Community engagement in Ilulissat: Reflecting on the past six years of collaboration with locals.

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Over the course of the Nunataryuk project, 2017-2023 (EU Horizon 2020 nr. 773421), we have formed close collaborations with community stakeholders including the municipality of Avannaata and other public sector agencies, private sector entities, cultural institutions, and local community members.

The Icefjord, Ilulissat, Disko Bay, 2023. Photo by Joan Nymand Larsen

Close collaboration and co-production have been central to the methodological approach employed in our multidisciplinary and multi-stakeholder driven permafrost project. This approach has been integral to achieving a legacy for our research.

In our fieldwork in Nunataryuk, acknowledging complexity has been particular important. Multidisciplinary teamwork with backgrounds ranging from economics, anthropology, engineering, psychiatric nursing, medical sciences, and community development, has been crucial. At the same time, the demands placed by time and how we engage with locals have been significant. Learning from each other, especially when different types of knowledge converge in co-production and across disciplines, has taken its time in the field and working across disciplines, even in optimal circumstances, has been challenging at times due to differing expectations. In Nunataryuk this interdisciplinary approach was however essential given the nature of the societal challenge in focus and the sheer complexity of our research objectives. It was aided by our prior knowledge in West Greenland, as several of us had an established network of contacts and stakeholders to work with.

Our first meeting with the community of Ilulissat took place in April 2018, after the kick-off of Nunataryuk in November 2017. We were invited to a scenario-building workshop led by Dr Morten Rasch from University of Copenhagen entitled “Sustainable Adaptation to Climate

Change and Globalization in Disko Bay, West Greenland – Identifying Opportunities and Threats". The workshop, conducted in Danish and Greenlandic, had about 40 participants - scientists and local community members (including fishers and hunters from Qeqertarsuaq island). It was an invaluable opportunity for the two of us to meet representatives from government, industry, the private sector, and local institutions, to kick-start the scoping work for Nunataryuk, and to establish a network of contacts. This enabled us to develop close report with several stakeholders at the onset, and a better understanding of their key issues and challenges.

Once we began the actual Nunataryuk research there was already considerable trust built among researchers and locals because of these earlier engagements with local stakeholders and rightsholders, which helped facilitate the planning for the first community event in 2019. This 2019 workshop was designed to inform and discuss questions related to our research plan, and to identify critical issues and challenges to linked to the field work and co-production with local stakeholders.

Consequently, co-production was structured around several central pillars. The first one laid the ground on what to do by acquiring knowledge about issues and challenges, as well as the social, environmental, and economic background, utilizing methods such as scenario workshops and scoping exercises with the local community. The second pillar made sure that our dialogue and discussion throughout the work were grounded in trust, fostering sharing and appreciation of different types of knowledge, and respecting their value in arriving at meaningful results for adaptation strategies and indicators. Co-production has also included youth and the elderly, via our engagements with the schools, other educational institutions, and even a knitting club, and public community events. The third pillar facilitated inclusion of different points of view, for each workshop we arrived with very defined goals and objectives that were articulated ahead of the field visits and in consultation with our network of stakeholders, many of whom would provide critical advice on many aspects of the field plans. Finally, the fourth pillar fostered mutual learning, as we all learned together throughout the process – scientists and stakeholders.

On October 24-29 2023, right before the end of the project, we revisited Ilulissat, Disko Bay, for a final community engagement with the purpose of presenting final project results and to engage stakeholders in discussion on main results from several previous field seasons. Special emphasis was placed on presenting data on adaptation and indicators to facilitate a process for validating the results and to provide an opportunity for researchers and stakeholders to end the project in a community engagement to reflect on what had been accomplished, as well as to look ahead to new projects starting up in 2024, among others the EU Horizon Europe ILLUQ project. Future projects may include collaboration with many from the same network of stakeholders. The fieldtrip and the opportunity to help verify key results and to engage in discussions was highly appreciated by the network of local stakeholders, who have participated activity in co-production activities since fieldwork commenced in the region in 2018. For several of the stakeholders this was a long-awaited opportunity to discuss and reflect on key results relevant to their region.

Ilulissat Icefjord and town, 2023. Photo by Joan Nymand Larsen

Our recent field visit expanded on fieldwork on indicators and adaptation completed in January of this year, including a community risk workshop also held in January, organized between DTU, SAI, and NordRegio. This workshop had a focus on risk evaluations, and verification of key risks and hazards from permafrost thaw and included an exercise to rank key risks and hazards based on stakeholders´ perceived importance of those risks for the community.

Community workshop in Ilulissat to discuss key risks, adaptation, and indicators. 2023.
Photo by Joan Nymand Larsen

As part of the co-production process, returning with results and facilitating joint reflection is an important final step. As we returned to Ilulissat in October this year we found that locals were open and welcoming to discuss all findings from our permafrost research. We met with 14 representatives with whom we have co-produced since 2018. In addition, we had more informal discussions with other stakeholders within our local network. In community settings and in open dialogues with locals we presented key findings on risks, adaptation strategies, and indicators of impacts. Community settings ranged from very formal to informal, and even gathering over coffee at the local café. Opening for a variety of settings has been important as a way of being as inclusive as possible, and to reach those who are ordinarily difficult to reach, and who might not want to share their knowledge, stories, insights, and perspectives in other larger or more open

settings. In discussion with local stakeholders from industry, the private sector, and government, fieldwork results on adaptation and indicators were validated. We also received confirmation of interest in continuing collaboration in further and related research activities.

A current governance challenge for Ilulissat involves the construction of a new road to the new airport. An implication of this road is the necessity to relocate the water reservoir, requiring investments in new pipes to transport water from a more distant reservoir further away from town. Relocating the water reservoir can be beneficial in a long-term perspective given the risk of a potential increase in saline content due to permafrost thaw. However, the ongoing challenge lies in aligning the costs with available resources and identifying the needed funding for new pipes.

Slumping buildings in Ilulissat due to permafrost damage. Photo: Andreas Xion Magnussen Griis, Ilulissat

Several stakeholder interactions from the municipality and other public institutions confirmed the validity of the Nunataryuk project's results, indicators, and adaptation measures. They emphasized the importance of collaborative efforts in dissemination, awareness-raising, and expressed a commitment to ongoing collaboration in future research. The schools emphasized the significance of education and knowledge, expressing a desire to continue working with us and to involve students more actively in the future. Stakeholders from the private sector, including construction and transport companies also verified the project's results in Ilulissat and declared interest in continuing collaboration in the context of new project funding.

The scientific assessment encompasses the community's adaptive capacity, long-term planning, and short-term strategies. While many challenges arise from the changing landscape, it is not a lack of technical solutions that hinders progress. Instead, the primary obstacle lies in the insufficient allocation of human and financial resources to effectively address permafrost-related issues. Addressing permafrost challenges requires a strategic allocation of resources. Many communities possess the technical knowledge to mitigate the impact of thawing permafrost, but

without adequate resources, these solutions remain out of reach. This bottleneck in resource allocation impedes the implementation of effective strategies, hindering the community's ability to adapt to the changing environment. Isolating the cost solely attributed to permafrost is a complex endeavour. Climate-related factors, beyond permafrost thaw, contribute to damages in various forms, including impacts on infrastructure and hunting routes. Distinguishing the specific economic consequences of permafrost-related issues from broader climate influences poses a considerable challenge, requiring a nuanced understanding of the interconnected factors at play.

In meetings with representatives for the municipality we were able to verify many of our results on adaptation and indicators. The complexity of developing robust and measurable indicators combined with the challenge of isolating the impact of permafrost thaw, led many to comment that more work needs to be placed on this in the future. Housing, infrastructure, power generation and water supply were all areas addressed by several stakeholders, and topics related to maintenance and repair costs were emphasized as indicators of permafrost thaw, thus verifying our interview results earlier in the year. Most agreed that there is a need for more focus in the future by the municipality and other stakeholders on devising measurable indicators that fit the specific local context. This also came in response to reflections on the difficulty of isolating the cost specifically attributable to permafrost as other climate related factors also cause damages to e.g. infrastructure (but also hunting routes etc.).

New airport under construction and terminal building, Ilulissat, Disko Bay, 2023. Photo by Joan Nymand Larsen

The Ilulissat Icefjord, the nature, and the ocean surrounding the area and its meaning to locals has also been explored over the course of our project, as we interviewed fishermen and hunters, skippers on trawlers, tour boat operators, and locals enjoying nature. Similarly, before leaving Ilulissat we reconnected with a local tour operator to share our results on permafrost thaw and the impact on culture and closeness to nature. Even as a very experienced driver, with his team of 12 sled dogs, the operator expressed concern for the future of Ilulissat. He had participated in a climate conference in town just a month earlier where he provided testimony to the changes experienced by locals. We joined him on a dogsled tour to an area where permafrost thaw can be readily experienced, and during the break, before heading back, he talked about his experience with tourism, opportunity to engage in cultural activities, going dogsledding, and his concerns for the future and the next generation. He talked about how dog sledding has become impacted

by permafrost thaw, and how locals and private tour operators find alternative routes to avoid areas where accidents can happen due to permafrost thaw. Together we were able to verify that climate change impacts have changed the amount of time dog sledding and snowmobiling can be safely done, and particularly, that it may take longer to get to hunting and fishing grounds due to necessary detours.


Dogsled travel by Ilulissat, Disko Bay, Greenland. Photo by Joan Nymand Larsen

The 5-year-old grandson had joined us on the tour to experience an important cultural tradition increasingly threatened by ongoing climate change in the region, which creates concern among many that engaging in these types of activities will become increasingly more challenging. The reality was clearly understood by the grandson despite his young age.

We can look back to a very special field site where we have had the opportunity to collaborate on some of the most critical climate challenges facing the arctic coast today. We have established extensive networks with highly knowledgeable, and informed stakeholders, who have contributed so generously of their time to engage with our interdisciplinary team in a variety of ways. Together we have discussed solutions to address the impacts of climate change where changes are already affecting local lives, their culture, economy, and society.

Leneisja Jungsberg and Joan Nymand Larsen selfie by the new airport construction, 2023.