

Marine-Based Research in a Changing Climate:
Lessons and Methods for Community Engagement from Nunatsiavut, Canada

By

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List of Abbreviations

IRC: Inuit Research Coordinator
NG: Nunatsiavut Government
NGO: Non-Governmental Organizations
OFI: Ocean Frontier Institute
PI: Principal Investigator
SNF: SakKijânginnaKullugit Nunatsiavut Sivunitsangit (Sustainable Nunatsiavut Futures) Project

Abstract

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Historically, Arctic-based research has corresponded to extractive methods that provide little benefit for local communities. To amend the effects of this history, researchers are increasingly encouraged to focus their efforts on ethical and meaningful engagement with community members to develop projects that support local goals. This thesis draws on accounts from Inuit community members, government officials, and researchers working in Nunatsiavut, to explore what ethical and meaningful community engagement may mean in the context of a large-scale transdisciplinary project. This was done through conducting 27 interviews with a variety of participants involved in or associated with the transdisciplinary SakKijânginnaKullugit Nunatsiavut Sivunitsangit (Sustainable Nunatsiavut Futures) Project. Drawing on interview data, this paper examines differences and similarities in how project members and partners engage Inuit community members, and how Inuit members of the project team have experienced these engagements. Interviewees were identified as representing six different positions (Nunatsiavut Government Members, Inuit Research Coordinators, Natural Scientists, Social Scientists, Project Leads and Project Partners). Community based government officials and Inuit Research Coordinators emphasized that extractive forms of engagement have the potential to negatively impact communities. To minimize the likelihood of such negative effects, all individuals were clear that a) relationship building, b) using plain language and c) acknowledging mistakes made in publications should be core considerations for researchers when it comes to ethical and meaningful community engagement. Using SakKijânginnaKullugit Nunatsiavut Sivunitsangit as a case study, this analysis informs a deeper understanding of how both large-scale projects and individual researchers can work in ways that support community needs.

Keywords: Nunatsiavut, Community Engagement, Land-Sea Connection, Climate Change, Arctic, Inuit Self-Determination

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Introduction: Unpacking Community Engagement and Arctic Research

As environmental changes intensify in the Arctic region, outside researchers are increasingly looking toward localized Inuit traditional knowledge to understand its impacts on the marine environment (Kourantidou et al., 2020). However, past research relationships with Inuit communities have been largely extractive (Coates and Broderstad, 2019). Specifically, there has been a long history of researchers coming into Inuit Nunangat with a fixed idea of projects, who view the people living in the region as mere “subjects not directly involved in research practices (Inuit Tapiriit Kanatami, 2018).

The National Inuit Strategy on Research (Inuit Tapiriit Kanatami, 2018) highlighted the problematic failures of past researchers to acknowledge Inuit self-determination:

Inuit in Canada are among the most studied Indigenous peoples on earth. The primary beneficiaries of Inuit Nunangat research continue to be researchers themselves, in the form of access to funding, data and information, research outcomes, and career advancement. Inuit remain largely marginalized from research governing bodies and in turn from experiencing the benefits of research (Inuit Tapiriit Kanatami, 2018, 5).

Significantly, self-governance is listed as a key requirement to ensure Inuit benefit from research conducted in Inuit Nunangat, the Inuit homeland covered by the four Inuit land claims regions in Canada (Figure 1) (Inuit Tapiriit Kanatami, 2018, 8).



Figure 1: Inuit Nunangat as outlined by the National Inuit Strategy on Research. (Inuit Tapiriit Kanatami, 2018).

Inuit scholar Pitseolak Pfeifer notes that while there has been much discussion regarding decolonizing research methodologies, in practice, it has been difficult to determine the best approach (Pfeifer, 2018). While steps have been developed to make research both more ethical and meaningful, *the National Inuit Strategy on Research* notes that colonial structures remain embedded in the academic research process:

The current investments in Inuit Nunangat research reflect a biological-physical science research bias that diminishes the prominence and attention given to other Inuit research priorities, such as health and social science. Moreover, federal research funding eligibility criteria tend to exclude Inuit representational organizations from accessing funding as lead institutions or principal investigators. This coupled with the absence of a university in Inuit Nunangat contributes to the continued domination of Inuit Nunangat research by non-Inuit researchers based outside of Inuit Nunangat (Inuit Tapiriit Kanatami, 2018, 4).

Past research practices in Inuit Nunangat have often been criticized for including only the bare minimum of engagement, whereby community members are merely consulted but not actively involved in projects (Drake et al, 2022). Additionally, Inuit knowledge systems have often been discounted by “Western” scientists (Pfeifer, 2018). “Western knowledge” systems, favored by many contemporary researchers, create inherent power dynamics that undermine the formation of strong partnerships (Pfeifer, 2018). Additionally, many researchers have viewed themselves as qualified to “fix” an issue while ignoring knowledge held by Inuit community members (Wenzel, 1999). To effectively shift the tide against problematic research practices, *the National Inuit Strategy on Research* suggests:

Inuit self-determination in research requires that Inuit research priorities no longer be ignored or marginalized by governments, researchers, and research institutions. Inuit research priorities should be reflected among the priorities identified by funding agencies, and they should influence the manner in which research priorities are determined, the composition and function of research governance bodies, as well as funding eligibility criteria for prospective research grant applicants (Inuit Tapiriit Kanatami, 2018, 5).

Research practices must be revised to incorporate community priorities and support Inuit self-determination. This means developing meaningful engagements that offer agency, are grounded in respect, and are equitable (Inuit Tapiriit Kanatami, 2018, 5). Inuit must first and foremost be acknowledged as rights holders in these engagements (Inuit Tapiriit Kanatami, 2018, 5). While

some researchers had already begun to attempt to reexamine engagement practices, concerns raised in the 2018 *National Inuit Strategy on Research* prompted them to further reexamine their engagement methods and situate them in an Inuit context. Thus, the report strengthened efforts to develop research practices that are both ethical and meaningful (Doering et al., 2022, Mach et al., 2020, Jull et al., 2017 and Leeuw et al., 2012).

More broadly, Natcher and Hickey (2002) emphasize the importance of acknowledging the diversity among, between, and within Indigenous communities: “Advocates of community-based resource management often depict indigenous communities as homogenous sites of social consensus...these idealized images fail to represent the plurality of values and personal interests nested within indigenous communities.” (Natcher and Hickey 2002, 350). Natcher and Hickey, also point out that current formulaic approaches to community engagement can be problematic: “Serving too often as a catch-phrase, community participation has become ubiquitous in the rhetoric of resource management” (Natcher and Hickey, 2002, 360). To rectify this shortcoming the authors suggested that effective engagement requires equitable participation, direct communication, and transparency (Natcher and Hickey, 2002, 361).

Other scholars have also posited that researchers must adjust community-engaged work to fit a specific context in order to avoid generalizations (Reed, 2017, Harrington, 2019 and Fendler, 2006). One approach to acknowledge this diversity and contextualize research projects is to adopt a participatory-based approach whereby community members are directly involved in research processes. (Balazs and Frosch, 2013, Chavez, 2018, Dutton, 2019 and Kwan and Walsh, 2018, 369). Participatory frameworks such as *the Continuum of Community Engagement in Research* provide a useful overview of best practices to form partnerships which include concepts such as “equitable and meaningful participation” (Key et al., 2019). Researchers need to consider the specific context and entrenched power dynamics to establish an equitable partnership with community members (Cundill et al., 2015). Using a participatory-based approach also ensures that the scientific research process is less extractive and focuses more on local needs (Balazs and Frosch, 2013). Using a participatory-based approach, my research seeks to unpack how community engagement operates in the context of a large-scale project.

Setting the Context: Introduction to Nunatsiavut and the SakKijânginnaKullugit Nunatsiavut Sivunitsangit Project

a. Nunatsiavut Geography and Governance

Nunatsiavut is in Newfoundland and Labrador, Canada (Figure 2). It was established as an Inuit self-governed territory in 2005 through the *Labrador and Inuit Land Claims Agreement* (Government of Canada, 2005). The Northern Labrador Inuit regional government, or Nunatsiavut Government, holds authority over many central governance areas including health, education, culture and language, justice, and community matters (the Nunatsiavut Government, 2002). The Nunatsiavut Government also oversees and advises on research projects in the region.



Figure 2: Left, a broad map outlining the location of Nunatsiavut in relation to other Inuit territories (Oceans North, Inuit Nunangat, 2022). Right, a close up of the five communities of Nunatsiavut in relation to neighboring provinces (Tourism Nunatsiavut, “Travel to Nunatsiavut,” 2020).

In Nunatsiavut, land and sea are inseparable. Ice provides crucial pathways across the sea to allow for travel between communities (Aporta, 2017). Marine species such as ringed seals also rely on sea ice (Harwood et al., 2012). Additionally, aquatic semi-migratory species such as Arctic char are affected by changing ice conditions. Both species are vital food sources and

cultural staples (Searles, 2009, Andrews and Coffey, 2009 and Kourantidou and Bailey, 2021). As a result, climatic changes such as shortened sea ice seasons and changing sea ice dynamics hold profound implications for both economic activities and food security (Le Teno and Frison, 2021). Recently the Nunatsiavut government has been working on a marine plan called Imappivut, which means “Our Oceans.” According to their webpage: “The plan is guided by the values, knowledge, and interests of Labrador Inuit. Imappivut celebrates the connections Inuit have with the marine environment and works to contribute to the health and wellbeing of Labrador Inuit” (Nunatsiavut Government, 2020).

b. Relationship to SakKijânginnaKullugit Nunatsiavut Sivunitsangit Project

SakKijânginnaKullugit Nunatsiavut Sivunitsangit is a large-scale transdisciplinary research project established in 2020 and co-led by the Nunatsiavut Government, Dalhousie University, and Memorial University of Newfoundland and Labrador. One of the main objectives of the initiative is to “support sustainable resource management of dynamic coastal systems in Nunatsiavut communities.” (Sustainable Nunatsiavut futures, 2020). Part of its mission is to avoid the problematic research practices of the past by “doing science differently,” while supporting Inuit-led planning and marine-based research. Many of its individual projects also focus on monitoring the impact of climate change and its effect on local communities in Nunatsiavut (Sustainable Nunatsiavut Futures, 2020a). In summary, the project’s overall goal is to “use both community-engaged research and scientific methods to co-produce knowledge about the marine ecosystem and enhance capacity in marine research” (OFI, 2020).

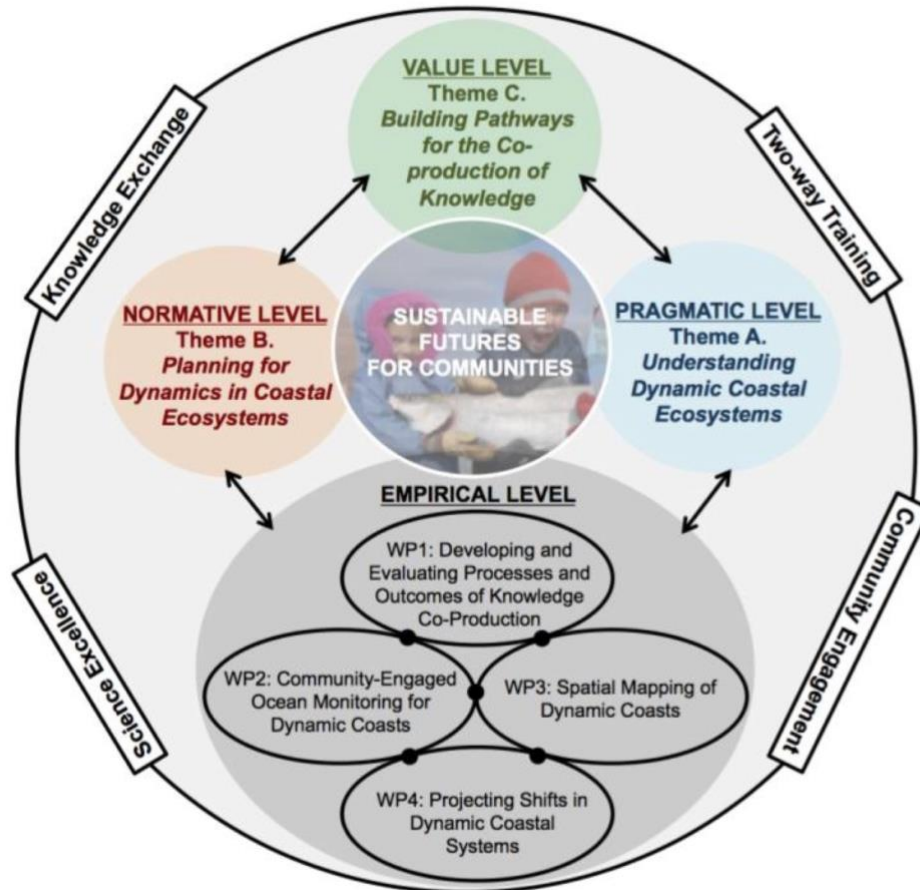


Figure 3: Structural Breakdown of how SakKijânginnaKullugit Nunatsiavut Sivunitsangit is currently organized. (Figure from: Sustainable Nunatsiavut Futures Project, Academic Slide Deck, April 2022)

The SakKijânginnaKullugit Nunatsiavut Sivunitsangit project is comprised of over 75 individuals, including Inuit Research Coordinators (IRCs)—representatives from each of the Nunatsiavut communities—in addition to natural and social scientists, government officials working in Nunatsiavut, and a variety of other project partners. These individuals represent various stakeholder and rights-holder (i.e., Inuit) perspectives.

Project research has been divided into four separate coordinating bodies known as “work packages” (WP in Figure 3) (Sustainable Nunatsiavut Futures, 2020a). The first work package (WP1) focuses on examining community engagement and how knowledge is shared. Work package two (WP2) monitors ocean and sea ice changes. Work package 3 (WP3) works on spatial mapping methods for species monitoring. Work package 4 (WP4) centers on modeling predictive measurements of perceived climatic changes.

The core themes include “building pathways for knowledge co-production.” Knowledge co-production is directly connected to relationship building and essentially emphasizes collaborative approaches to include knowledge systems that “embody a range of world views and disciplines (e.g., local knowledge and academic disciplines).” (Sustainable Nunatsiavut Futures, 2020b). This first theme can be seen as providing the overall structure for the project, while the other two directly describe the project-wide activities which are related to “understanding and adapting to a changing coastal ecosystem.” (Sustainable Nunatsiavut Futures, 2020b) The elements of “community engagement, two-way training, knowledge exchange and science excellence” outlined in Figure 3 connect the goals, objectives, and projects within each work package to one another (Sustainable Nunatsiavut Futures, 2020a). In this way the SakKijânginnaKullugit Nunatsiavut Sivunitsangit is designed to foster collaboration between projects and transdisciplinary thinking. Community-engaged research, specifically ensuring that projects within SakKijânginnaKullugit Nunatsiavut Sivunitsangit align with community needs, is also a central goal of this initiative.

c. Defining “Community”

Prior to analyzing the results, it is essential to outline how this project defines the term “community.” The use of the term “communities,” as applied here, is in line with the terminology used by the Nunatsiavut Government to describe those who live in Nunatsiavut and are not government employees, but there is also a much broader application. Here community is largely defined based on geographic location (within Nunatsiavut) and therefore members of the Nunatsiavut government are also considered community members. The plural form of “community” is used as Nunatsiavut is made up of several diverse communities. Additionally, this project involved interviewing representatives from a variety of places, each with a unique culture. Thus, there can be no singular, monolithic definition of “community” as there is diversity both within and between them.

Research Approach and Methodology

a. Positionality Statement

I am a settler with roots in the San Francisco Bay Area of the United States. I have a transdisciplinary background in environmental studies and history with a focus on culturally significant species and Indigenous fishing rights. Specifically, my past work has emphasized the value of examining Indigenous history and cultural attitudes alongside colonial perspectives to develop successful collaborative partnerships to aid in the recovery of endangered southern resident orcas and Chinook salmon. A key takeaway from this work was the importance of equally valuing Indigenous knowledge and assuring Indigenous rights are supported in federal governance.

I am relatively new to the Nunatsiavut region, having joined SakKijânginnaKullugit Nunatsiavut Sivunitsangit project as an intern in March of 2022. What initially brought me to this region was the desire to work on a transdisciplinary project which directly partners with community members and centers project goals and outcomes on community needs. In particular, I hoped to prioritize relationship building and was interested in critically evaluating the research processes to mitigate instances of “parachute” science where researchers come to the region, extract data and leave (Vos, 2022). With that in mind, I wanted to explore how Indigenous-scientist partnerships can advance community goals in Nunatsiavut.

It was important to me that my project aligned with and supported the goals held by community members. Thus, I modified my goals and outcomes according to input from the NG and members of SakKijânginnaKullugit Nunatsiavut Sivunitsangit. My project is still in development and will continue to be adjusted but the initial objective remains the same: to explore how research conducted in the region can best support Inuit community goals.

b. Project goals

The extractive methods used by Arctic researchers in the past raise the question: what counts as ethical research? This project focuses on shifting discussions surrounding community engagement away from prescriptive ideas and toward examining its real-world application. This project builds off of the work completed by work package one outlined in the *Transdisciplinary*

Marine Research chapter “The Power and Precarity of Knowledge Co-Production,” by examining how community engagement and co-production processes may operate in practice (Petreillo et al., 2022).

The project was designed to collect experiences with, and perspectives on, community engagement from a variety of participants involved or associated with the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project. The goals were threefold:

1. Explore processes and principles that could guide researchers to work more effectively to ensure that the research conducted in Nunatsiavut remains accessible, relevant, and tangible to communities without overburdening community members.
2. To identify and address how research is conducted within SakKijânginnaKullugit Nunatsiavut Sivunitsangit in relation to diverse community goals and explore how to best align outside research interests with on-the-ground community goals.
3. To explore how community-engaged research practices and partnerships may be improved in Nunatsiavut to better align with the goals of the Nunatsiavut Government.

c. Methods: The interview Process and Data Analysis

The idea for this project was initially pitched to the Nunatsiavut Government (NG) representatives, Inuit Research Coordinators (IRCs), NGOs, and social and natural scientists during the first post-COVID in-person project-wide meeting in Halifax in May of 2022. Following a subsequent meeting with members of the Nunatsiavut Government (NG), the project goals were modified based on group feedback. The focus changed from understanding barriers/opportunities for sharing knowledge between researchers and community members to instead examine how research could support community needs.

I interviewed 27 key informants via videoconference for approximately one hour each. All participants were either directly involved or associated with the SakKijânginnaKullugit Nunatsiavut Sivunitsangit Project as project partners. Interviews ended when statements made by interviewees became repetitive and the point of data saturation was reached (Fusch and Ness, 2015). I asked participants semi-structured open-ended questions including why they were working in this region and what their perspectives were on how community members are being engaged with this project. Participants were also asked how they would define the term “community engagement.” For a list of specific questions see Appendix 1.

I then combined transcripts into a master document with anonymized interviews divided by key groups (listed in section d). From this document, I use systematic manual coding for each interview to identify common themes and values used among each individual group (Osberg Ose, 2016). This consisted of reading through each transcript and highlighting repeated terms among the six key groups identified in Figure 4. All statements made by the interviewees were then manually coded based on common words and phrases found throughout all interviews. Each interview was then cross compared, using the same process to identify common phrases. These phrases were then grouped into the eight themes identified in Table 2. I completed a total of three phases of manual coding for group differences and common themes. The first was to correct transcript errors, the second was to highlight group commonalities, and the third was to group them into common themes.

d. Positionality of Participants

While some interviewees came from transdisciplinary backgrounds, they were categorized based on what role they occupied as key informants within the original SakKijânginnaKullugit Nunatsiavut Sivunitsangit structure (Figure 3). In this context, the definition of transdisciplinary is consistent with how transdisciplinary has been defined within SakKijânginnaKullugit Nunatsiavut Sivunitsangit. Specifically, it is defined as work that transcends disciplinary siloes and involves “collaboration across disciplines” (Petriello et al. 2022). Some participants were involved in multiple streams of the project that overlap with both natural and social sciences and go beyond these disciplines to focus on collaborative approaches. Participants self-identified as belonging to the categories identified in Figure 4.

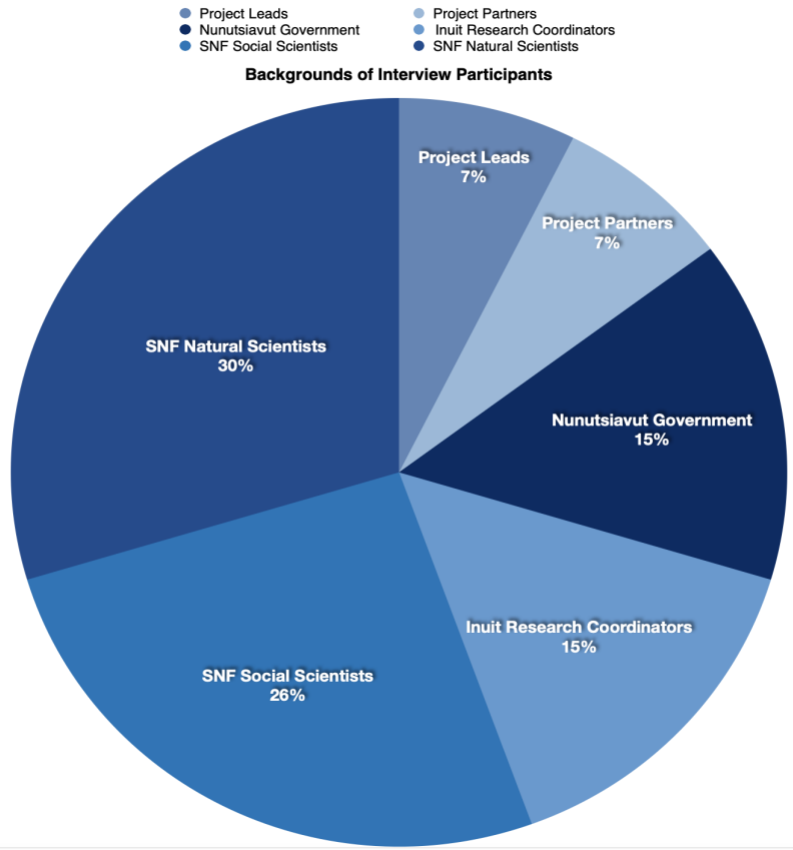


Figure 4: Breakdown of interview participants n=27 (two project leads, two project partners, four members of the Nunatsiavut Government, four Inuit Research Coordinators, seven social scientists, eight natural scientists).

Table 1 categorizes the marine spaces participants worked in. These were manually identified based on the responses to the interview questions: a) describe your role in relation to the project and b) what is your individual project about? Note that given the transdisciplinary nature of the project, some participants held multiple roles and areas of interest overlap. Thus, the total sample size is greater than the number of interviewees.

Area of Interest	Sample Size (n)
Governance (NG)	4
Sea Ice Monitoring	5
Fisheries Studies	4
Ship-based Research/Boat Studies	5
Culturally Significant Species Studies (seasonality, specific to each community)	10
Imappivut (our Oceans-NG initiative) Marine Plan: Planning Potential Marine Protected area (Nunatsiavut Government, 2018)	3
Community (Art and Photo studies, mapping, schools/on the land workshops)	6

Table 1: Breakdown of specific areas of research interest for all participants. (Note that the total number is greater than the number of participants as some belong to multiple categories).

Results

Overall, interview participants held diverse opinions regarding both barriers to, and the overall success of, the strategies used by SakKijânginnaKullugit Nunatsiavut Sivunitsangit members to engage with communities. Perceptions varied based on each participant's background, their role within the larger project, and the degree to which they felt heard within the organizational structure of SakKijânginnaKullugit Nunatsiavut Sivunitsangit.

1. The Nunatsiavut Government (NG)

Throughout the interview process, all 27 participants noted that their engagement with community members understandably begins with the Nunatsiavut Government (NG) as they are in a unique governing position to oversee research. Four interviewees were staff of the NG. One element that came across through their interviews was that there is often a disproportionate burden on individual government staff members and Inuit Research Coordinators to act as the sole pillars of “community”:

I mean a lot of it is left on the NG to promote and engage community on a project. We're not actively involved in a lot of the individual projects, and we have 28 active projects going on our side as well. I think that IRCs are in theory a great way to engage community as champions of the project in communities. But it's kind of on them to champion it and to make it known and also engage community members about the project.

The NG fields a variety of requests from project members. One NG member suggested the need for more project-wide coordination: “some kind of system that helps coordinate a lot of the things that are coming through to our emails would be very helpful.” The onus should also be on researchers to speak with community members about their project plans and to share any results.

Another NG staff also highlighted the challenge of managing a large-scale project such as SakKijânginnaKullugit Nunatsiavut Sivunitsangit involving various interest groups. They also emphasized that community engagement requires more than simply interacting with the NG. While the Nunatsiavut Government plays a crucial role in assisting researchers, the actual engagement process should be taken further, particularly in communities outside the focus of primary research initiatives:

I think because it's such a large project there will always be some issues with communication and engagement. Already we're running into having to have discussions around how much is expected of the NG staff in particular...when you look at it as community engagement...to me that's a different piece altogether. Engaging with us at the research center is not necessarily community engagement, right? It's a part of the whole package where we help form things on the ground and all those pieces and the coordinators that have been doing a bit of work in their community. I'm pretty sure that it's situated in some communities more than others...Nain seems to be the community that gets the most, we're always the one because we're the one with the research center.

Another issue raised by interviewees was the lack of Inuit leadership, in the form of a management board, at the onset of the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project. Establishing a true partnership requires placing community partners on an equal footing in terms of power. One NG participant suggested that a lack of early positionality has created issues with present engagement:

And we could have had community members in some of those leadership positions guiding the project in a way that was appropriate...there was no Inuit representation up until [we asked], "why is there no nobody on these work packages?" And even now, we're not even work package leads. We're kind of just there...I think there needs to be a steering committee overseeing this project and that needs to be made up of academics and community members, and a broad range of each.

Another barrier identified was that many community members remain unaware of the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project. An NG participant noted that while many individual members engage with communities in a variety of ways, the overall framework of the actual initiative remains unclear:

I think a big tell of if you are engaging with a community is if people know about the project. And even if you ask anyone here a Nain... "Have you heard of Sustainable Nunatsiavut futures?" They'll say no. So, I think community engagement hasn't been great. I think we're missing a big piece in the researchers actually coming up and introducing themselves and the project as a whole kind of like those big, those big pieces that are happening.

While the COVID-19 pandemic hindered researchers' ability to travel to the region, moving forward it is clear that having a physical presence in Nunatsiavut is important. While efforts are underway to share more about the types of SakKijânginnaKullugit Nunatsiavut Sivunitsangit projects being done, improving the process requires the development of an overarching framework that articulates all the moving parts.

One key recommendation for researchers was to educate themselves and critically evaluate their research prior to coming to the region:

I think it's really important to read and come prepared to understand the region. So exactly what region you're working in, what encompasses Nunatsiavut? Read the National Inuit Strategy on Research. Read the land claims agreement. Understand who is Inuit under the labor and land claims agreement. What rights we have over certain lands. Our fishing, hunting, all that stuff, especially if you're doing anything wildlife or fisheries related. There's a whole chapter on fisheries. There's a whole chapter on wildlife and plants. That stuff is super important.

External researchers must recognize Inuit as inherent rights holders and their right to self-governance must be acknowledged. In addition to these prerequisites, methods to streamline research questions must be developed. Nunatsiavut Government interviewees suggested that one way of achieving this could be to involve all project partners in discussions of past research to avoid future duplication of efforts.

Overall, Nunatsiavut Government interview participants emphasized that community perspectives and needs within the region are diverse. Furthermore, there is often a distinct barrier between academic and community expectations. One way to break down this divide is to encourage researchers to be more open-minded and simply have conversations with people:

Academics are so like step, step, step. This is the process. This is what you do. But a lot of the time that's not exactly how it works. Relationship building and not just ticking a box. It's making friends. It's going out in a boat with someone if they offered to take you out, learning more about the culture. It's give and take. Coming up without a set plan works way better and fits our process so much better. If you come in open-minded, you're going to get a way better response from the community because nobody likes to be told, "this is what I'm doing on your land."

Sharing results in ways that are transparent and relevant for community members offers another way to bridge the gap between research projects and community goals. Problematic research practices often center on researchers wanting to extract data in order to simply publish results. Researchers must go beyond that and make the effort to build and sustain relationships:

Result sharing 100% and I think that comes back to my thing about communication too. It needs to be shared in a way that's understandable and that actually matters. If you don't have a product that is beneficial to Labrador Inuit, what's the point, right?

Much of NG's role was framed in terms of holding researchers accountable. As research advisors, NG project members ensure projects are not duplicated to lessen the likelihood that communities are overburdened. Overall, the research process was understood to have come a long way:

We have a better handle on research and because of that, we are able to help researchers and help guide them...So, we've come a long way and we work with a lot of wonderful researchers...I mean, they take everything that the Research Advisory Committee here says, and they really listen to what we're saying.

This same NG participant noted that the role the NG plays in connecting researchers to community members is mutually beneficial. In this individual's view, knowledge held by those in the community allows for better research projects. At the same time, the engagement process motivates researchers to hold themselves accountable to truly connect with community members. This structural system inherently supports the improvement of research processes in practical ways.

One NG participant described the best practices of research this way:

Making really good connections in the communities is just making time, making time to come to the community, to introduce yourself. Spend a bit of time getting to know people. . .As part of that whole process, we expect that what people will do themselves is have a bit of an understanding of the kinds of people that live here and the kinds of things that we see as important and our way of living and doing and seeing. An issue that we're running into quite often is that research tends to be predetermined before coming to Nunatsiavut which very quickly causes ripples and ruffling of feathers because one of the things that we try very hard to press is that research needs to be relevant. We're at that day and age now where that's how it has to be. In the past, there were some really bad research habits from people that were coming in and just extracting information...So making those connections, ensuring that your research is relevant and being open to discussion to change things up is important.

NG participants also offered a few general recommendations. They emphasized that developing a meaningful project, grounded on relationship building and trust, takes time and requires flexibility. Now that COVID-19 restrictions have ended, members of the NG suggested that the Sustainable Nunatsiavut Futures project move its engagement beyond Nain and hold more open houses:

Hiring the IRCs as part of the project is a start at engaging the community because they are from the communities in Nunatsiavut. But I think, there are more ways to engage the community as well. When researchers come to each of the communities to do the work that they're doing, they could hold open houses to talk about what is happening within the project.

Another suggestion was to streamline project initiatives into a clear, digestible big picture. NG participants suggested developing broader networks to enable individuals to consult with others working in the region. In this way, the research could be broadened. For instance, a study may have already been conducted in Nain, but other communities may have an interest in answers to related questions.

2. The Inuit Research Coordinators (IRCs)

Out of the 27 participants interviewed, four were Inuit Research Coordinators from Nunatsiavut (one from Hopedale and Nain and two from Rigolet). Overall, the IRCs thought the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project set up a solid basis for community engagement because its central mission focuses on involving both NG officials and community members. The need for continued use of diverse approaches to engage individuals was a common refrain. One IRC noted: “Sometimes it's hard to get everyone who would be interested. On Facebook, you get young people, for example, but over the radio, you get older people. So, I think it's important to have a few different means of reaching out to people.”

Suggestions for improving the engagement process within SakKijânginnaKullugit Nunatsiavut Sivunitsangit focused on increasing social media presence and presenting project findings in schools. Additionally, the need to expand SakKijânginnaKullugit Nunatsiavut Sivunitsangit research beyond Nain was emphasized:

There's a lot going on in Nain. A lot of project partners want to visit Nain quite often since the majority of research is done in Nain—seeing they have a research center there. But I've pointed out quite often that there's not enough in other communities. What we're trying to push toward that, but it is a work in progress.

The IRCs outlined seasonality, timeline, funding, limits to online access, and COVID-19 as being primary barriers to engagement. When asked to expand on this, an IRC noted:

The obvious one is just COVID, but you can't really help that, but also the travel rates in Nunatsiavut are very expensive. Its also kind of hard to get, Inuit members out to conferences or people into the communities for conferences. If we were to do things online the internet is also pretty bad. And a lot of the older folks also don't have the Internet or don't use it very much. So that's a few of the complications.

It was mentioned that, in many cases, having conversations and experiences on the land provided a better mode of engagement. Even when researchers can travel to the region, concerns were raised about the scale of the projects and that formal research presentations could bring too many to a single area at a given time, overburdening communities:

Say for example, within this project, we have 15 project members, come for a presentation. That could intimidate community members, or there's that possibility that there would be more project members at the presentation, than locals. Sort of a more, Western research presence in those presentations held which could prevent community members from showing up to those presentations or interviews. So, it's important to have that balance, between who will be presenting and who is present for those interviews, or conversations.

IRC participants also identified the need to create informal spaces to build relationships as being crucial to successful community engagement. Specifically, researchers should make an extra effort:

Just hanging out for a decent time...So that's, stuff I'd like to see more of with all projects, in general. Rather than say some project just reaching out from across the country or from another province, but not actually making that effort to visit those communities for at least some kind of conversation or presentation workshop. So physically interacting and meeting community members is super important, and this is what I would like to see.

Another key element was that goals should not be focused solely on facilitating research publication. One of the IRCs noted: "I personally think writing papers or documents, or stuff like that, isn't qualified to me personally as community engagement." It is necessary to follow up and ask individuals within a community what they are interested in.

Overall, while in-person engagement was the preferred method for conversation, the IRCs acknowledged that the process to build such relationships takes time:

Visit communities as much as you can, as often as time and money allows. And, during all those visits, meet as many people as you can. Ask questions. Ask everyone you meet what they would like to see. What questions they would like to ask, to be asked, in regard to research. What they would like for us or other projects to look into. That's actually helpful to the communities. Take your time during your visit, that's super important. It shows that you're actually interested in being here on the North Coast and shows you're actually interested in meeting people which helps with the trust and building relationships.

For community engagement to be effective, IRCs suggested that researchers educate themselves about the region and premise their work on a foundation built on respect. This goes beyond simply conducting research in the "Arctic" and allows for genuine connections to develop with the community: "One of the biggest things is having respect for the community. Sometimes you'll see different researchers come in not having background information or not understanding where they're going, or not understanding the community. So, it's important to have that background knowledge to give respect to people." While researchers new to the region can seek assistance from established initiatives such as SakKijânginnaKullugit Nunatsiavut Sivunitsangit, the researcher themselves should also try to speak directly with individuals. This includes: "Making time for people, being flexible with your time. I think that's really important because everybody else has day jobs. Everybody else is busy."

One essential, yet frequently overlooked part of the engagement process is follow-up. Too often researchers fail to connect with NG and community members after the completion or publication of their project. This leaves the NG or IRC community members to compile and evaluate results on their own. "Some people have not been returning their data in the past. So, there was no real database." While a centralized database is being developed, community members are still left to directly follow up with many researchers.

3. Natural Scientists

Of the eight interviewees with natural science backgrounds, five were early career scientists who were either master's students, PhDs, or postdocs. Natural scientists associated with the project tended to have a more community-oriented, interdisciplinary focus because the NG and IRCs are direct research partners. They emphasized the crucial role played by the NG in serving as the primary conduit for developing relationships within the community. While

discussing the community surveys that NG conducts annually within each community a participant noted:

NG puts a lot of time into communicating and connecting with communities. I think that's a really authentic way of doing it because it's the NG and people know each other, and this is done every year. It's definitely something that is integrated into the way that people express what they want to see happening with research. So, I think having those research priorities as a first step of seeing ok, what does a community like, is important.

Another participant offered that the NG plays a significant role in SakKijânginnaKullugit Nunatsiavut Sivunitsangit due to the scale of the project: "One thing I can see is that because this project is so big it gets a lot more engagement from the Nunatsiavut Government than a smaller project does." All eight natural scientists saw the NG as being crucial in connecting researchers to community members.

All the natural scientists interviewed also noted that the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project is unique in that it focused on "doing science differently." According to one participant, this meant "approaching science from a nonhierarchical point of view." 75% (n=21) of all interview participants saw centering the project on community values as the best approach to changing the nature of scientific studies.

A major element of developing research that is more relevant and tangible for community members relates to language use, and the need to avoid jargon. One early career scientist commented on the flexibility required to broaden terminology: "There's a lot of unlearning you have to do because there are words that I would use and my family, for instance, won't understand. And I almost forget that's not like an everyday word. Because in the science environment that I'm in every day, it is an everyday word."

Natural scientist interviewees also noted that another essential piece of "doing science differently" was to view community members as being equal partners. A participant noted: "I think we need to start thinking of community members more as teammates rather than people that are part of the research question." A crucial component of this was to ensure that community members, even those working within the project, are properly compensated for their time. Data must also be shared in an open and transparent way: "That means incorporating equal pay access for everyone, including it in the budget, and allow the community to have some sort of ownership to the project, the analysis, the data, all of it. I think SNF is trying to do some of that because everything I've learned is through the SNF project."

One goal of the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project is to avoid extractive and harmful research practices. As one natural scientist said: “There's a history of how external researchers have interacted with communities. That means in some cases, there's a bit of distrust there.” Several participants mentioned that methods could change, but external researchers must actively work to address the damaging legacy of past research practices.

It is important to recognize that scientists within SakKijânginnaKullugit Nunatsiavut Sivunitsangit are not unique: “You're probably not the first one to do research in that region, so reach out to other researchers as well and just see what they've done, how they've worked on it. So, then you can build on the way things have been done in the past, not just start fresh every time people come in.”

Many natural scientists interviewed joined or partnered with SakKijânginnaKullugit Nunatsiavut Sivunitsangit due to their perception that the structure and form of the project was novel. As one interviewee pointed out, a whole the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project's approach in including both the NG and the community created a platform that supports conducting natural science in a more inclusive way. Yet, academic barriers persist:

This project is, from a natural science perspective, pretty novel and exciting. The way that it's doing things differently. We're trying to do things differently. Yet, it's still at the end of the day a university-based project...And so, while from the university's perspective, I think it's being pretty transformative, I think from the community perspective, it's still doctor so and so, from the university of whatever, doing stuff.

Another common theme among natural scientists was the idea of community capacity. When asked to describe the goal of their research, four of the natural scientists interviewed said that they hoped to provide community members with the requisite tools necessary to deal with ongoing issues: “So, we want to be able to work ourselves out of a job there in that we want to transfer, I guess, that scientific knowledge so that we once we leave, and the project finishes, scientific data can still be collected to help understand what's happening with the climate up there.”

Thus, when asked to describe what engagement means, natural scientists noted that it goes beyond collecting data: “Community engagement isn't just going in and collecting whatever data you need. It's also hearing about what they need. And so, it's to me, it's like a symbiotic relationship.”

Community engagement also requires being flexible and taking the time to establish relationships: “I think all research is rushed and if you want to do something that involves teamwork, then you have to be able to listen--take the time to truly collaborate. You have to incorporate community interests as well.”

One major barrier identified was distance, both geographic and cultural: “It's kind of hard to work so closely with the community when there's so much distance, physical distance, but also cultural distance and not necessarily understanding how to bridge that distance.”

As many interviewees were early career scientists, the additional barrier of academic versus community expectations was also a common refrain. Early career interviewees also repeatedly mentioned that the timeline available to build these relationships was limited: “I think there's a real incongruency with students, where students involved in projects like this actually are vulnerable to the fact that there is a temporal mismatch between what needs to happen for their degrees and what needs to happen for the communities.”

Another major hurdle was having to complete many aspects of individual projects via virtual means:

I think from the community side more than the scientific side...from the scientific side you can just put a load of numbers and data onto a screen, and you will sort of show knowledge of the area. But when it's more conversation table knowledge it's harder to do over the screen. I'm looking forward to more in-person communications and actually getting to go into the community to share knowledge that way.

Natural scientists also identified that the overall scale of the project itself was something that at times, hindered relationship building. Given that many seek to travel to the region, communities can easily be overwhelmed:

I think having too many people in the room is often a problem. I think it's fine to have, the community group that you might engage with be bigger or smaller, but I think you can have too many cooks in the kitchen when you're engaging with community members...packaging those engagements in a very specific way so that it's a very specific dose of information, and dialogue, I think is probably a good idea because if it gets to be too much, people lose interest.

One suggestion to avoid inundating community members was to streamline engagement methods: “I don't think we need other ways of engaging, but I do think we need to refine the ways we engage with the community. Instead of trying to find all these new ways of engaging

with the community, we need to just improve and practice the ones we're using now. Because I feel overwhelmed by the project with all the different platforms.”

Developing and implementing a framework that features concise pathways to share information would also make it easier. Overall, 40% (n=3) of natural scientists said project management could be improved upon: “I guess coordinate, and I'm not sure whether we really got that down to a fine art...A lot of polls are made, and they never really go anywhere. So that's probably the main barrier I experience. But that's only in a group setting. When it's one-on-one, it's quite easy to converse.”

Natural scientists tended to view their role in SakKijânginnaKullugit Nunatsiavut Sivunitsangit and interactions with communities, on a holistic level. Communities have agency over their data. As one participant noted, “the community has the right to say no, that shouldn't happen.” Overall, these scientists wanted to ensure their research aligned with community goals and objectives.

4. *Social Scientists*

Out of the seven social scientists interviewed, five were early career (master's students, PhDs, or postdocs) and two were established social scientists. Social scientists tended to prioritize the overall process of engagement beyond their specific research project. They were particularly interested in clarifying definitions of community engagement. In discussing this process 75% (n=5) felt it was difficult to define: “When I hear the term, I really don't know necessarily what it means, because I think of community as being a really diverse set of interests.” Given there is no singular definition of “community,” the use of the term was not helpful unless defined according to a specific context.

Over half of the social scientists interviewed observed that as a researcher, it is crucial to critique one's methodologies and acknowledge mistakes when they occur. One participant noted that transparent communication is essential, and that community engagement can easily become a means to justify any and all research:

There's so much room for error. There are so many times where everybody does make mistakes and hopefully learns from those. And so, I think honest communication about exactly what you have done when you are engaging a community, or when you claim to have engaged community, is an important part of it because it's kind of used as this basket term for so many different types of activities.

Thus, when working with communities, there is a need to be specific and transparent about research intentions.

100% (n=7) of social scientists mentioned the NG as being the entity that first introduced them to community concerns. The NG has been an essential guide for both framing research questions and providing core contacts to facilitate relationship building: “I think the project has been good at understanding that research questions should be derived from ongoing work that the NG has already been doing.”

The role of a successful social science researcher within SakKijânginnaKullugit Nunatsiavut Sivunitsangit was predicated on aligning oneself with the NG goals. Many interviewees also emphasized that while the NG is a government body, its members should not be viewed as separate from the community:

You're never, ever, ever going to reach every single member of a community in order to have a complete understanding of all of the nuances within a community. So, there's always going to be a level of people who are representatives of their community. And so, in that way, working with groups like NG because of the consultations they've already done with their communities and because they're all people who live in communities and talk to people all the time, those people are excellent representatives of community.

It was also mentioned that the context of SakKijânginnaKullugit Nunatsiavut Sivunitsangit is unique when compared to other engagement projects in that the NG serves as the primary channel where research proposals are first suggested and amended:

It was a new way of being in a project and understanding community engagement for me. A little bit different from the experiences that I had had in other projects...Unique in a lot of ways in the governance situation compared to say some of my work in other places where the line, the distinction between community and government was a lot stronger. Here there's almost like a dotted line they flow between each other.

After an initial connection is made, social scientists stressed the need for researchers to diversify the type of engagement they initiate and whom they choose to facilitate their projects: “But I would still say that a lot of that engagement is situated within the IRCs. And that, over time, engagement in our project should look like a lot of different things. It shouldn't be a one-size-fits-all, because we have such an interdisciplinary project.”

Several social scientist interviewees also noted that the members of the NG face pressure to field questions within the project while simultaneously juggling many other responsibilities:

Right now, everybody's focused all their attention on just the people at the research center, but they've got full-time jobs. It would be actually a lot better if we could sort of connect with and work with members of the communities...But like I think the problem is just that people don't know members of the community because it takes a lot of time.

As many of the social scientists were students, they also cited the vital mentoring role the NG played in introducing them to the region. One early career scientist described the NG as providing “links to those within communities that have authority or interest and can kind of be gatekeepers and open doors and create a bit of accountability for the project within the community.” In other words, by making community connections integral to one’s project, researchers are more reflective of local concerns and values.

In general, 75% (n=5) of social scientists spoke about the importance of collaboratively sharing results and aligning research with the goals of NG members:

So, thinking about how we can present our work back in other ways--for example, maybe other researchers also worked in the area. We can kind of help the NG coordinate amongst projects. I think that it's something that might be cool to consider for our project, and others going forward.

While social scientists also emphasized the value of building new community connections, four participants felt greater emphasis should also be placed on strengthening pre-existing relationships:

I would say the community that we have engaged with the most is actually our project partners who are from Nunatsiavut... because they are part of the community. Just because they're part of the project doesn't make them not part of the community. And I'm just trying to value that relationship building and engagement as a foundation for future broader engagement.

As with the IRCs, social scientists also raised the idea that community engagement should extend beyond Nain:

Community is a monolithic term and so there are so many specifics to it that make it more difficult, and this is something that's come up in a couple of different contexts. But that there's been a lot of focus on Nain in particular, and not on the other communities in Nunatsiavut.

Interviewees also expressed the need to diversify approaches to community engagement. There is often a tendency for outside researchers to view themselves as playing an irreplaceable role in providing capacity to communities. It is important to recognize that communities already have knowledge and capacity. One specific recommendation is to design a project around an issue the community already has an interest in:

We always hear this capacity building; we need to capacity build. But for me, I always try and start and a lot of colleagues that work in my field start with capacity recognition. So, what capacities does a community already have? What are they already interested in? What are they already doing? And then how can our work support and sustain and grow that in a direction that they want to grow? It's kind of a really, different approach I think, and I would like to see our project do that in other ways too. And I think there's potential for that. I'm just not sure in what way yet.

Opinions of social scientists differed from those of natural scientists in that they tended to focus on the importance of using specific terminology when approaching the concept of community engagement. One interviewee mentioned the value of distinguishing between learning and evaluating: “So, you're going to hear the word evaluation a lot. But it's important to distinguish between learning and evaluation because evaluation is very right and wrong. Whereas learning is more about experiences. The way we process, the way we reflect and then how we act, and what actions connect to the learning is very different, right?”

Similarly, participants noted that engaging with communities and impacting its members are different concepts. The motivation behind the engagement matters: “There's meaningful ways to interact, and there are meaningless ways to interact with community.” Integral to this idea is that engagement with communities requires more than just research. There should be less focus on defining the term “engagement” and more on determining what the community wants:

I think the community is going to be the biggest authority in saying what engagement should be looking like. It's easy to get caught up in your own research and think it's the most important thing, but there's a whole other world for people in the community that's happening, so kind of tempering your expectations of what engagement might look like and acknowledging that there are other needs.

As noted by one social scientist, engagement is not always beneficial:

There are worse things than failure. It can be an actual barrier to your own work, if we don't think about what community engagement is for us, then you can go in with this expert assumption that community engagement is just having one conversation with

somebody but not actually talking to them about your research or anything or not actually talking to them about what they would like to see out of your time there or even establishing a relationship with them.

Intersecting with this concept is the obligation that a researcher ask *why* they have chosen to do research in the region:

The most important thing and the first thing that you should always ask yourself is, am I the right person to do this? Am I needed here? Having an understanding of, not just the limits of what you're able to do, but also exactly what your capacities are, and your skill set isn't really important...because the whole point of this work is to help lend strength to the region. And so, making sure that what you're doing is helpful is also asking should it be me doing this, or should I be doing something else?

Ensuring community members have a stake in the research being conducted should be fundamental to the engagement process:

I think community members need a bit more of an incentive ownership and agency, and a stake and a claim in the research process and the research outcomes. And when they don't have that, I think it gets a bit boring for them. Community members think, well, I'm not going to go spend my time talking to you because, generally speaking, I never hear back from you, and I don't really know where the results of this are going to go.

Overall, having the NG evaluate research allows for more critical reflection and engagement. Yet it is the responsibility of researchers to look beyond their individual projects to also find informal ways to connect to communities:

Not everything is about collecting data, not everything needs to be a research trip. But being in the spaces that community members are in, whether that's virtual on Facebook or virtual workshop or whatever it is. But like maybe we just don't know what those spaces are. So, maybe if the project could think through and ask where do we find community members in these virtual spaces?

Social scientists mentioned disciplinary divides within the project. More than 50% (n=>4) of the social scientists interviewed noted that the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project is largely driven by natural science while the social science unit is primarily responsible for the engagement process: "A lot of this project is very heavily populated with natural scientists and then there's one small unit of individuals that have a bit more of the social science background and training." Despite its transdisciplinary nature, some social scientists felt that the

current project structure may also unintentionally reinforce silos: “There are certain expectations that are placed on certain disciplines, which ironically is reinforcing the very disciplinary silos that we're often trying to break down because we're grappling with inherent assumptions about what each of us does.”

Many of social scientists also stressed that interactions with community members cannot be an afterthought: “It's not we do community engagement so we can do research. Community engagement is in and of itself a necessity if, and when, you're invited to engage, then your research can take place.” It is also important to acknowledge that research practices have been tainted by entrenched historical inequities: “Inherent power dynamics that come with research relationships and so that also needs to be considered and addressed in these co-design and co-developed research processes.”

5. Project Leads

As the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project recently underwent a leadership change, this section will discuss information from the project leads collected in the summer of 2022. The two project leads interviewed discussed overall challenges and methods for engaging communities. As a result, the focus was on project-wide developments and improvements. The leads emphasized that the relationship established with NG at the onset allowed SakKijânginnaKullugit Nunatsiavut Sivunitsangit goals to prioritize community concerns.

The NG as an Indigenous government and with the research center in place are also, acting as a representative in terms of the priorities of the community...So there's a way in which the NG almost acts as like a holder of priorities and interests of community and shares that with the project, to help steer things. Even though obviously there's a distinction between the NG and community.

The NG serves as an essential touchstone by establishing and supporting community connections. As one project lead noted: “Through the NG we've had meetings with each of the community governments to introduce the project and introduce ourselves and the team.” While it was pointed out that there is still a long way to go in terms of the broader recognition of

SakKijânginnaKullugit Nunatsiavut Sivunitsangit, NG occupies the central role of liaison between community members and researchers.

The project leads highlighted how the NG is a key intermediary for individuals within the project to connect with broader community networks. When asked to provide general advice to researchers, one project lead offered:

It is important to find a strong champion in the research center or within the community for the work... as soon as it's something where it's like, you are coming from outside wanting this particular project to happen and there is not someone advocating for that work within the community or within the NG or, within Nunatsiavut, I think you'll have a hard time.

Building networks in Nunatsiavut usually requires developing a relationship with a key individual, typically a staff of the NG. When asked to provide successful strategies, project leads tended to refer to NG values:

I would base this on what I've heard from the NG about what they say has been successful because I don't feel like I know enough about the community or Nunatsiavut to really say what is successful or not successful, but what the feedback that we've had is that what is successful is long-term visits, long-term relationship building, and being there in person.

The relationship with the NG also enhances the type of scientific research conducted: "And so that relationship with NG allows us this high-level prioritization of locations or where to go of kinds of organisms that may be of interest and the species, or habitats."

At the same time, project leads acknowledged that NG staff have a lot on their plate:

The research center at the NG is doing so much. They have so many projects on the go besides all of the other responsibilities that they carry within the community around running, the community freezers and everything. They're so experienced and knowledgeable in all of this stuff that it would be awesome if we were able to ask them about everything that we should be doing. But I think they don't necessarily have the time to answer as many questions as what we would all love to be able to ask. I think, that's something that, something that would, help with this project that we've struggled with is it would be great if there were more community members who were also students of the project or postdocs of the project or PIs of the project, or, employed by the project in various positions.

The project leads recognized that the NG members involved in the project are only a few individuals, and they cannot be expected to field every question. The leads suggested hiring additional community members as a strategy to reduce pressure on the NG.

In terms of addressing project-wide barriers, project leads noted a general sense of uncertainty when it came to forming partnerships or engaging with community members:

There's been quite a lot of uncertainty about how to approach things in a way that's respectful and how to basically bring together...how do you do knowledge co-production? ...What does that mean in practice? And I think that...the sense that I've had is that there's a lot of will to do science better, to be more collaborative, to be more engaged and everything. But often, people are just...uncertain about what that looks like in practice, when it's not something that they've necessarily been trained in.

Project leads also mentioned that there is a strong tendency for a select few, namely IRCs and members of the NG to serve as pillars of community:

But I think we lean very heavily on the people that we have these strong relationships with, and we understand why that has been the case. But I think like as things open up as more work becomes possible, we need to shift toward building more relationships with other people in communities and stuff too.

Project leads tended to identify logistical barriers more than other groups. One was funding limitations: "I think funding can be a barrier because if we had infinite funds, we could all afford to go and spend two months in Nunatsiavut. In practice, there's not enough funds to be able to support that for everybody." The technical difficulties posed by working in a virtual setting due to COVID-19 were also mentioned: "A barrier would be, just general familiarity and comfort around tech and access to like tech services a lot of people in Nunatsiavut would have very poor access to the Internet for instance."

Another major hurdle identified was the bureaucratic obstacles inherent in the project's institutional foundations:

At an institutional level, there are policies at the university that make doing any kind of work in Nunatsiavut quite difficult. Payments, for instance, is like this sort of credit, quite a barrier where when we're hiring people or like hiring people in the community or trying to pay people in the community for their time and contributions to the project, there would be a really long turn around to people being paid, and there's a lot of forms and paperwork that's like required to compensate people for their time.

This discrepancy between academic and community expectations makes developing long-term relationships challenging. It was suggested that there was a need for greater transparency from the start to strengthen relationships. This requires “going in with the flexibility and agility... You will hear what people have to say and work with people to figure out a shared vision and path for things. So yeah, not being too, like rigid in your approach.”

Another issue identified was that everyone defines community engagement differently:

Not everybody may care. Some people may care a lot. Many people may not care at all. And so, the other challenge is, what is community engagement? And this is something we've struggled all along. What is a community? Is it three people? Is it the entire village? Is it, Is that the leader of that village? Who is it? Right. And you know, how do we decide as a project that we do have engagement?

Project leads also emphasized the problematic history of past research and hoped that this project could make a positive impact going forward. One observed that there is a “history of colonial research taking place where it was, and in some cases, still is very extractive and exploitative. And I think that we have to show that we're not operating in that way.”

Project leads were also influenced by their individual discipline. One who is a natural scientist found it difficult to define community engagement:

I think it's an overused term. I don't know what it means, and I don't know how to define it.... It can take us down paths where we think we're doing it when we're not because it's also hard to measure, it's hard to define and because it's hard to define it's hard to hard to measure, and if it's hard to measure, it's hard to evaluate whether it's happening or not. And so, I'm nervous about community engagement, and I've tried to sort of move away from the term...to focus on relationships.

For project leads, and over 75% (n >21) of total participants, the key to relationship building was to focus individual projects on issues of interest to the community: “It's about what they care about and what expertise we have that can address what they care about.” But beyond expertise, as noted by other groups, there remains an ongoing need to concentrate on both translating and sharing knowledge across disciplines.

6. *Project Partners*

The two project partners interviewed provided insight into the ways these organizational groups could be better integrated into SakKijânginnaKullugit Nunatsiavut Sivunitsangit. They emphasized that having a clearer, more transparent understanding of where their specific project fits into the overall SakKijânginnaKullugit Nunatsiavut Sivunitsangit framework would be helpful. Additionally, given that their research is focused on work across the entire region, the project partners offered a broader perspective.

To avoid repetition of research practices, project partners felt that working relationships between their organization and the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project could be strengthened. One partner noted that due to the scale of SakKijânginnaKullugit Nunatsiavut Sivunitsangit, they could understand that the amount of research being conducted could be overwhelming:

Even if community members are fully engaged in what you're doing I think it could be fully understandable if they're confused. To them it may be just another person coming in. Well, are you part of this bigger thing, or is this, you know, 20 different projects or is it one kind of project with different aspects? So, the communication of the overall goals of the SNF and what it means when different individuals popping in and out, what that means to the whole...to get it thematically I think that's going to be the biggest challenge because I don't think we as partners in the SNF quite get it yet. So how can we expect anyone in the community to get it if 20 people descend on the community next summer, for example.

This points to the need to develop an organizational framework that outlines the general goals of SakKijânginnaKullugit Nunatsiavut Sivunitsangit in relation to its moving parts. The initiative's relevance to those in the region and its project partners should be made clear.

Overall, both project partners felt more comfortable when discussing their specific work. But within their projects, similar themes arose. When asked about community engagement, one interviewee recommended using caution when using the term and acknowledged that each project must be relevant for a specific community to be interested in it:

I think it can be unintentionally disingenuous because just because you talked to a few people is that community engagement, what is your metric? And that's more of an area for social scientists to figure out. And I'm sure there's definition...First of all, it's important to be present and to be open and transparent...honest and genuine attempts to communicate and be available and to listen and to hear what others have to say...But that's all predicated on the assumption that they're actually going to come. So, you know because people are busy, or they're not interested.

Therefore, not all projects require the same level of engagement. It is crucial to query both the NG and community members to assess the what's required: "Community engagement may not apply to every question asked. There can be some high-tech oceanographic work on the high seas ...But for the most part, anything that's coastal or on the land, I think that co-development is key."

In terms of barriers, the project partners tended to focus on those that exist between academic expectations or research projects and the development of long-term relationships. One participant observed:

I think researchers should also be thinking, "why am I going to this place? Can I sustain research here for something that will be meaningful to communities?" Because a two-year study or even a four-year study kind of provides a bit of information, but it never is the whole thing...Academics like their outputs they have really strict timelines, whereas often ecological questions in particular take way more than two years to answer. It's not a two-year study that's going to get you to adaptive management...ensuring that if you only have a two-year project, you make the training or leave equipment or just enable the community to continue after if they want, I think it's really important too as opposed to coming in, doing stuff and then out... again that knowledge transfer and capacity transfer as part of the research would be really important.

Research should be designed to create a benefit for the community that extends beyond the project timeline. While not every project requires engagement, if the researcher wants their project to involve the community, flexibility is required. One participant noted:

Not all projects warrant the same level of community engagement...If researchers do want the communities to care about what they're doing I think being open to suggestions of how to change the project or the sites before it even happens is important. Because again, it's their space, their place.

This involves considering why the research needs to be done in the specific place and context:

I think the engagement has to be deeper and more meaningful and extend beyond your own kind of quote, selfish interests and are relevant to the community. That's really hard to do and some are just doing that well and naturally. And it also requires time, and it requires money because it's expensive.

This also translates into the importance of sharing results in meaningful ways that has value for the community:

I mean you can't expect everyone to read tons of stuff either. People don't have the time or the inclination, so, the more it can be turned into stories or simple diagrams and that sort of thing. How it's communicated, it can be crystal clear to you and I or everyone else in SNF but it's just kind of one more thing we're dumping on people to try to understand. So how it's communicated is really important and that's not easy, but it's important.

As with other interviewees, project partners stressed that communities should determine how to share results.

Results Summary and Discussion: Core Values for Ethical and Meaningful Community Engagement

While there are several differences between groups regarding strategies for, and barriers to, engagement when asked what community engagement means to them, there were many overlaps. From personal statements made, eight core themes were identified as key concepts associated with effective and meaningful engagement. These are outlined in Table 2.

Theme	Quote
Context Specific	"Just to have that perspective, going into someone's home is important, because I know, a lot of times people explain the same things, even the community members here, of our history, when it should have already been known." <i>-Inuit Research Coordinator</i>
Relationship Building	"Just plain talking to people is a good way to describe it." <i>-Member of the Nunatsiavut Government</i>
Respect	"I think just connection respect, just respecting each other and building this connection between, Indigenous knowledge and scientific knowledge and how they can work together." <i>-Inuit Research Coordinator</i>
Diverse Forms of Engagement	"I think it's just acknowledging that there's diversity and engagement. The engagement is going to happen in a lot of different ways. And that they're all really important." <i>- SakKijânginnaKullugit Nunatsiavut Sivunitsangit Social Scientist</i>

Theme	Quote
Mentorship	<p>"SNF can establish some of those partnerships and that understanding and hopefully some trust. So that as new researchers come on board as new questions arise that you want answered, it's much easier to be able to start doing that work well because the people will point you in the directions that you need to go."</p> <p>- SakKijânginnaKullugit Nunatsiavut Sivunitsangit <i>Social Scientist</i></p>
Sharing Results	<p>"Sometimes you might have to put in the extra work and develop a product that's not necessarily just a publication. And that's I think that's just part of the tax you pay for doing research in our region is you need to also have something that actually benefits us, and I don't know if that's just as simple poster, going over what your results were, you know it could be in a lot of things."</p> <p>-Nunatsiavut <i>Government staff</i></p>
Critically Evaluate Research	<p>"Be genuine about your successes and failures because people don't realize if you reported something, if you want to make yourself look good in this project and look good to funders. If you write in that this was a great success, the way that you did things, and it was not, other academics are going to read that and say that's the way you should do it. And they're going to continue to do this bad pattern of research and process."</p> <p>-Nunatsiavut <i>Government staff</i></p>
Transparent Communication	<p>"Ultimately it's about people connecting and being open and respectful to each other, bring that to the table, if I had one rule that would be it."</p> <p>- SakKijânginnaKullugit Nunatsiavut Sivunitsangit <i>Natural Scientist</i></p>

Table 2: A breakdown of the most common terms mentioned when participants were asked how to define or describe community engagement and the elements required for successful engagement.

1. *Context Specific*

It is important to understand the context of the area prior to working in it. The structure of Nunatsiavut research, with the NG being the initial point of contact for research approval, sets the stage for outside researchers to be more reflective. Acknowledging history is also a crucial component. The researchers themselves should be asking: *Why do I want to do research in this region?* The consensus drawn from NG representatives was that researchers are more likely to develop effective partnerships if they are open to altering their projects after speaking with both NG staff and community members. The term *context* was mentioned over 20 times by more than ten participants, and the word *history* was mentioned by five participants, all community members living in Nunatsiavut.

Several diverse communities make this region home. One IRC noted: "Just to have that perspective, going into someone's home is important, because I know, a lot of times people explain the same things, even the community members here, of our history, when it should have already been known." It is necessary to recognize the community context and not overwhelm individuals while conducting research. This requires researchers to set personal goals aside to clearly express their intentions and communicate plans. It is essential that they take the extra step to learn about the history of Nunatsiavut. Researchers should also consider the language they use as it can be interpreted by different community members in ways that are unintended or confusing.

2. *Relationship Building*

Finding a local person to connect with in communities was considered a key aspect for effective engagement. Each interviewee mentioned *relationships* at least once during the interview process. For them, building a relationship means extending connections and conversations beyond formal avenues. As one participant who works for NG noted, "Just plain talking to people is a good way to describe it." This means attending events, sharing meals, and accepting invitations to go out on the land with community members.

Participants often mentioned that it was important to appreciate that community members have busy lives. Therefore, a certain level of trust and respect needs to be established over time.

A key aspect of relationship building requires connecting on a personal level prior to commencing research. The researcher should take steps to modify their objectives to ensure they align with community goals. After project completion, they should also take extra steps to ensure their data and results are shared to continue to build relationships and stay connected even after their work is completed. This reduces the risk of “parachute science” and allows for long-term trust to be developed.

3. Respect

Over 80% (n=>22) of participants directly discussed the need to be respectful when engaging with communities. Respect is fundamental to both building relationships and recognizing historical context. It is necessary to acknowledge positionality and embrace the fact that people come from diverse backgrounds and cultures. As one IRC noted: “I think just connection respect, just respecting each other and building this connection between, Indigenous knowledge and scientific knowledge and how they can work together.”

More than 80% (n=>22) of interviewees stressed that respecting the differing expectations that exist between academic and community settings is essential. This includes making sure that community members involved with the research are properly compensated for their time. It also requires flexibility on behalf of the researcher to modify projects and timelines to support community needs.

4. Diverse Forms of Engagement

Seven participants, most of whom were social scientists, noted that ethical research requires using diverse methods to engage community members. It is essential to recognize that communities are not homogenous. To acknowledge this diversity, researchers should evaluate whether it is appropriate to directly connect their project to a community interest. Examples of this include arts or photo-based projects that focus on supplying communities with the tools to do something already meaningful for them.

Researchers tend to assume communities need them and that their role is to build capacity. This can lead to a myopic view that perpetuates colonial perspectives and ignores how communities can actually assist researchers. The type of engagement required depends on the

nature of the project. When asked about community engagement, an SakKijânginnaKullugit Nunatsiavut Sivunitsangit social scientist noted: “I think it's just acknowledging that there's diversity and engagement. The engagement is going to happen in a lot of different ways. And that they're all really important.” If the project focuses on an issue of particular interest to a specific community group, there is a need to connect early and often. However, if the project involves work on a specific species that is not necessarily culturally significant, the community may not be as invested. The NG can serve as a conduit to connect researchers to a specific community issue or concern.

5. Mentorship

Mentorship is a key element that was particularly emphasized by early career scientists. Without an initial introduction, it is nearly impossible for researchers to connect and develop ties to the region. Mentorship was mentioned as being of particular value to the student researchers interviewed. One of the social scientist interviewees observed:

SNF can establish some of those partnerships and that understanding and hopefully some trust. So that as new researchers come on board as new questions arise that you want answered, it's much easier to be able to start doing that work well because the people will point you in the directions that you need to go."

As many of the interview participants were early career scientists directly involved in the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project, much of the conversation addressed ways a large-scale project could foster relationships by introducing newcomers to the region via a few select contacts. For example, IllinniaKatigenniik, the group for students and early career researchers, was included in the project with the goal of fostering such connections. By offering this type of built-in network, those new to the region could learn from other researchers without overburdening community members. Also, those unable to travel to the region due to COVID-19 or costs are able to establish relationships with others facing similar academic pressures.

6. *Sharing Results*

The need for researchers to take steps to ensure that their results are tangible and relevant for community members was a key component for sharing results effectively. Interview participants, particularly members of the Nunatsiavut Government and community members, mentioned this often. One NG participant noted:

Sometimes you might have to put in the extra work and develop a product that's not necessarily just a publication. And that's I think that's just part of the tax you pay for doing research in our region is you need to also have something that actually benefits us, and I don't know if that's just as simple poster, going over what your results were, you know it could be in a lot of things.

Sharing results includes being transparent and following up to ask how data should be disseminated among interested parties. This additional step is often overlooked by outside researchers when they are too focused on publishable products, grants and academic expectations and neglect to follow up and share results with community members.

One of the core issues identified with the dissemination of published papers among community members was the use of jargon and publication objectives. Journals are often limited to a singular discipline and include specific, formal writing that is unnecessarily complex and exclusive in terms of both language, open access and training costs. One suggestion offered was that researchers consider taking a plain language course to learn how to effectively present their results to community members.

7. *Critically Evaluate Research*

The need to critically examine research methodologies was mentioned by more than 75% (n=>21) of participants. As noted by an NG participant:

Be genuine about your successes and failures because people don't realize if you reported something, if you want to make yourself look good in this project and look good to funders. If you write in that this was a great success, the way that you did things, and it was not, other academics are going to read that and say that's the way you should do it. And they're going to continue to do this bad pattern of research and process.

Community engagement is not necessarily always positive. In fact, in some instances, when it is extractive, or researchers are hyper-focused on the needs of their project, it can be harmful. This

can also create a cycle of distrust that permeates into other research projects and inhibits partnerships. In those cases, research papers are sometimes published that do not account for mistakes made or community impacts. Bring critical of research practices requires expressing humility and being honest when mistakes are made. The expectations surrounding the push to publish often undermine the success of community-based work.

8. Transparent Communication

Transparency was mentioned as a key theme by more than 80% (n=>23) of participants. One natural scientist observed: “Ultimately it's about people connecting and being open and respectful to each other, bring that to the table, if I had one rule that would be it.” In the eyes of many participants, transparency was fundamental to building meaningful relationships and engaging ethically with community members. Researchers should also be clear about their intentions. This requires taking the time to establish trust and being open to modifying research methods to correspond to community needs and values.

Key Conclusions: A Critical Assessment of the Engagement Process and Advice for Community-Based Marine Research Moving Forward

a. Key Considerations for the Engagement Process

Based on the eight themes identified through the 27 interviews I conducted with members of the Sustainable Nunatsiavut Futures project, there are three main elements outside researchers should consider if they are planning to do research in Nunatsiavut: 1) prioritize relationships and reciprocity, 2) share results using plain language, and 3) critically evaluate research.

1. Prioritize Relationships and Reciprocity: Engage with Community Members Early and Often

As a researcher, it is important to first get to know and understand the people in the region. Spend time talking informally and listening to community concerns. These relationships should be rooted in the idea of reciprocity, whereby both community members and researchers mutually benefit from the work being done. This approach encourages researchers to critically reflect on their motivations and goals for their projects. Researchers must also be flexible with project timelines. They should work with community members and members of the Nunatsiavut Government to assess the potential long-term impact of their project. Specifically, researchers must a) acknowledge differing expectations between academic versus community timelines, b) provide proper compensation for community members involved in the research process, and c) acknowledge data ownership.

2. Share Results: Using Plain Language with Clear Research Outcomes

To maintain effective research partnerships, results must also be shared in a manner that is both transparent and relevant to community members. Too often researchers miss the fundamental step of following up to share results in beneficial ways and that foster reciprocity. A common theme addressed by more than 50% (n=>16) of participants was the need to share results in a manner that is relevant and tangible for community members. Notably, these should be “jargon-free” and use “plain language.” Specific academic disciplines often use terminology that means different things to community members. Conversations following data collection should inform the way results are shared.

3. Critically Evaluate Research: Admit Mistakes in Publications to Ensure that They Are Not Repeated

Engaging communities meaningfully can serve to strengthen Indigenous-scientist research partnerships and support data sovereignty. It is essential that outside researchers critique their goals and methods to consider what long-term effect their research could have on communities. The community engagement process itself can create a “boundary” between researchers and community members (Gieryn, 1983). Therefore, researchers should acknowledge their mistakes in publications. This allows others to learn from past projects and fosters an honest and transparent representation of results. If errors go unaddressed, the same problematic research practices could be repeated.

Researchers must also be willing to step outside the bounds of their specific disciplines to fully consider the people whose waters and lands they are visiting and acknowledge their needs. It is important to be critical and ask the following questions:

1. Whose lands you are working in? Is your idea/initiative relevant? Would community members want to be involved? Would they want to lead this project? Be prepared to be flexible to adapt accordingly.
2. Why are you doing research in the region? How can you make this project a long-term one (not just limited to their funding/academic schedule)?

Future Directions:

a. Project Limitations

While participants shared a variety of perspectives, there were a few project constraints, the biggest being a limited timeframe. I only had a three-month window to complete interviews and some project members were busy with their own lives. Summer is a particularly active season for project partners and leads and thus I was only able to gather perspectives from two partners, and two project leads. Another limitation was the fact that all interviews had to take place virtually as funding limitations made it impossible to travel to the region. Given that the internet is not stable throughout the region, and email is not the preferred method of communication, community members able to participate in the process were limited to those directly associated with the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project.

b. Future Directions

Based on project findings, collaborating across a wide network of researchers to avoid repetitive projects would be helpful. While there is a collective desire to continue improving connections with communities, barriers remain. This includes the COVID-19 situation, timing constraints and the underlying flexibility required. Despite these issues, future SakKijânginnaKullugit Nunatsiavut Sivunitsangit plans will center on reaffirming these relationships.

SakKijânginnaKullugit Nunatsiavut Sivunitsangit's focus on "doing science differently" provides a lens through which researchers can develop projects that are meaningful to those in the region. The NG's role in the project can also serve as a model for effective, self-determined regional research. The broader community engagement suggestions identified are not limited to Nunatsiavut but could be valuable considerations when undertaking research across the Arctic and elsewhere.

A next step would be to broaden the project's scope to include interviews with more project partners and community members not directly associated with SakKijânginnaKullugit Nunatsiavut Sivunitsangit. It would also be helpful to have an opportunity to coordinate with other large-scale research projects in the region to ensure efforts are not duplicative. It may also

be useful to broaden research methods to cross-compare these SakKijânginnaKullugit Nunatsiavut Sivunitsangit findings to other projects in the region.

c. Final Summary and Key Takeaways

Research in Nunatsiavut should center on relationship building and projects should be geared toward community needs. This thesis discussed some of the elements that should be considered throughout the research process. Key elements among these are to a) prioritize relationships and reciprocity, engage with community members early and often, b) share results using plain language with clear research outcomes and c) critically evaluate research: admit mistakes made in publications to ensure they are not repeated.

However, there are many diverse ways to engage with communities that have not been discussed here and many valuable voices within Nunatsiavut who have not yet shared their perspectives. Despite the limitations, my hope is that the data collected, and subsequent findings will serve as a starting point to begin to critically assess the ways in which community engagement is conceptualized as it relates to Nunatsiavut.

Appendix 1: Semi-structured Interview Questions

Prior to asking these semi-structured questions, more background was provided to the participants and consent was acquired for recording purposes. While this is a skeleton of the questions asked as it was semi-structured some follow-up questions are not listed.

Sustainable Nunatsiavut Futures:

1. What are some of the ways you see the Sustainable Nunatsiavut Futures as a whole currently engaging with community members?
 - a. What are some project-wide strategies you have seen for engaging community members?
 - b. Are there any project wide barriers you have seen?
 - c. How do you think the SakKijânginnaKullugit Nunatsiavut Sivunitsangit project as a whole can assure research aligns with and advances community initiatives? I.e., Do you have any ideas for how the project as a whole can best ensure that research has a tangible and relevant use for community members living in Nunatsiavut (and diverse community goals)? Can you reflect on any specific elements that can help ensure the work is beneficial for communities?
 - d. Is there anything you think SakKijânginnaKullugit Nunatsiavut Sivunitsangit should be doing that it is not currently to engage better with community members?

Personal Background/Individual projects and community goals:

1. How did you become interested in this project, or your work in Nunatsiavut? What is your role in the project/region? Please describe your work/what you do?
 - a. What are the various ways you engage with the community; can you elaborate on those?
 - b. What are some strategies you have used to engage with communities?
 - c. What have been some challenges, or barriers when trying to engage communities (and identify goals) on the ground?
 - d. Do you have any reflections on what both communities and researchers need to effectively partner, or the process of community engagement in general?

2. How do you see your work at SakKijânginnaKullugit Nunatsiavut Sivunitsangit overlapping or connecting with other projects (explain what the project means) in the region?

Community Engagement Questions

1. What are some key words you think of when considering community engagement i.e. What does community engagement mean to you?
2. Is it a relevant term? What should researchers keep in mind when conducting projects centered on community engagement?
3. Do you have any reflections on what both communities and researchers need to effectively partner, or the process of community engagement in general? What do you see the role of initiatives like SakKijânginnaKullugit Nunatsiavut Sivunitsangit being in advancing on the ground community goals?
4. Do you have any advice for outside researchers in the region looking to conduct projects in the region?
1. What do you see the role of knowledge sharing and/or co-designing research project being in relation to forming partnerships between scientific-researchers and community members when it comes to the research side of this project? More specifically how does knowledge sharing relate to community engaged research?

Additions:

1. Is there anything else you would like to add regarding the processes of community engagement or anything else we have touched on?
2. I'm interested in hearing perspectives from those involved in the project as well as project partners and other researchers in the area- Do you recommend I talk to anyone in particular about these questions?

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