have a reservoir of knowledge and experience about these processes. Indigenous peoples have experience and knowledge to feed into and share for the design and operation of protected areas.

The Arctic Council Working Group for the Protection of the Arctic Marine Environment (PAME) produced a non-legally binding framework offering guidance to states and pushing for international cooperation for the protection of Arctic marine biodiversity. This framework calls for the creation of a [Pan-Arctic Marine Protected Area Network](#), the purpose of which is to “protect and restore marine biodiversity, ecosystem function and special natural features, and preserve culture heritage and subsistence resources for present and future generations.” One of the Network’s goals is to safeguard the Arctic marine environment and enhance Indigenous peoples’ participation in the management and control of MPAs. The framework follows an ecosystem-based approach to management and supports the continuous incorporation of TK throughout the MPA Network planning process. The relevance of TK for resource management purposes is recognized in many Arctic Council documents including for instance the [Arctic Offshore Oil and Gas Guidelines](#) (2009), the [Arctic Marine Shipping Assessment](#) (2009), the [Arctic Marine Shipping Assessment IIc](#) (2013), the [Action for Arctic Biodiversity Assessment](#) (2013) and the [Arctic Marine Strategic Plan](#) (2015).

The fourth [Expert Workshop on MPAs](#) organized under the auspices of PAME explored ways to support Indigenous and local involvement, and Indigenous- and local-led marine protection in the CAO. Key challenges were identified, namely the meaningful involvement of Indigenous peoples and TK holders throughout the planning process attached to the MPA Network; addressing data gaps; speaking the same language; supporting the same initiative; and capacity for participation. Establishing ABMTs under the future BBNJ instrument will most probably bring similar challenges. While the relevance of TK for the establishment of ABMTs is not in question, the incorporation of TK and involvement of its holders in practice raises a range of practical questions. For instance, how to identify TK holders and/or their legitimate representatives under the BBNJ instrument? Once they are identified, the BBNJ instrument also needs to ensure that the seeking, transmission and utilization of relevant TK are done in culturally sensitive and appropriate ways.

4 Conclusion

Increasing pressures on the global ocean from cumulative impacts and climate change call for better governance of human activities. The BBNJ instrument represents a historical opportunity to fill regulatory and governance gaps with respect to the conservation and sustainable use of marine biodiversity in ABNJ. For this instrument to be just, fair and sustainable, the inclusion of TK and involvement of its holders are imperative. The use of TK in international environmental policy, including in the context of ABNJ and the BBNJ negotiations, requires the meaningful inclusion and involvement of Indigenous communities ([Vierros et al. 2020](#)). Meaningful engagement needs to occur from the local level towards the international level and vice versa. There is a general disconnect between the local and the international level. The importance of creating a dialogue and collaborative process treating each knowledge system as equally valid must be stressed in order to address power imbalances. The incorporation of TK and its holders in the final text of ILBI for the conservation and sustainable use of BBNJ would play a major role in securing the fulfilment of the rights of Indigenous peoples while at the same time strengthening ecological resilience in ABNJ. Involving TK holders and safeguarding their interests would also contribute to making ocean governance more inclusive and equitable. Important practical questions relating for instance to a culturally appropriate involvement of TK holders remain and will need to be answered.

Rapid and drastic changes due to climate change occur in the Arctic region and affect ecosystems and biodiversity. ABMTs, including MPAs, represent a key mechanism for biodiversity conservation. The Arctic Council working group PAME proposes a framework for the establishment of a Pan-Arctic MPA Network in order to contribute to the conservation of biodiversity. As the Arctic region is home to many Indigenous peoples, the framework for the establishment of an MPA network in the Arctic stressed the importance of TK and its holders for the Arctic marine environment. Their incorporation and involvement are in fact one of the key objectives of the Network. To date, individual high seas MPAs can be established by the collective action of several willing states in conformity with the UNCLOS ([IUCN 2005](#)). The BBNJ instrument is expected to facilitate the establishment of ABMTs in ABNJ, which may in turn facilitate and support the establishment of the Pan-Arctic MPA Network. However, the region will continue experiencing climate change impacts and concrete steps towards the establishment of a network in Arctic ABNJ could still be long. Until the ILBI is adopted and given the rapid changes occurring across the Arctic, the question remains whether proactive steps should be taken in the Arctic to address the current ecological challenges.

Acknowledgment: Research for this blog post was funded by NPI grant nr 66005.