

A Proposal on Enhancing Arctic Resilience through Eliciting Indigenous Knowledge on Observing

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Since the Arctic region warms up three times faster compared to other regions of the world, the development of expedient adaption and response strategies becomes an imperative process in which all actors are centrally preoccupied. Therefore, general knowledge gaps such as insufficient studies regarding different spatial and temporal scales and limited connectivity between theoretical and empirical studies are needed to be addressed in which humanities research is further promoted.

Resilience is defined by the Arctic Council as “*the capacity of communities and systems to recover and restore themselves from various kinds of crises and disturbances*” (www.arcticcouncil.org). The term resilience was emphasized as a priority during the Swedish Chairmanship of the Council (2011-2013) as well. In order to establish a common ground for the unification of resilience efforts, the Arctic Resilience Action Framework (ARAF) was developed in May 2017. However, it is also highlighted as a challenging process since there are “many Arctics”. In contrast to the sparse population and remoteness of the Canadian Arctic, the Russian Arctic consist of a combination of densely and sparsely populated regions while the Nordic Arctic has interconnected regions and a relatively high population which indicate a multilateral Arctic setting (Sergunin and Konyshchev, 2015). Accordingly, in addition to natural variability, logistics, international scientific cooperation, funding, the complexity of operations as well as the availability of expertise present a number of complexities for an inclusive Arctic research process.

On the other hand, traditional knowledge, which has been generated by the local people residing in the region, can be considered as a valuable source of information both for marine areas and mapping the trends of biodiversity in the Arctic. As a result of residing in the region throughout centuries, indigenous communities hold several methods of prediction most of which are grounded in their accumulation of tacit knowledge. Although the potential of traditional knowledge has previously been recognized, developing suitable methods of gathering and eliciting tacit knowledge grounded in indigenous knowledge accumulation necessitate further exploratory research to be conducted by researchers especially from the fields of social sciences

and humanities. Besides, monitoring Arctic biodiversity, identifying accurate causes of change as well as developing expedient measures to enhance resilience require an adaptive and inclusive governance framework. Hence, there are several attempts to utilize their traditional knowledge such as the Circumpolar Biodiversity Monitoring Program but the outcomes have remained relatively inefficient mainly due to lack of sufficient support and funding. Moreover, there is still limited knowledge about the non-indigenous population in the Arctic which results in a rudimentary understanding of both traditional and non-traditional processes of knowledge creation.

Being defined as “*the use of scientific interactions among nations to address the common problems facing humanity and to build constructive, knowledge-based international partnerships*” (Fedoroff, 2009), science diplomacy enables an inclusive (holistic), interdisciplinary and international research process that would promote utilization of traditional knowledge while enhancing resilience efforts.

To sum up it is recommended that:

- Initiating interdisciplinary studies with the attendance of indigenous communities, local businesses, and policymakers while elaborating the details of the governance framework,
- Inviting social scientists to conduct further exploratory research in order to utilize tacit knowledge of local people particularly for weather and sea ice prediction,
- Increasing the numbers of international projects such as Arctic PASSION (Pan-Arctic Observing System of Systems),
- Developing an international funding system that would prioritize creation, engagement, and implementation of projects related to indigenous knowledge while integrating recent trends and technology in Arctic monitoring,
- Establishing a Science Diplomacy Working Group within the Arctic Council to lead, coordinate, and monitor these endeavours would become a key for the unification of resilience efforts towards the Arctic.

References

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