Visualizing changing oceans: Inuit Qaujimajatuqangit and participatory arts-based methods in Pangnirtung, Nunavut

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A thesis submitted to the Faculty of Graduate Studies
of The University of Manitoba

In partial fulfillment of the requirements of the degree of

MASTER OF ENVIRONMENT

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THESIS OVERVIEW

Canada's climate has changed in ways that are effectively irreversible, with disproportionate impacts for coastal Arctic communities. Many Inuit hunters and Elders are concerned by the impacts of climate change to land-use and access, community activities, animal populations and plant species. Researchers have increasingly been collaborating with local experts to document, visualize, and mobilize knowledge of socio-ecological change; key voices, however, remain absent in much of the published literature. This Master's thesis documents and shares Inuit Qaujimajatuqangit and local knowledge of changing oceans in Pangnirtung, Nunavut through participatory arts-based methodologies, with a special emphasis on youth voices. Over a three-year period (2016-2018), the research team collaborated with community members through a participatory arts-based process, including qualitative interviews, short films, video and photography workshops, and associated visual media. Participatory video was used as a tool to engage community members in co-creating dynamic portraits of local experience and foster intergenerational knowledge exchange. The first iteration of the project (2016-17) focused on the local commercial and subsistence fishery and how fishers are experiencing and responding to change, and challenging the traditional-commercial dualism through a sustainable and adaptive fishery. The second iteration (2017) was focused on youth perspectives and experiences of climate change, through innovative hands-on digital and analogue workshops that centered youth voices and built relationships through process and product. Overall, the camera, embedded in a participatory arts-based approach, was a tool for strengthening relationships and creating a necessary space for local voices, values, and knowledge. This thesis contributes to larger discussions about social-ecological change in Nunavut, and how participatory arts-based methodologies can support resilience and cultural continuity as the next generation take action on a climate changed.

ACKNOWLEDGEMENTS

First and foremost, there are many people to thank in Pangnirtung. To Elders Joanasie Karpik, Jaco Ishulutaq, Geela Sowdlauapik, and Elisapee Ishulutaq – for sharing your guidance, knowledge, and support. To David Poisey, for the opportunity to collaborate with and learn from a Nunavut legend in film, and to Rita Mike and your family, for welcoming me into your home. To the Mike clan, thank you for hosting me and for the many hours over tea and meals in Pang and Iqaluit. To Markus Wilcke and Sara Fitzpatrick – for welcoming me into your work with youth.

To Dr. Ian Mauro (co-supervisor 2016-2019) and Dr. Stéphane McLachlan (co-supervisor 2016-2019, supervisor 2020) – for sharing your passions and relationships, as well as for guiding me through nurturing my own. To my committee members, Dr. Peter Kulchyski, Dr. Ashlee Cunsolo, and Dr. Bruce Erickson – for your guidance and enthusiasm. To Dr. Chris Trott and Vincent L'Hérault – for sharing your insight and experience. To the friends who provided feedback on previous versions of these chapters: Laura Cameron, Hillary Beattie, Evan Bowness, Vanessa Corkal, and Warren Bernauer. To our team members at the Prairie Climate Centre: Ryan Smith, Steve McCullough, Christey Allen, Durdana Islam, and Matt Loxley.

This project was partially funded by the Social Sciences and Humanities Research Council (SSHRC) of Canada "OceanCanada" partnership grant, as well as the Northern Scientific Training Program. Throughout the project, I was also supported by a Joseph-Armand Bombardier Graduate Scholarship, which was provided by SSHRC. These funders, as well as financial and technical support from Ian Mauro and the Prairie Climate Centre, made the project possible.

And last, to my family, thank you for your love and encouragement. To our loved ones who have passed since starting this journey – it has been so hard to lose each of you. I wish I could tell you about all of these people who have become like family to me.

In memory of my dad Peter, uncle Ken, grandpa Harold, and grandma Winnie –
for all that you taught me: to read the clouds and turn your sail to the wind,
to make family around warm food and stories,
and to have humility, empathy, and hope as we face an uncertain future.

DISCLAIMERS

Note on Authorship: As per the requirements of the University of Manitoba, I am listed as the sole author of this thesis. However, this research would not have been possible without the significant contributions of David Poisey and many community partners, as well as Ian Mauro and my advisor Stéphane McLachlan. This will be reflected in any publications based on this research. Further, in accordance with the Inuit Tapiriit Kanatami National Inuit Strategy on Research (NISR; https://www.itk.ca/national-strategy-on-research/) and the First Nation's principles of Ownership, Control, Access, and Possession (OCAP; https://fnigc.ca/ocap) followed throughout this research, the written and video data and results belong to the communities and are shared here with their permissions. I do not claim ownership over the ideas and work of community members presented in this thesis and emphasize that it came about through a collaborative process.

Note on Videos: In addition to community collaborators, the videos in this thesis were made in collaboration and with support from other members at the Prairie Climate Centre research team, as indicated by the credits in each video.

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CHAPTER 1: Introduction

1.1 Introduction

On September 27, 2019, youth marched and protested in cities and towns all across Canada as part of the Global Climate Strike, the largest climate mobilization in history. Answering the call of Greta Thunberg, a Swedish 15-year old, 7.6 million people around the world took to the streets demanding climate action. Young people raised their voices in response to the grim future of climate inaction, as global CO_2 emissions from human activity have changed the Canada's climate in ways that are effectively irreversible (Bush & Lemmen, 2019). Children, youth, and their allies marched out of their classrooms, calling for action that respects climate science, upholds Indigenous rights and sovereignty, creates good jobs, and enshrines dignity and justice for all (Climate Justice Edmonton, 2019).

Long before Greta, young Indigenous people from communities affected by climate and ecological breakdown have been courageously speaking up. However, as noted by the United Nations, "international discourse has often failed to consider the valuable insights on direct and indirect impacts, as well as mitigation and adaptation approaches, held by indigenous peoples worldwide" – nevermind youth (Raygorodetsky, 2011). Autumn Peltier, a 15-year old Anishinaabe-kwe[1] water activist from the Wiikwemkoong First Nation in Northern Ontario, has been speaking up as well. Autumn offers a different perspective than Greta, drawing strength from her Indigenous cultural knowledge as she fights for clean drinking water for Indigenous communities in Canada.

Indigenous identities and cultures are "inextricably linked" with their lands, and their extensive and collective knowledge of their environments can inform the foundation for climate change resilience around the world (Raygorodetsky, 2017). Indeed, many of the scientific reports and studies regarding climate change only confirm what many Indigenous people already know about the changes on their homelands (Raygorodetsky, 2017; Wildcat, McDonald, Irlbacher-Fox, & Coulthard, 2014). Given the increasing challenges of global ecosystem degradation and climate

[1] Anishinaabe-kwe means "woman" in Anishinaabemowin, the Indigenous language of the Anishinaabe nation spoken across Canada and the United States.

change, centering local and Indigenous knowledge is increasingly important (Mistry & Berardi, 2016).

In the coastal Arctic community of Iqaluit, Nunavut, about 50 marchers joined the global strike, carrying the banner “our future is on thin ice”. Marchers in Iqaluit called for the concerns of Nunavut communities, Arctic ecosystems, and Inuit Knowledge to be part of the global climate movement. Inuit, a largely coastal Arctic Indigenous people of the circumpolar world, were among the first people to raise warnings about the changes occurring in Arctic ecosystems (Watt Cloutier 2015). There are nearly 150,000 Inuit in the world, with the majority living in the Arctic regions of Greenland, Canada, and Alaska (Watt-Cloutier 2015). The highest population of Inuit is in Inuit Nunangat, the Inuit homeland in Canada, including the Inuvialuit Settlement Region (Northwest Territories), Nunavut, Nunavik (Northern Québec), and Nunatsiavut (Northern Labrador).

Many of these communities are disproportionately affected by climate change, as the Arctic climate warms nearly three times faster than the global rate (Derksen et al., 2018). Oceans surrounding Inuit Nunangat have warmed, become more acidic, and less oxygenated, with severe implications for coastal Arctic environments. At this point, further warming is unavoidable, and effects of warming are projected to intensify in the future – with dramatically shorter ice seasons, thawing permafrost, and rising sea levels (Barber et al., 2017; Bush & Lemmen, 2019).

Inuit are very aware of the threat climate change poses to food security, livelihoods, health, and cultural well-being (Council of Canadian Academies, 2014). Inuit lifestyles are remarkably adapted to extreme Arctic conditions, and although using contemporary technologies and modern lifestyle, Inuit also remain a people of the land, ice, and snow (Watt-Cloutier, 2015). Life in Inuit coastal communities is interwoven with and dependent upon oceans, and the decline of ocean environments has a direct link to the decline of health and well-being in these communities (Cunsolo & Ellis, 2018; Durkalec et al., 2015; IPCC, 2019). A lot of community life takes place on the open summer waters and winter sea ice. Harvesting, sharing, and eating country foods from the land and sea provide healthy and nutritious food as well as reinforce family and community ties, connecting people to their ancestral cultures (Council of Canadian Academies, 2014).

As temperatures rise and weather patterns change, knowledge that has developed over thousands of years is becoming less reliable for those navigating the land. Changes to sea ice and weather are impacting vegetation and the quality of meat and skins, as well as the safe and reliable access to these resources. On the community level, this represents impacts on food security, transportation, safety, health, and culture (Krupnik et al., 2010). Many of these changes are outside of the change expected or observed in oral histories (Fox, 2010; Chapter 4, this thesis).

In the early 2000s, bodies of literature that honor Indigenous climate knowledge in Arctic Canada for its inherent worth began to emerge, valuing participation and collaboration between equal partners (eg. "SIKU: Knowing our ice" (Krupnik et al., 2010), "The Earth is Faster Now: Indigenous Observations of Environmental Change" (Krupnik & Jolly, 2010), and "Climate Change: Linking Traditional and Scientific Knowledge" (Oakes & Riewe, 2006). The Arctic Monitoring and Assessment Program (AMAP) of the early 2000s was hailed as the first process of its kind to bring together traditional ecological knowledge and western science (ACIA, 2004). The report was celebrated for unlocking a "new" appreciation for the power of Indigenous knowledge and science. However, within this much of this literature, traditional knowledge is interpreted as data that complements or validates Western science, rather than a knowledge of its own. The ongoing assimilation of Indigenous Knowledge into western environmental worldview and governance structures perpetuates the marginalization of Indigenous people, furthering colonial research patterns of extraction and appropriation (Mistry & Berardi, 2016; Noble, 2015).

Since the ACIA report, there have been huge surges in academic research related to creating space for Arctic Indigenous Knowledges and sciences in western scientific discourse. Research exploring the human dimensions of climate change continue to grow, as an effort to document, assess, and respond to the human dimensions of change in Inuit Nunangat including Inuit Qaujimajatuqangit (IQ), Inuit knowledge and societal values. IQ is a worldview shared, with differences in detail, terminology, and articulation by Inuit across the Circumpolar world (Joe Karetak & Tester, 2017). IQ defines Inuit culture, encompassing values, language, knowledge, and skills. Large bodies of literature focus on incorporating Inuit Qaujimajatuqangit and local

perspectives into a western science understanding (Gérin-Lajoie, Cuerrier, & Seigwart Collier, 2016; Krupnik et al., 2010; Krupnik & Jolly, 2010; S Nickels, Furgal, Buell, & Moquin, 2005).

Much of community-based research centered on the human dimensions of climate change is framed by identifying exposure, vulnerability, and adaptations (J. D. Ford et al., 2016). The analysis of human dimensions of climate change through a vulnerability framework has made important contributions to policy but there are limitations to this approach. The vulnerability framework has become a "hegemonic lens" through which scholars, policy makers, political leaders, and the media understand the relationships between Inuit and climate change (Cameron, 2012, p. 111). This is of course within a longer history of longstanding, systemic marginalization of Northern Indigenous peoples across Canada.

Framing Inuit as vulnerable, coupled with the notion that IQ is a traditional and disappearing system of knowledge and values, severely limits the mobilization of IQ in larger discourses. The vulnerability approach to climate change adaptation runs the risk of dehumanizing communities at a time of huge threats to Inuit culture related to land and identity. The relational and language components of IQ are often excluded from academic literature and research regarding IQ. Yet, as Siila Watt-Cloutier (2015), Inuk advocate and climate change activist writes,

> *"The bigger picture, the cultural picture, the human picture is being lost. Climate change is not about bureaucrats scurrying around. It is about families, parents, children, and the lives we lead in our communities in the broader environment. We have to regain this perspective if climate change is to be stopped." (pg. 260).*

Speaking to the human dimensions is an essential step in communicating the urgency of climate change. Inuit continue to adapt the values and knowledge of IQ to accelerating changes in their homelands. IQ, grounding in relational ways of knowing and being, is relevant far beyond the Inuit context (Greenwood, 2017). Moving forward, how can research regarding social-ecological change include many dimensions of knowledge and ways of knowing? Coinciding with the call for humanizing, strength-based approaches to working with Inuit, has been the development of participatory visual methodologies in social sciences. Video methodologies in particular are well-suited to engaging with IQ, a primarily oral knowledge system. Participatory

video methods have the potential to move beyond the simple recognition of IQ and local expertise, into collaborative and iterative research partnerships built on relationships of reciprocity and responsibility. Participatory visual methodologies also have the potential to visualize the relationships to the land and one-another, as communities continue to adapt and respond to social and ecological change (Brown, 2016; Cunsolo, Harper, Edge, 'My Word': Storytelling and Digital Media, & Government, 2013; Zacharius Kunuk & Mauro, 2010; Petrasek MacDonald et al., 2015; Rathwell & Armitage, 2016; Rosen, 2013). This thesis seeks to investigate the role of arts and video-based methodologies for documenting, understanding, and contributing to a richer and more responsive understanding of IQ regarding social-ecological change.

1.2 Purpose and Objectives

This Master's project uses participatory visual methods to document and share Inuit Qaujimajatuqangit and local knowledge regarding oceans and climate change in Pangnirtung, Nunavut. Using participatory video and arts-based methods, this research seeks to

1. Explore video-based storytelling for community engagement and knowledge mobilization,
2. Co-create knowledge about oceans to understand challenges and opportunities facing these social-ecological systems, and
3. Support intergenerational knowledge exchange to support resilient coastal communities and cultural continuity.

1.3 Setting

1.3.1 Pangnirtung

Pangnirtung, also known as Panniqtuuq and Pang, is a remote coastal community in the Qikiqtaaluk region of Nunavut. Panniqtuuq is Inuktitut for "place of many bull caribou". The modern settlement is located in the Pangnirtung Fjord off of Cumberland Sound, an area rich with marine and terrestrial wildlife [**Figure 1**]. There is a long history of Inuit settlement in the

Cumberland Sound area, dating back to the earliest times of human habitation in the Arctic (Stevenson, 1997). Inuit in Cumberland Sound were spread out in *Ilagiit nunagivaktangit* (small family groups), travelling by dog teams in winter and umiak in summer to follow the season patterns of animals for hunting and fishing (Qikiqtani Inuit Association, 2013).

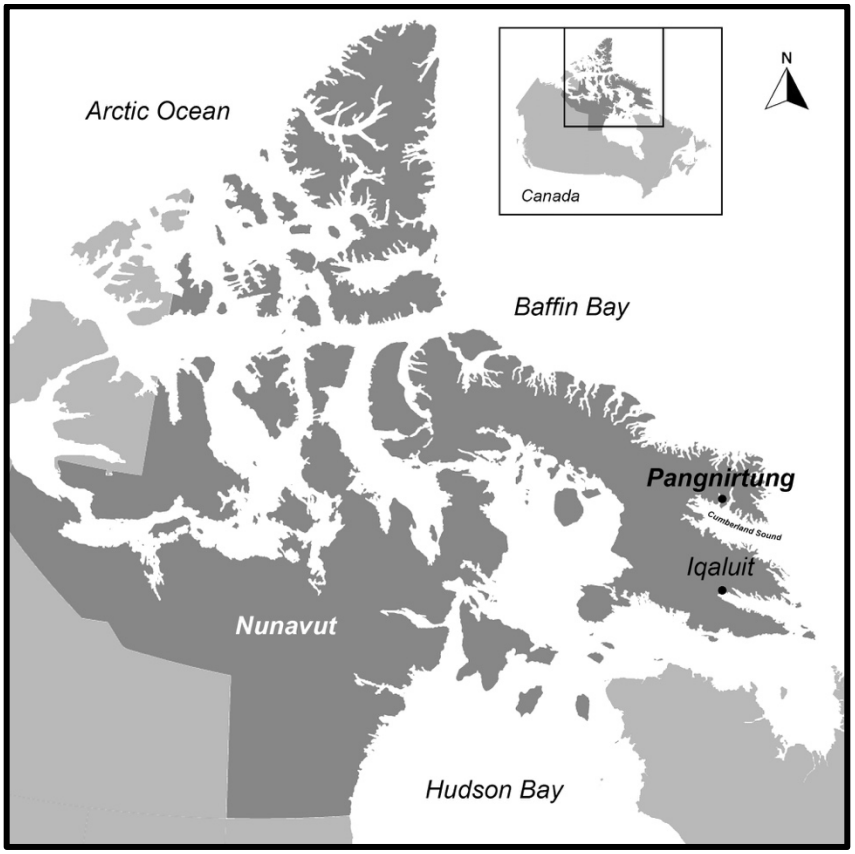
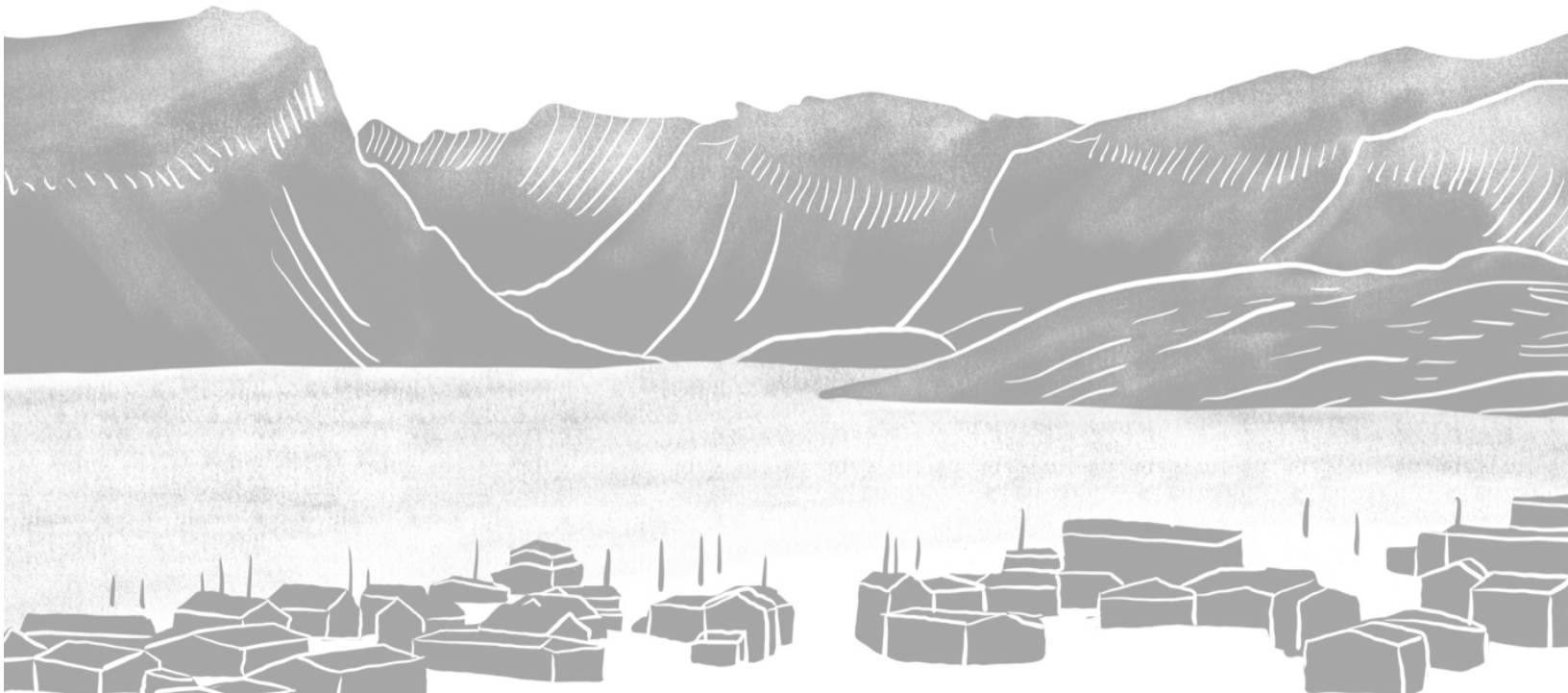


Figure 1. Map of Pangnirtung, Nunavut

Cumberland Sound was one of the first regions of Inuit Nunangat to have contact with non-Inuit. As early as 1585 there was exploration by Europeans in Cumberland Sound, and by 1850, there was considerable contact between Inuit and Europeans due to the extensive whaling industry. In the 1800s, many Inuit left their traditional camps in and around Cumberland Sound to work seasonally at the whaling stations at Nuvuey and Kekerten Island, both short distances from modern Pangnirtung. In the 1920s, Pangnirtung began to have a permanent settlement consisting of a Hudson Bay Company trading post, an RCMP detachment, an Anglican Mission, and a government hospital. Many Cumberland Sound Inuit travelled back and forth to

Pangnirtung at least once a year to trade furs and oil for imported food and manufactured goods. Very quickly, by the 1940s, Pangnirtung was one of the most visited, most studied, and best-serviced communities in the Eastern Arctic (Qikiqtani Inuit Association, 2013). In the 1960s, nearly all Inuit of Cumberland Sound were relocated to Pangnirtung, setting forth the modern community.

Today there are roughly 1500 residents in Pangnirtung, the vast majority of whom are Inuit (Statistics Canada, 2017). As in many remote Nunavut communities, jobs are limited and harvesting activities remain an important part of everyday life (Myers, Fast, Berkes, & Berkes, 2005; Prowse, Furgal, Bonsal, & Peters, 2009). The main employment activities in Pangnirtung are municipal and territorial government services, two local stores, the Pangnirtung fishery and fish plant, subsistence hunting, and arts and craft industries. Pangnirtung is also located near the entrances of Auyuittuq National park, attracting international visitors year-round to its stunning mountain ranges and fjords, including the last remnants of the Laurentide ice-sheet that previously covered North America.



1.3.2 Researcher background

As a Qallunaaq[2] researcher working in an Inuit community, it is important to position myself in relation to the research. I am a white settler Canadian of Celtic and Dutch descent in my late-twenties. For most of the twentieth century, my family has lived in Winnipeg and South-western Manitoba, in Treaties 1 and 2, the homelands of the Dakota, Anishinaabe, Oji-Cree, Cree, Assiniboine, Dene, and Métis. I grew up in Winnipeg in an urban, middle class home, while also spending a lot of time in southwestern Manitoba and the Boreal Forest with my grandparents and extended family of European-settler, Cree, and Métis heritage. Formative moments on the land and water, spending time learning from land-based communities and cultures, has shaped my understanding and respect for the interdependent web of which we are all a part.

My experiences growing up surrounded by rich community and family have led me to foster my own community through shared experiences of learning, growing, and creating together in urban and rural spaces. During my Bachelor of Environmental Science, I focused on collaborative video as a tool for environmental action, including video projects with Indigenous fishermen engaged in innovative lake Winnipeg fisheries, and solutions to waste management by inner-city youth. After graduating, I focused on my socially-engaged art practice that includes converging processes of drawing, photography, and media arts.

Since 2012, I have been working as a community-based artist in Winnipeg's inner-city, facilitating visual and media arts workshops for people of all ages and abilities. At Art City, a storefront community art centre, I teach film and darkroom photography, primarily to children and youth from Indigenous and newcomer backgrounds. At the Misericordia Health Centre, I act as an artist-in-residence, facilitating drawing and painting workshops for older adults and seniors living with cognitive and physical disabilities. Over many years of working in these two roles, I have witnessed first-hand the significance of providing the tools and space for anyone who wishes to express themselves creatively. In my experience creativity and resiliency are inextricably linked. I think often of this quote from Art City's founder, visual artist Wanda Koop:

[2] *Qallunaaq* (singular of *Qallunaat)* means "white person" in Inuktitut, however, the term is not so much about skin colour, but a Western-European state of mind (Sandiford & Nungak, 2006).

> *"We are not necessarily making artists, we are giving people the opportunity to think creatively, and my feeling is that if you can think creatively, you can survive almost anything"* (Art City Inc, 2019).

This connection between creativity and resiliency are core tenants to my approach as a visual artist, researcher, and educator; searching for ways that art and media can process, represent, and respond to personal, social, and ecological change.

For many years I have been drawn to the richness and strength of Inuit culture through appreciating and engaging with Inuit art and film. In 2016, I spent six weeks conducting in-person surveys with Nunavummiut (people of Nunavut). During this experience I became very aware of my position as a Qallunaaq woman from the south, as well as my uncomfortable role within the long history of Inuit being named and accounted for as the federal government sought to establish sovereignty over the Arctic. I often felt the survey questions didn't suit Nunavummiut or accurately capture their local realities. *Did you work last week?* There was no box to check for a young hunter that quit his job because it didn't offer time off to harvest country foods for his family. *Do you have difficulty hearing?* There was no space for me to write down their story of permanent injury for speaking Inuktitut while at residential school.

Walking from house to house, I often wondered, what questions, or format, could better communicate the richness and experience, and also the barriers and challenges for Nunavummiut? What is my role in communicating these experience and perspectives? Do I even have one? The survey's connections to the E-Number and Project Surname initiatives was not lost on me and I felt deeply conflicted with my perception of how Nunavummiut positioned me in their experience of settler-colonialism. This experience with was a formative moment as a white settler-Canadian negotiating my identity on stolen lands **[Figure 2]**.

Figure 2. The view from my hood (Winter 2016)

Two months after returning from Nunavut, I started my Master of Environment program at the University of Manitoba, travelling to Pangnirtung for the first time in July 2016. As a non-Indigenous scholar, I strive to practice ally-ship in the form of accountability, reciprocity, and reflexivity – rich sites for collaborative knowledge production and collective action (Kirkness & Barnhardt, 2001). My experience working in communities, and the great privilege of spending time on-the-land with Nunavummiut, does not make me an expert or a voice for Inuit. I am a visitor on Inuit homelands and carry many privileges from the south, with white skin, education, and income. Through this Master's experience I will continue to benefit, rewarded for my privileges of education and experience. Some of these privileges, such as my position as a university-based researcher, can be mobilized to work for the goals of communities – with research that supports community priorities and opportunities for local capacity development and training.

1.2.3 Community Relationship

This Master's thesis has stemmed from long-term commitments to sustainable relationships of trust and mutual benefit between Panniqtuumiut and researchers at the University of Manitoba and the University of Winnipeg. Ian Mauro and my advisor Stéphane McLachlan both were instructors in the Pangnirtung Bush School, founded by committee member Peter Kulchyski. This partnership between university academics and Panniqtuumiut fostered many long-standing, cross-country research relationships and friendships. Ian Mauro, has worked on numerous community-based filmmaking projects in Nunavut, including the film *Qapirangajuq: Inuit Knowledge and Climate Change* (Kunuk and Mauro, 2010) and *Our Baffinland Atlas*, an IsumaTV Digital Indigenous Democracy project (IsumaTV, 2012).

This project has been developed collaboratively, iteratively, and reflexively with many community members, ensuring that they are setting the priorities for the development and dissemination of the research, and having their knowledge and stories translated into research in a matter they deem appropriate. In 2015, Mauro began working with Pangnirtung community members to develop new video research projects centered around ocean social-ecological systems and the Pangnirtung Fishery. The research was supported by the Hamlet Council, as well as approved by the Nunavut Research Institute (#02 053 17R-M) and the University of Winnipeg Ethics and University of Manitoba Joint Faculty Research Ethics (J2017:055 HS20085). In July and August 2016, myself, Ian Mauro, and cinematographer Len Peterson travelled to Pangnirtung for four weeks to work with Sim Kullualik to conduct interviews, participate in experiential learning, and develop partnerships for the youth-focused portion of this thesis.

Having the opportunity to spend time in community during the early stages of this Master's project allowed for exploration and creativity in planning the additional research visits. In 2016, I was introduced to board members of Inuit Ilagiit, a local non-profit organization that runs the Pangnirtung Youth Centre, and expressed interest in offering workshops for youth as part of my research process. I started by hosting an informal drawing workshop at the Youth Centre that included a drop-in afternoon of drawing games and a collaborative drawing project with roughly 20 youth and Elder participants **[Figure 3]**. Moving forward, Inuit Ilagiit welcomed the opportunity to collaborate in co-creating a workshop to engage youth in the research project.

Specifically, Inuit Ilagiit expressed a desire for media programming at the youth centre, a natural fit for this Master's project. Over the following fall, winter, and spring, I worked with Inuit Ilagiit to develop youth workshops for summer 2017. Early on, Inuit Ilagiit identified Inuk and Pangnirtung-based cinematographer David Poisey as an appropriate research collaborator and workshop co-facilitator, given his extensive experience as a documentary filmmaker.

Figure 3. Playing drawing games during a drop-in workshop at the Pangnirtung Youth Center (August 2016)

In August-September 2017, I returned for seven weeks to work with David Poisey to facilitate the youth workshops, with whom Ian had previously collaborated with through *Qapirangajuq: Inuit Knowledge and Climate Change* (Kunuk and Mauro, 2010). In July-August 2018, I returned again to Pangnirtung for five weeks to finalize the research with David and share preliminary results with community members and screen the research films at the annual music festival.

1.4 Research Design

1.4.1 Methodology

For this research, I draw from Indigenous, community-based participatory, and arts-based research methodologies to guide the overall research process. Inuit are among the most studied Indigenous people on earth, but not often respected for being the experts on research conducted

in their homelands, with the greatest insight into the nature of and challenges faced by Inuit (ITK, 2018). Qallunaat researchers continue to hold most of the power, benefiting from academic research and literature. In response, Inuit Tapiriit Kanatami, the national representational organization for the 65,000 Inuit in Canada, released the 2018 National Strategy for Inuit Research. The strategy highlights five priority areas: (1) advance Inuit governance in research; (2) enhance the ethical conduct of research; (3) align funding with Inuit research priorities; (4) ensure Inuit access, ownership, and control over data and information; and (5) build capacity in Inuit Nunangat research. As Natan Obed, president of ITK shares,

> *"Climate change is a formidable crisis that requires unparalleled action. This is an emergency unlike any we have faced before, requiring all our shared strength and wisdom."*

The National Strategy states that research in Inuit Nunangat must be transformed to respect Inuit self-determination through research partnerships that enhance the efficacy, impact, and usefulness of research, empowering Inuit in meeting the needs and priorities of Inuit families and communities (ITK, 2018). From the worldview of Inuit Qaujimajatuqangit, knowledge without application has little to no value, and skills and information developed through research much be applied and practiced to improve the common good (Joe Karetak & Tester, 2017). This call for useful research that responds to the needs to communities is not unique to Inuit Nunangat. Maori scholar Linda Tuhiwai Smith similarly directs researchers to question, "Whose research is it? Who owns it? Whose interests does it serve? Who will benefit from it? Who has designed its questions and frames its scope? Who will carry it out? Who will write it up? How will the results be disseminated?", and of researchers: "are they useful to us? Can they fix up our generator? Can they actually do anything?" (Smith, 2012, p.44).

Many researchers working with Indigenous communities have chosen the framework of community-based participatory research (CBPR) as a starting point to conducting respectful, meaningful, and relevant research. Community-based participatory research has the potential to align with Indigenous research methodologies through mutual respect, trust, and self-governance within research (Kovach, 2010; Smith, 2013; Wilson, 2008), centering the concerns of local people and assessed in the terms of the benefit it creates for them (Denzin, Lincoln, &

Smith, 2008). CBPR is a collaborative approach to research that values equal participation, decision-making, and ownership between partners (Israel, Schulz, Parker, & Becker, 1998). The relationship-based approach of CBPR has the potential to shift theory into practice and disrupt the mainstream western paradigm in cross-cultural research (Stanton, 2014). It is knowledge co-production with the ultimate goal of supporting positive change and direct benefits to the community (Halseth, 2016; Minkler, 2004). There are multiple opportunities for community empowerment through the research process, including gaining skills through active participation, outcomes from the research process, and valuing local knowledge (Halseth, 2016).

CBPR, however, is not a "silver bullet" for Indigenous research (De Leeuw, Cameron, & Greenwood, 2012). In particular, developing the relationships and gathering the funding necessary to conduct CBPR with remote communities can be difficult within standard research timelines (Tondu et al., 2014). Limited relationships and timelines can lead superficial CBPR where the project reverts to mainstream methods in order to protect the perceived threat to confidentiality and control (Stanton, 2014). Challenges related to researcher positionality and status remain, impacting how community priorities and voices are foregrounded through all stages of the research process, including disseminating results in a meaningful, ethical, and culturally appropriate way (Elder & Odoyo, 2018). While participatory community-based research, including workshops, diaries, Elder-youth camps, and expert to expert interviews have formed large volumes of Indigenous observations and knowledge of change (Krupnik & Jolly, 2010), these volumes often remain inaccessible to community members on the ground.

In order to align with Indigenous Research Methodologies, CBPR must go further into action. In response, arts-based methodologies have been suggested as an approach to addressing the limitations of conventional CBPR. Visual and arts-based research have become popular approaches to social science research, allowing researchers to develop knowledge collection strategies that go beyond text (Pink, 2001). Processes and products of art and visual media are central to understanding participant experience or perspectives, co-creating knowledge that does not seek to determine objective reality, but rather, uncover multiple ways of knowing and subjective realities (Edenloff, 2011; Hesse-Biber & Leavy, 2008; McNiff, 2008). Arts-based research aligns with Indigenous research through innovative and relational methodologies that

work towards defamiliarizing dominant knowledge systems and thereby open space for critical dialogue (Hammond et al., 2018). Arts-based research methods are a hyphen between art and social science research, inhabiting a liminal space in the "tensions of blurred boundaries", a space where art and artistic ways of knowing are an act against the institutionalized classist, racist, and colonizing ways of understanding human experience (Finley, 2008; Slattery, 2003). The process and products can break down the dichotomy of academy and community by co-creating knowledge that is "accessible, evocative, embodied, empathic, and provocative" (Cole and Knowles, 2012, p.33).

Arts-based research has the potential to support an Indigenous research agenda (Smith, 2012) through participant engagement that is culturally relevant and interesting, relationship building through mutual trust and shared power, new forms of Indigenous Knowledge creation, capacity building, and community action (Hammond et al., 2018). The process and products of arts-based research have been shown to support bridging knowledge across culture and generations, further supporting resiliency in social-ecological systems (Rathwell & Armitage, 2016). In Inuit Nunangat, art and visual methods such as collaborative mural-making (Rathwell & Armitage, 2016), participatory video (Petrasek MacDonald, Harper, Cunsolo, & Edge, 2013), digital storytelling (Cunsolo et al., 2013) and collaborative filmmaking (Zacharius Kunuk & Mauro, 2010) have had great success in documenting and sharing the impacts of social-ecological change. These process and products of co-creating and sharing knowledge through ABM can influence, educate, and challenge dominant paradigms, and act a tool for connecting people emotionally to often unpalatable and urgent messages of rapid environmental change (Curtis, Reid, & Ballard, 2012).

The promise of ABM lies in its participatory ethics, and when properly applied, has the potential to foster empowerment and self-determination (Hammond et al., 2018). However, participatory methodologies broadly do not automatically disrupt power dynamics between Indigenous and non-Indigenous researchers, but require reflective and relational work (Kral, 2014). My status as a Qallunaaq urban middle-class woman influenced my position in the research process as a [1] researcher/observer, [2] artist/filmmaker, and [3] participating

facilitator. Remaining reflexive and accountable through a multi-method iterative process is a key tenant to my approach.

1.4.2 Methods

This Master's thesis uses three iterative and connected participatory arts-based research methods to collect, analyze, share, and reflect upon the research questions: (a) participatory video, (b) qualitative interviews, and (c) visual field notes. Given the manuscript style of this thesis, the specific methods are elaborated upon in Chapter 3 and 4.

Arts-based research methods incorporate visual media, such as photography, video, and drawing into the research process, be it by generating, analyzing, interpreting, and/or communicating knowledge (Boydell et al., 2015; Cole & Knowles, 2012). Visual methods can quickly communicate that knowledge is co-constructed and embodied, while also being generally more accessible to diverse audiences and stakeholders (Boydell et al., 2015). These methods have the ability to engage communities in visualizing what is at stake, through the eyes of the community (Claudia Mitchell, Theron, Stuart, Smith, & Campbell, 2011). Combined with interviews, participatory visual methods allow participants to creatively reflect the meaning of their experiences (Claudia Mitchell et al., 2011).

1.4.2.1 Participatory Video

Participatory video has been the primary visual method of this thesis, from which the other methods unfold. Participatory video (PV) is a ideally an action-oriented approach that uses video and filmmaking as a means to identify and address community needs and provoke collective action (Milne, Mitchell, & De Lange, 2012). Video and filmmaking are rich opportunities to investigate alternative forms of expression and knowledge creation within academic research. PV can break down barriers created by unequal power dynamics, as the method lends itself to collective production, allowing communities to better self-represent their realities and priorities beyond their communities (Orbach, Rain, & Contreras, 2015). Video is well-suited to Indigenous research, for its ability to capture and conserve Indigenous oral wisdom (Cunsolo et al., 2013) and storytelling, a crucial tool for communicating Indigenous Knowledge and its multiple truths

(Corntassel, Chaw-win-is, & T'lakwadzi, 2009). The participatory video approach includes a spectrum of participation reflective of participants' interest, skill level, and availability.

Alongside these opportunities are also many challenges to meaningful participation and collaboration. Despite the best intentions, there continue to be structural barriers that limit the ability of marginalized communities to work as true collaborators through participatory visual methods. Access to equipment and resources, as well as the skills necessary to truly collaborate through an advanced technology and visual language, remain barriers to participation. In response to these challenges, I have modified the participatory approach to be centred on relationship building over many years, examined in the following chapters.

Figure 4. Community-based filmmaker David Poisey with grand-daughter Tatianna Mike filming in Pangnirtung (July 2018)

1.4.2.2 Qualitative Interviews

Within the participatory video process, community-members were interviewed on camera following a semi-structured interview guide. Qualitative interviews have the ability to collect a

diversity of meaning, opinion, and experience from participants (Dunn, 2008). They are also an opportunity to show respect and empower those sharing their insights, allowing the participant to speak in their own voice and/or language as opposed to simply being observed or surveyed (Dunn, 2008). This is especially true for marginalized groups whose opinions may not often be heard. Conducting on-camera interviews included visual data such as body language, adding richness to the oral data. The semi-structured interview format allowed for flexibility and for tailoring the interview to each participant and context.

1.4.2.3 Visual field notes

Participant observation and field notes are at the foundation of cultural anthropology (Bernard, 2006), however, unreflexive observation can contribute to uneven power dynamics in research. Instead I strive to be an "observing participant," immersing myself in community life. Inuit culture values observation and experiential learning (Bonny, 2007) and I learned a great deal over many weeks in Pangnirtung where I had ample time to participate in community activities, practice Inuktitut, and develop friendships over tea and meals. I recorded and reflected on my observations and experiences as an observing participant through visual notes. Journaling in the form of writing is generally perceived to be a personal and private activity. Visual notes, on the other hand, are a more accessible and open spectacle or recording material and experience, allowing more points of entry to readers (Hendrickson, 2008).

I would often draw in public spaces or in the homes of community members, often leading to conversations about what I was drawn to or observing. The process was also a quiet moment to reflect on the strong sensory experiences and impressions of the day, as well as record the moments and experiences that were not captured on camera. While in Pangnirtung and also during the editing and writing process, I recorded notes and drawings to create space for reflection where I could turn inward and put my experience into perspective. This drawing practice created a space to actively engage with ideas "in my head" with the people and places "out there", pushing me to look deeper into my interpretations and drive the reflexive process (Finley, 2008; Hendrickson, 2008).

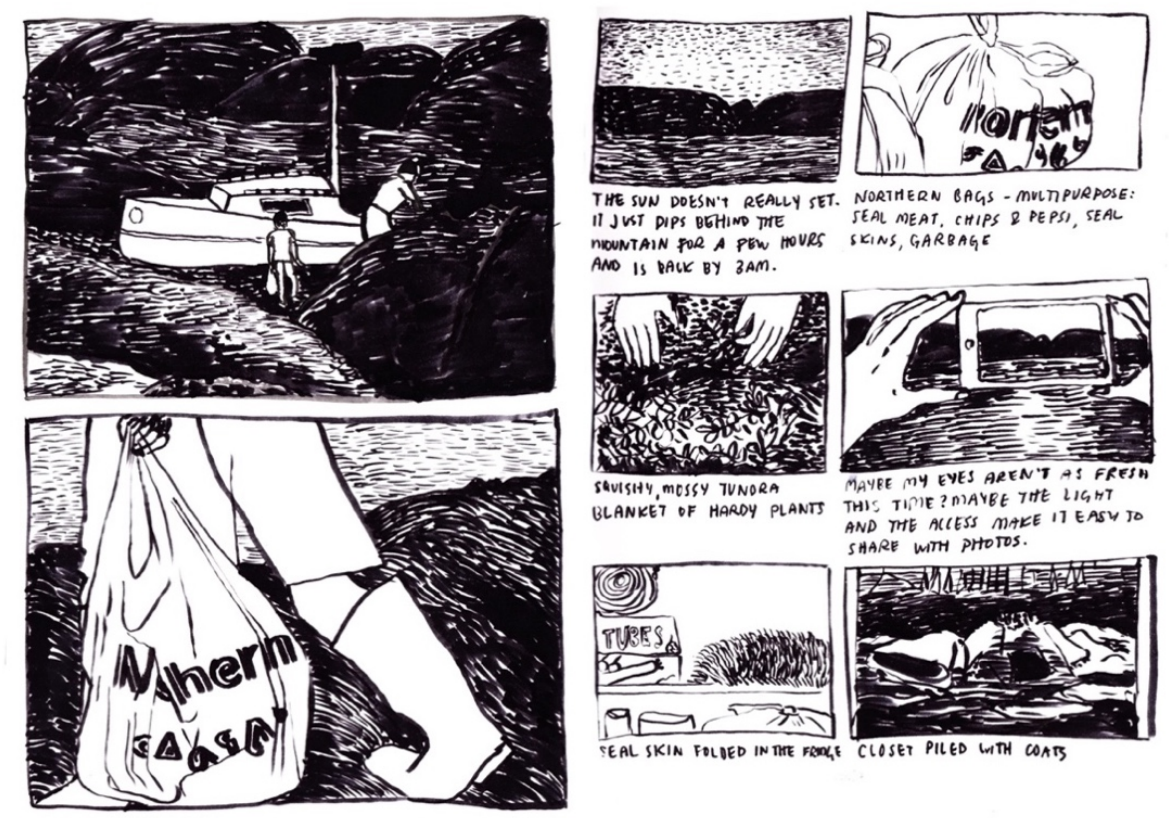


Figure 5. Visual notes from first season in Pangnirtung (August 2016)

1.5 Thesis timeline and structure

As described in section 1.2.3 (Community Relationship), this Master's project included multiple community engagements from 2016-2019 **[Figure 6].** The thesis structure follows the project as it developed over time. Multiple visits to Pangnirtung created an iterative and relational process, with lessons learned from each year. The data collection, analysis, feedback, and dissemination of Chapters 3 and 4 largely took place between 2016-2018 and 2017-2018, respectively. In 2019, I returned to Pangnirtung to continue ongoing collaborations with the community. I have chosen to structure this thesis using a manuscript style, including three body chapters with visual content woven throughout **[Figure 7]**.

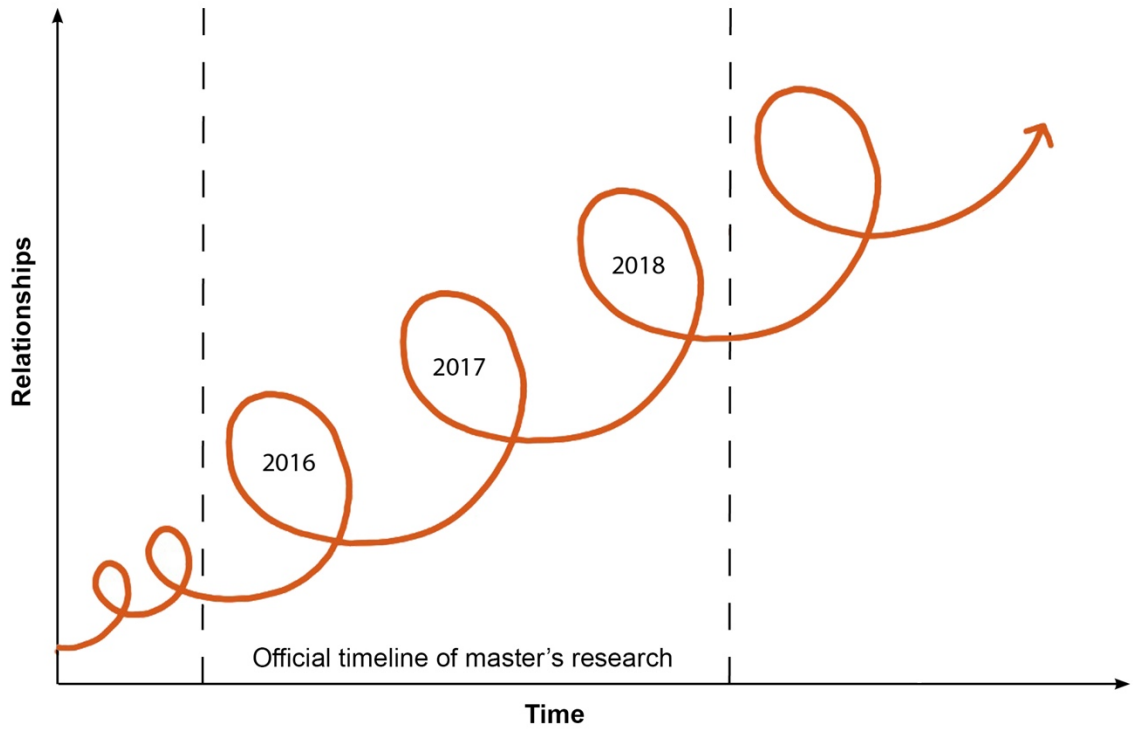


Figure 6. Multiple, iterative cycles of engagement over time in Pangnirtung (2016-2018), derived from Anderson (2013).

Figure 7. Visual map of thesis structure

Each of the chapters relates to using video and arts-based methods as tools for documenting perspectives on social-ecological change. The background and setting (Chapter 2) broadly situate the challenges and opportunities for representation and voice in video research. The body chapters (Chapters 3 and 4) are intended as stand-alone works, with their own literature review and methods sections. In Chapter 3, the focus is on how the Pangnirtung fishery is experiencing and responding to social-ecological change, and how a participatory video process can challenge commercial/traditional dualisms. Chapter 4 focuses on youth experiences related to social-ecological change through participatory arts-based workshops that engage youth and support intergenerational knowledge exchange. The overall conclusion (Chapter 5) includes broad implications using arts-based methodologies and cameras in research as well as reflections and recommendations for future research.

The visual research products are woven throughout the thesis in the shape of films, drawings, and photographs. Compared to written expression, visual materials hold potential for their ability to alter the perception of objectivity in research, as visual expression is “capable of something which academic work is not” (Strandvad, 2013, p.30). My arts-based approach to the writing process has sought to expand conventional notions of knowledge and knowing through process and representational form across through diverse genres (Knowles & Promislow, 2008). While constructing this document, I have incorporated the inspiration of my community-based arts practice, including an openness to not knowing and acceptance of uncertainty and ambiguity. My hope is that these multisensory depictions of data and experience also invite the reader to reimagine what can be called knowledge and how knowledge is constructed.

CHAPTER 2: Whose lens?

Representation and Voice when documenting and sharing Inuit Qaujimajatuqangit in video research

"It is often said that science has a lot to learn from Inuit. Inuit have been speaking the whole time. We just need people to start listening to Inuit. Without it, we'll find ourselves in the same situation, 10 years from now. If people don't listen to what we've been saying, we'll be back to the same drawing board."

- Peter Kilabuk, outfitter and former Nunavut MLA, 2017

2.1 Introduction

Inuit are among the most studied people on earth, and yet, are not often respected as experts on their experience and homelands (ITK, 2018). In the documentary *Qallunaat! Why White People are Funny* (2006), filmmaker Mark Sandiford and writer Zebedee Nungak comedically reverse the anthropological approach, exploring Inuit perceptions of European culture and the white people that have colonized their lives and lands. The satirical film brings together historical films produced by the National Film Board of Canada, present-day interviews, and documentation from the fictional Qallunaat Studies Institute (QSI). As Zebedee, acting CEO and head researcher at QSI remarks, "The more I thought about the way they have studied us [Inuit] over the years it occurred to me, why don't we study them?"

Zebedee's proposition is a tongue-in-cheek comment on a "dark history of egregious abuses" by Qallunaat researchers and policy makers (ITK, 2018, p.23). In the 1960s in Pangnirtung, three children – Jeanne Mike, Leesee Komoartok, and Rosie Joamie – were sent to Petite Riviere, NS, as part of a federal government program called The Eskimo Experiment (LeTourneau, 2018). Inuit children were put into foster homes in the south to see if they could be successfully assimilated into southern cultures and societies. This "experiment" left children such as Jeanne Mike with a "lifetime sentence of loss and longing". As Mike remarks, these systemic assimilation efforts, be it the residential school system, removing children from their homes and placing them around the world, or subjecting Inuit to segregated hospitals, "it all follows the same theme – which is 'we [the Canadian Government] know what's best for them."

This loss is cross generational, from previous and into future generations – far from being located in the past. While Inuit writers and filmmakers like Zebedee Nungak poke fun at research and the colonial gaze, the question of who directs research, policy, and associated narratives is something that Inuit continue to struggle to achieve. Colonial narratives of the past and present continue to have real impacts for Inuit, including contributing to the present day severe social, educational, and health inequity between Inuit and most other Canadians (ITK, 2018).

On a very basic level, progress has been made towards the ethical conduct of research with Inuit and Indigenous peoples in Canada. In 1998, the First Nations Information Governance Centre produced OCAP: Ownership, Control, Access, and Possession (2014), a set of standards

for how First Nations data should be collected, protected, used or shared. The Tri-Council Policy Statement for Ethical Conduct for Research Involving Humans (TCPS2), the standard for Research Ethics Boards (REBs) in Canada, includes guidance for research with Indigenous peoples, including respectful relationships, collaboration and engagement (TCPS2, 2010). However, OCAP, TCPS2, and REBs remain relatively "soft" enforcements of ethical conduct, with little to no structures for accountability to participants and communities. Notably, all REBs are currently located outside of Inuit Nunangat and there is little oversight into ethics beyond the REB process (ITK, 2018).

As many have noted, colonial approaches to research and knowledge continue to impact research in Inuit Nunangat. In response, Inuit organizations in Canada have been developing strategies for research the promote the principles of relationship and partnerships that serve the needs of Inuit. Inuit Tapiriit Kanatami (2018) and the Nunavut Research Institute (2006) have produced ethical guidelines for navigating research relationships, as well as practical advice for ethical considerations related to community engagement, licenses, and dissemination of data and results. For example, Inuit Nipigit, the National Inuit Committee on Ethics and Research, calls for research that promotes including multi-directional knowledge sharing, balancing power dynamics, sharing benefits, and increasing positive outcomes (Scot Nickels & Knotsch, 2011). In 2018, Inuit Tapiriit Kanatami released their National Inuit Strategy for Research (NISR), calling for research to be transformed to respect Inuit self-determination through research partnerships that enhance the efficacy, impact, and usefulness of research, by way of 5 priorities: (1) advance Inuit governance in research; (2) enhance the ethical conduct of research; (3) align funding with Inuit research priorities; (4) ensure Inuit access, ownership, and control over data and information; and (5) build capacity in Inuit Nunangat research (ITK, 2018).

2.2 Voice and representation in climate change research

The dominant environmental narrative of the dying polar bear has shaped our understanding of climate change in the Arctic. This narrative, however, is in stark contrast to Inuit perspectives and common observations that polar bear populations are on the rise in most areas. Similarly, popular representations of Inuit through photography and films have characterized the general public's

perceptions of Inuit – with implications for policy and action. Many people are looking to Inuit as the "face" of climate change, or in Inuktitut, *silaup aalaruqpalianigata tusaqtittijiit* – "witnesses and messengers of climate change" (Wright, 2014). But what does it mean to *see* social-ecological change, and who is looking?

In her analysis of scientific and political representations of Arctic Indigenous peoples, Martello (2008) identified tropes in which Inuit are generally cast as representations and representatives of climate change only, not as experts on their homelands. The dominant approach to early climate change research was through eyes of primarily natural and physical scientists from the south, with little-to-no regard or respect for Inuit. This rendered Inuit hunters, Elders, and land-users and their knowledge as essentially invisible. Later, research began to include local experts and knowledge keepers, but the people and their voices remained invisible and unnamed in research, report, and dissemination. Lastly, Martello (2008) describes the recent trend of casting Inuit as "endangered experts", where research includes intersections of local knowledge with the context of colonialism and its impacts on social, economic, and ecological well-being. However, in this approach, the people and their knowledge are cast as disappearing, endangered, and ultimately disempowered.

Recently, research regarding the local, social, and human dimensions of climate change in Inuit Nunangat has sought to meaningfully include Inuit voices and representation in research. Here, a new trope has emerged through the claims of community-based participatory research that is creating change through meaningful participation – that Inuit are "empowered experts". However, questions of power and influence remain within community-based participatory research. The documentation of Inuit Qaujimajatuqangit (IQ) in scientific literature brings it into the worldview, methodologies, and practice of research rooted in Western worldviews, perpetuating the subordination of IQ and local knowledge to scientific knowledge. When trying to incorporate one knowledge system into another's, we risk losing key components or the essence of the knowledge itself. Experiences and relationships to social-ecological change are grounded in specific knowledge systems as well as cultural and historic contexts (Fook, 2010). As Fook notes "while spaces have been opened up for Indigenous knowledges and narratives in positive and concrete ways, there is still a danger that when Indigenous discourses become

mainstreamed and institutionalized by the dominant discourse, core knowledges, struggles, and beliefs will be supplanted and lost" (Fook, 2010, p.302).

As author and activist Arundhati Roy has said, "there's really no such thing as the 'voiceless'. There are only the deliberately silences, or the preferably unheard" (Roy, 2004). Non-Indigenous voices continue to be understood as the voices of authority in research, mirroring the historical experience in which Indigenous peoples were prevented from speaking for themselves (Davis & Shpuniarsky, 2010). In Indigenous and non-Indigenous research alliances, one must then ask – "who speaks?", but also, "whose voice has authority?" (2010, p.339). In Inuit Nunangat, much of the authority on research continues to sit with non-Inuit outside of Inuit Nunangat (ITK, 2018), with great influence on what gets researched, who does the research, as well as how the data are collected, analyzed, and represented (Tilley, 2016). It's important then to take a critical perspective on the role of southern-based academics in their efforts to empower marginalized voices through their research projects and writing (Spivak, 1999). As Spivak notes, the production of knowledge of the other conceals "a whole set of knowledges that have been disqualified as inadequate to their task or insufficiently elaborated: naïve knowledges, located down on the hierarchy, beneath the required level of cognition or scientificity" (Spivak, 1999, p. 267). This "palimpsestic narrative of imperialism" continues to promote one explanation and narrative of reality, written upon erased (but still visible) other knowledges and ways of knowing. Representing marginalized voices through writing or speaking on behalf of presents many opportunities for mistranslation, where many qualities of experience can be lost in translation due to the researcher's perspective and cultural bias. Furthermore, any degree of representation of a marginalized people assumes a logocentric assumption of cultural solidarity within a heterogeneous group. In order to mitigate the risks of partnership and integration between knowledge systems, it's essential to discuss the differences and points of intersection between how each knowledge system is built and transferred.

2.3 Inuit Qaujimajatuqangit

Inuit Qaujimajatuqangit (IQ) translates into English as "things we have always known" (Owlijoot, 2008), or "what Inuit have always known to be true" (J Karetak, Tester, & Tagalik, 2017). IQ

embraces all aspects of Inuit culture, including values, worldview, language, social organization, knowledge, life skills, perceptions, and expectations (Government of Nunavut, 2007). This system of knowledge and values is a dynamic, situational, and on-going process that has been developing over thousands of years that Inuit have lived in Arctic environments.

Before the introduction of the western schooling system in Nunavut, Inuit children learned through observation and practice, from generations of knowledge held and shared by their parents, Elders, and extended community members (Owlijoot, 2008). The legacies of colonialism have undermined Elder's roles, and due to the many the traumatic experiences – including forced relocations, the residential school system, medical evacuations, The Eskimo Experiment, and sled dog slaughters – a lot of knowledge has been blocked off (Joe Karetak & Tester, 2017; Owlijoot, 2008). However, many Elders feel a sense of urgency as the last knowledge holders that experienced life in outpost camps (Joe Karetak & Tester, 2017).

During the creation of the territory of Nunavut, a committee of Elders identified a framework for IQ grounded in four *maligait* (literally, "big things that must be followed") (Joe Karetak & Tester, 2017; Tagalik, 2010). As Inuk scholar Shirley Tagalik notes, "the cultural beliefs and values [of IQ] are associated with the implementing of the four *maligait*, contributing to "living a good life" – the purpose of being" (2010, p.2). The *maligait* are: (1) maintaining harmony and balance; (2) working for the common good; (3) being respectful of all living things; and (4) continually planning and preparing for the future (Government of Nunavut, 2007; Tagalik, 2010). Maintaining harmony and balance prioritizes the well-being of the group and showing respect and responsibility to others. Working for the common good recognizes that everyone has different skills and abilities, and the need to share, serve, care, and contribute to collective well-being. Being respectful of all living things is a meaningful, symbolic, and emotional way to acknowledge that a life gives us life and helps maintain balance in relationships. Continually planning and preparing for the future includes the development of a good human being that is capable and contributing, as well as giving consideration for the many generations to come.

At the time, the committee of Elders also identified six guiding principles of IQ that together "form the basis of an interlocking conceptual philosophy for IQ, but also inherent in each is a process for developing the principles in an individual and in society" (Tagalik, 2010, p. 2). The six

guiding principles are: (1) *Pijitsirniq*, the concept of serving; (2) *Aajiiqatigiingniq*, the concept of consensus decision-making; (3) *Pilimmaksarniq,* the concept of skills and knowledge acquisition; (4) *Piliriqatigiingniq,* the concept of collaborative relationships or working together for a common purpose; (5) *Avatimik Kamattiarniq,* the concept of environmental stewardship; and (6), *Qanuqtuurunnarniq*, the concept of being resourceful to solve problems.

While the articulation of the *maligait* and IQ principles have many applications, as Tagalik (2010) suggests, it is important to note that IQ is a dynamic continuum of knowledge, time, and relationships. Inuk policy analyst and philosopher Jaypeetee Arnaka describes IQ as all at once "past, present, and future": a living technology and a template of values that underpin kinship, family, and community (2002). The instruction and development of IQ is rooted in practice; endlessly re-produced in relational terms, therefore always related to the present (Kublu, Laugrand, & Oosten, 1999). As such, IQ is not fixed or static, but rather adaptable, constantly evolving in accordance with social-environment change, as Inuit incorporate new technologies while still maintaining oral traditions (Wenzel, 2009).

In contrast to western scientific discourse, the oral culture of IQ does not present ideas as final or definitive (J Karetak et al., 2017). Unlike most western discourse, inconsistency in experience and knowledge is both accepted and valued – viewing truth not as an absolute, but as defined in relation to each person. Speaking from personal experience, valuing different opinions and experiences, and avoiding generalizations are all important components to IQ (Kublu et al., 1999). Indeterminacy is built into language, and in speaking with Elders, one often hears deferential and personalized statements that communicate "this is my experience, others may have experienced something else" (Morrow, 1990). This sentiment is highlighted in the first line in the introduction to the series *Interviewing Inuit Elders*, from the life history interview with Saullu Nakasuk of Pangnirtung. She states: "I can be asked what I know, I state only what I know" (Kublu, Laugrand, and Oosten, 1999, pg. 1). In this way, IQ builds indeterminate meaning and knowledge from many stories and experiences, allowing Inuit to embrace contradiction without confusion (Morrow, 1990).

From an IQ perspective, individuals collect personal experience to build their knowledge which can then be shared, referenced, and validated by other's experiences (Kublu et al., 1999).

When knowledge is shared, it generally comes from individual accounts, as personal experiences shape how knowledge is constructed. For example, hunters may have different observations and concerns based on the areas they hunt, their personal histories, and their identities and livelihoods (Fox, 2010). Therefore it is preferable to present multiple accounts rather than reduce many voices to their common elements, which can lead to misinterpretation (Morrow, 1990). Furthermore, constructing generalized statements drawn from many individuals, necessarily separates the knowledge from the knowledge keeper and its context within social relationships (Kublu et al., 1999). IQ values personal experience and has little value for generalized statements, and as such, if the source of the knowledge is lost, the knowledge loses its "roots" and can become empty of value (Kublu et al., 1999).

2.4 Research regarding Inuit Qaujimajatuqangit

As described, IQ is set of values and a way of life, where complex social relations and practices give knowledge context and meaning. For many researchers, there is a desire to reduce IQ to common, observable elements, and fit them into western academic discourse. However, compartmentalizing and distilling knowledge leads to very little true integration of knowledge systems, reinforcing a western cultural bias (Nadasdy, 1999). Western scientific knowledge is largely decontextualized, principle-driven, and abstracted knowledge. Placed into a western framework, other knowledges and ways of knowing are often (a) reduced to common elements, (b) synthesized and generalized, and (c) transformed into objective statements devoid of context, requiring no epistemological shift for researchers. This integration project does little to serve community members, and rather, continues to concentrate power held by scientists and decision makers in administrative centres.

Indigenous ways of knowing are often marginalized for their perceived incapacity to separate cultural and relational elements of knowledge from objective and observable elements of knowledge. As Linda Tuhiwai Smith notes, research about Indigenous peoples from a Western lens is conceptualized, conducted, and understood through "imperial eyes":

> *"It [Western research] is research that brings to bear, on any study of indigenous peoples, a cultural orientation, a set of values, a different conceptualization of things as time, space and subjectivity, different and*

> *competing theories of knowledge, highly specialized forms of language, and structures of power"* (Smith, quoted in Tilley, 2016, p.58).

This Western lens that Smith speaks of severely limits the ability for research to appreciate ways of documenting or describing Inuit knowledge. In 2011, Arnait Video Productions, the women's video workshop in Igloolik, produced *Charlie Pisuk* a satirical film about psychoanalytic research with Inuit (Cousineau & Arnait Video Productions, 2011). The "mockumentary" is a series of interviews, where an off-camera researcher asks Inuit respondents to answer questions with the answers "rarely, sometimes, often, always". The answers by Inuit participants are often circulating, non-definitive, contextual answers, speaking to the difficulty of answering a question with multiple choice. We watch the dominant western epistemology, typically linear and objective, fail when it is applied to research with Inuit. *Charlie Pisuk* makes clear the limitations of southern-led research to appreciate and capture the dynamic ways of describing and accounting local experiences when the research is bound to a western format.

In research regarding social-ecological change, IQ is often incorrectly represented as Traditional Ecological Knowledge (TEK). Traditional Ecological Knowledge is as "a cumulative body of knowledge, practice and belief evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment" (Berkes, 2005, pg. 1646). While the definition may appear inclusive of values and relationships, TEK is generally limited to physical observations, management systems, as well as past and current uses (Houde, 2007). Generally, TEK is presented in scientific literature as paraphrased or summarized in text and tables, harvested from local people and treated as static and transferable (Cruikshank, 2013). These generalized, universal statements are then analyzed and synthesized across participants and communities.

The framing of IQ as TEK diminishes the depth of IQ's social-cultural content, consequently limiting the scope of research while also maintaining inequity between western science and Inuit ways of knowing (Berkes & Armitage, 2010; Wenzel, 2004). TEK is often used to complement western scientific data, rather than as a primary knowledge itself. There remains a presumption that TEK is simply intuitive, holistic, qualitative, and orally transmitted (Krupnik, 1998). In reality, the construction of IQ shares many process with western science: "analytical perception, and

inquisitive drive for continuous observation and recording, the eagerness to cross-check data with other people's views and references, and openness" (Krupnik, 1998, p.184). From the perspective of IQ, knowledge and knowing is an active engagement in relationships – among humans, animals, and in some cases, even the land (Cruikshank, 2014; Trott, personal communication, May 1, 2018). From the perspective of IQ, all communication is regarded as relationship (Joe Karetak & Tester, 2017).

2.5 Video media and research

Inuit have been using video and filmmaking as an effective tool for political mobilization, humor and satire, and documenting knowledge. As Inuk filmmaker Zacharius Kunuk has noted, video and digital storytelling are closer to cultures that remember history orally (Baele, 1994). As early as the 1990s there was more Inuktitut content in video and television than in books. In 1991, David Poisey and William Hanson directed the film *Starting Fire With Gunpowder*. The film shares how through the Inuit Broadcasting Corporation[1] (IBC), Inuit turned encroaching southern media tools and technology into an instrument for preserving and promoting oral cultures, values and traditions, and as a tool for social and political mobilization (Poisey & Hansen, 1991).

As the film shares, Inuit are a communicative people, and in many ways, communicating through video is "as old as it is new" (Kusugak in Poisey and Hansen, 1991, 2:02). Taking-up audio-visual technology meant that "things that would have been lost [were] being recorded" (1991, 10:32). As Ann Meekitjuk, former commissioner of Nunavut, shares at the end of the film,

> *"Ours is an oral tradition: we take to television so easily because television is an oral medium. If we are to be true to ourselves, we must preserve the traditions on which our culture is based: our most important task it to record the words of Elders while we can […] our roots are grounded in their memories. In the future, their faces and their voice will be our only recorded history. It is by that recorded knowledge that we will judge ourselves into the future, and it is their recorded wisdom that will be the heritage of Nunavut" (Poisey and Hanson, 1991, 57:22).*

[1] Founded in 1982, IBC is internationally recognized as the first Indigenous-controlled and Indigenous-language television network to be distributed by satellite in North America (Huhndorf, 2003). IBC continues to be Nunavut's public television producer, focused on Inuktut programming that preserves the culture and languages of Inuit Nunangat (Conn, 2018).

Collaborative video and films continue to an approach to healing and a platform to bring attention to the injustices faced by Inuit, as well as rich histories and futures of resilience (Arnaqaq-Baril, 2016; Asinnajaq, 2017; Gjerstad & Sanguya, 2010; Zacharias Kunuk, 2001; Zacharius Kunuk & Mauro, 2010; Lepage, 2008). As Zacharius Kunuk has noted, “we are in the best positions to tell our own stories” (M. R. Evans, 2008).

Given the power and suitability of video media for sharing Inuit voices, there is a rich opportunity in research to balance the risks of representing community voices with the many benefits of video-based methods that centre relationships and collaboration (Morris, 2016). Video media and films are well-suited to working with Inuit for their potential to preserve and promote oral wisdom and document a diversity of lived experience and life worlds (Cunsolo et al., 2013). Video data is able to maintain rich non-verbal data that is otherwise lost in conventional methods that translate human experience into written text (Crichton, 2005). The knowledge keeper’s voice (expression, intonation, pauses), physical body (gestures, age, ability), and context (community, geography) are held together with the oral knowledge (Garrett, 2011). In these ways, video material has the potential to better represent IQ for how it can maintain the knowledge holder with their knowledge.

Participatory and collaborative video-based research methods span a spectrum of participation and agency throughout the research process (Milne et al., 2012). Participatory video strives to engage participants in each phase of the video-research process, from conceptualization to dissemination, developing local capacity and skills in filmmaking and research. Collaborative video methods, on the other hand, may involving participants in the visioning, direction, and editing of the film, but the research team may steer the technical and hands-on components of the filmmaking process. However, having the research team operate the cameras does not necessarily make the process more participatory, as authorship can still held by participants through directing the production and editing process (Johansson, 2006).

Within the realm of participatory and collaborative video methods, there are many approaches to the process and product. Inuit filmmakers and community members have partnered with researchers to share stories and local knowledge of ecological change across Inuit Nunangat through collaborative and participatory video-based processes, including digital

storytelling (Cunsolo et al., 2013), interactive multimedia and websites (Gearheard, 2005; IsumaTV, 2012), and feature-length community and territory-level documentaries (Cunsolo, 2012; Heath, 2012; Zacharius Kunuk & Mauro, 2010). Zacharius Kunuk and Ian Mauro's film *Qapirangajuq: Inuit Knowledge and Climate Change* was the first Inuktitut feature film about climate change (Zacharius Kunuk & Mauro, 2010). Inuit Qaujimajatuqangit and local knowledge of Nunavut Elders, hunters, and community members is woven into a 58-minute narrative, available for free on the Isuma.tv website. Importantly, in addition to the film, the full interviews are also accessible on the Isuma.tv website. In this case, both the artefact (the documentary film) as well as the original material (the full interviews) can be shared and experienced. This is unique as many layers of voice as being preserved: the speakers physical body and voice, their language, their geographical context, and the full extent of the knowledg they shared at that time. The process and products of *Qapirangajuq* represent a successful partnership between a prominent Inuit filmmaker and a non-Indigenous researcher specializing in video-based methods.

Participatory and collaborative video-based process such as *Qapirangajuq* that carefully collect and interpret knowledge can bridge the divide between community concerns and decision-makers (Fox, 2010). The film was successful in providing a broad picture of how Nunavummiut are experiencing and responding to climate change, while still representing the individual knowledge keepers. *Qapirangajuq* has and continues to be screened at major conferences and film festivals and has been extensively reported on by media.

2.6 Locating the lens

While video methods show promise, new technologies do not free the researcher or academic from the ethical dimensions of voice and representation in research. There remains an inherently political element to the marrow of video representation. All video, including participatory video, is built in specific ways of seeing, as there is no unmediated image (Berger, 1972). Indeed, "all films, photographs, and artworks are the product of human action and are entangled in varying degrees of human social relations" (Banks, 2001, p.12). In participatory video-based research, the agency of the gaze continues to rest with those holding the camera and directing the editing process (Garrett, 2011). As narrator Ann Meekijut states at the beginning of the film *Starting Fire*

with Gunpowder, "this is not me, it's my picture". As such, "video materials should be treated as representations rather than visual facts" (Pink, 2007, p.88).

In video-based research partnerships between Inuit and non-Inuit, there are many layers of translation at play: expressive (oral, audio/visual, writing), linguistic (Inuktitut, English), geographic (local, territorial, national, international), and above all, epistemological and ontological (Inuit Qaujimajatuqangit, western science, and other ways of knowing and relating to our world). Throughout the participatory process of video, writing, and drawing, the researcher team's voice and lens has influence on each of these transformations. Representations through video continue to be the filmmakers – or in this case, the researcher's – experience of reality.

The challenge is to be more specific with how, as researchers, we work with visual production and the power involved, and to democratize it and embrace multiple and partial ways of knowing. Kindon (2003) suggests developing a practice of looking "nearby rather than looking at", in order to avoid conflating "looking" with "knowing" (Rose, 1993, quoted in Kindon, 2003). In this practice of looking, one reflects on themselves, and comes close to their subject, without seizing their knowledge or being. This includes repositioning oneself in relation to the one's place and one's work, in order to destabilize the perceived neutrality of the researcher's gaze.

In regards to participation, while video methods have the potential to create and inclusive and democratic research process, structural barriers continue to limit the possibility of marginalized peoples acting as true collaborators in a participatory research (Packard, 2008). Participatory and collaborative video-based research in Inuit Nunangat have been primarily engaging knowledgeable hunters and Elders, with little room or attention to children and youth (Petrasek Macdonald, 2014). Individual-based approaches such as the on-camera, one-on-one interviews that are typical of video-based research are often challenging to youth participation. That being said, modified approaches to youth-led video research are emerging as research methods in Inuit Nunangat, alongside visual and arts-based research more broadly (Hammond et al., 2018).

2.7 Conclusion

Research in Inuit Nunangat will continue to include partnerships between Inuit and non-Inuit for the foreseeable future. Given the increase in interest in the human dimensions of climate change research, films and video media have increasingly been used for their ability to support community-based participatory research in cross-cultural contexts (Barbash & Taylor, 1997). New techniques and technologies are not a panacea, and create a whole series of challenges for researchers that relate to questions of power or subjectivity in research. Video-based tools create new opportunities for representation and voice, but as videos appear, on the surface, to be inherently inclusive, many questions remain about who is speaking.

As we work towards creating spaces to uplift and amplify Inuit voices and perspectives in research, "let's be less anxious and more generous… Anxious feet don't dance well, and ears that lack generosity miss lots that's going on. So let's keep paying attention, and let's keep dancing" (Warrior, 2011, p.94). This image of dancing – remaining reflexive, responsive, respectful, and responsible – is the foundation of an Indigenous-Non-Indigenous research partnerships. In order to create relationships of trust and mutual benefit, it is necessary for southern-based and non-Inuit researchers to engage in the process of "unsettling the settler within" – to locate, acknowledge, and unsettle the lens and position of non-Indigenous researchers (Regan, 2010). Video-based research methods have the potential to create space to navigate, examine, and dismantle these lenses through collaborative and participatory process. Participatory video-based methods are not a solution to achieving voice and representation, but rather, "a useful, if complicated" way to engage in this dynamic and ongoing process (M. Evans & Foster, 2009).

Although southern, non-Inuit academics have traditionally limited their understanding of IQ, there are rich opportunities for video-based methods that break down the western norms of parcelling, synthesizing, and generalizing knowledge. On another level, video and storytelling are well-suited to Inuit Qaujimajatuqangit, a largely oral knowledge that values the personal and relational. The participatory video process and final form creates spaces outside of traditional academic discourse, and are a unique way to model forms of knowledge construction in ways that better honour IQ.

This approach has the potential to foster both learning and knowledge transmission with the communities, while also contributing to discussions at the larger level. In these ways, video, combined with a participatory arts-based approach, can an effective tool for the ambitious goals of action and change in community-based research in Inuit Nunangat. Despite the space between southern researchers and Inuit, we remain interconnected to social-ecological change in Inuit Nunangat by economic, colonial, and above all else, human ties. Focusing on this human perspective, through lenses at personal and epistemological levels, is an invitation to step outside of one's worldview, as well as one's place: to connect more deeply with the land and people whose values, resiliency, and adaptability can be inspirations as we collectively respond to the modern climate crisis.

CHAPTER 3: Fishing With Our Hands

Participatory video and challenging the commercial/traditional dualism in the Pangnirtung Fishery

"We are here for a reason. This is our land, our waters. We depend on both the land and the environment… country food is the reason why I'm standing before you and saying something about it. Those country foods that my ancestors enjoyed, that's how they survived… [without them] I wouldn't be here today."

– Johnny Mike, 2016

3.0 Abstract

Films and visual representations of Arctic communities have often been skewed to reflect southern desires to see Indigenous peoples engaged in “authentic” and “traditional” activities. Resulting stereotypes have dangerously reinforced a perspective that Inuit cannot practice subsistence lifestyles while also being engaged in the cash economy. However, Inuit have consistently struck a balance and a successful example of how subsistence and commercial activities fit together is the fishery in Pangnirtung, Nunavut. Using a participatory video approach, this project documented local perspectives and visual representations of how the fishery dynamically supports both economic development and traditional livelihoods. In summer 2016, our team travelled and filmed two separate fishing expeditions in and around Cumberland Sound, one commercial and one subsistence, yet both times we ended up “fishing with our hands”. Regardless of whether fishers are monetizing their catch, our analysis of interviews, visuals and experiential learning shows that the equipment, techniques and associated knowledge remains similar and is small-scale, locally-focused, and inherently sustainable. Intergenerational fishing knowledge positions Panniqtuumiut to be stewards of their fisheries, particularly as local fishermen and Elders observe and respond to climate change and changing ocean environments. The short film “Fishing with our hands” allows audiences to hear directly from community members and witness the ecological and cultural richness of the Pangnirtung char fishery.

3.1 Introduction

In 1959, the National Film Board of Canada produced the film, *Arctic Outpost*, portraying the small outpost community of Pangnirtung where a handful of Qallunaat "provide for the health and welfare of a scattered Inuit population" (Freeney, 1959). At that time, Pangnirtung was a small cluster of buildings on a windswept fjord, including a Hudson's Bay Company trading post (constructed in 1921), a RCMP detachment (1923), an Anglican Mission (1926), and a government hospital (1930). Directed, shot, and narrated by Qallunaat working in Pangnirtung, the film is an outside view of a "peaceful and isolated place, scarcely touched by the modern world" (Qikiqtani Inuit Association, 2013, pg. 47). In reality, by the time the film was made, there had been many changes to the annual routines and material belongings of Inuit compared to even 50 years earlier.

Before the 1960s, Inuit in Cumberland Sound were spread out in *Ilagiit nunagivaktangit* (small families living on the land), and hunting and fishing activities depended on sled dog teams. Inuit would trade furs and oil for imported food and manufactured goods in Pangnirtung at least once a year. This back-and-forth trading carried on for many years with relative harmony, until the "sudden, unplanned, and traumatic" years of sled dog disease and slaughter of the 1960s (Qikiqtani Inuit Association, 2013, p.29). In the early 1960s, dog distemper arrived in the Cumberland Sound area and killed nearly two thirds of all sled dogs. This left only 270 sled dogs and severely limited hunting and traveling. Many families experienced starvation and a state of emergency was declared. In 1962, government officials pressured Inuit to relocate to the settlement, and many were evacuated by airplane with no notice. Many families arrived in Pangnirtung to inadequate housing and relative chaos, with sled dogs that previously ran free adjusting to a larger settlement. In 1966, 257 dogs running free were indiscriminately killed by the Pangnirtung RCMP officer of the time (F. Tester, 2017).

Effectively all Inuit in the Cumberland Sound area were re-settled in Pangnirtung by 1970. During this period, relocations and the dog slaughters limited access to food and cultural activities, with significant psychological, physical, and financial impacts (Alfred, 2009). These dramatic shifts in community roles had significant implications for the roles of Elders and hunters (Laugrand & Oosten, 2015; Owlijoot, 2008). Yet films such as *Arctic Outpost* continued to

construct an image of Inuit living a traditional life, supplemented with the assistance of government healthcare, western education, and family assistance.

Arctic Outpost comes from a long history of films about Inuit made by non-Inuit, including the first film of the documentary genre (Dirks, 2016), *Nanook of the North* (Flaherty, 1922). In the 1920s, American mining prospector turned filmmaker Robert Flaherty travelled to Inukjuak, in present-day Nunavik to film *Nanook of the North*. The film is about the hunter Nanook and his family's journey for survival in the Arctic. For many southern audiences, *Nanook* was their first exposure to images of Inuit and Inuit Nunangat.

Despite the film being marketed as a documentary, it is largely a fabrication driven by Flaherty based on 1920's preconceived notions of Inuit (Rony, 1996). The iconic opening scene is of Nanook's whole family, including the "pet" dog, emerging from one qajaq, one after the other. The hunter Nanook is celebrated: "a kind, brave, simple Eskimo!" totes the opening titles of the film. Yet, specifics of his culture are not tolerated – for example, eating raw meat (Wenzel, 1991). Shots in which the family enjoys raw seal meat (the very mention of "raw" before meat demonstrates a bias) are cut intermittently with close-ups of sled-dogs bearing their teeth, implying connections between the hunter and the wild animal. A spectacle of Inuit life, the film is often met with roaring laughter when shown to Inuit audiences (IMA Productions, 1990; Rony, 1996).

Figure 8. Nanook of the North playing on movie screens across the world.

Each artistic decision by Flaherty, cloaked in the label of "documentary", has had substantial impacts of how international audiences understand Inuit culture and experience. By the 1920s, Inuit in Northern Quebec (now Nunavik) had already begun their transition into settlements and were integrating into the Canadian cash economy through the fur trade, and assimilating into western lifestyles through

hunting with guns and western clothing (Wenzel, 1991). However, just as with the director of *Arctic Outpost,* Flaherty chose not to show Inuit as they were in that moment but rather a fictional re-creation of a romanticized pre-contact idealization of Inuit, with fabricated skin clothing and igloo sets.

Arctic Outpost and *Nanook* have created an ideological understanding of Inuit Nunangat from a Qallunaat lens. The "primitive" family and community and the technology that allows people to survive continues to fascinate Qallunaat researchers and the public in general (Balikci, 1989). Visual representations of Arctic Indigenous peoples have often been skewed to reflect southern desires to see Indigenous peoples engaged in "authentic" and "traditional" activities, where local knowledges and culture are thought of as static, traditional, and located in the past.

These stereotypes have dangerously reinforced a perspective that Inuit cannot practice subsistence lifestyles while also being engaged in the contemporary, mainstream economy. This narrow perspective limits the ability for Qallunaat to understand Inuit culture when it integrates tools and technology of the South, such as television, settlement jobs, and snowmobiles. When Inuit use modern tools (snowmobiles, motor boats, rifles, and GPS), Qallunaat often perceive that Inuit have abandoned "traditional" tools or techniques, and classify their practices as commercial (Laugrand & Oosten, 2015; Wenzel, 1991).

The binary of classifying harvesting activities as traditional/modern, or subsistence/commercial, has implications for whether or not harvesting activities are perceived as ethical, justified, or sustainable. This is perhaps most notable in relation to seal hunting. In 1983, following widespread protests and demonstrations by animal rights organizations, the European Union banned the import of whitecoat (pup) harp seal skins. Although the ban included an exemption for subsistence hunters such as Inuit, who hunt primarily ring seal, the market for all commercial seal skin products evaporated almost instantly, with devastating effects. The protests of the 1980s also hardened a stance on Inuit hunters, subjecting them to two criteria: that their hunts use traditional tools and methods, and second, that they be from excess subsistence harvesting (Wenzel, 1991). Often referred by Inuit as "the great depression", the price of seal skins declined dramatically, substantially impacting the livelihoods and wellbeing of fishermen, hunters, and the larger community (Randhawa, 2017).

Angry Inuk, a co-production between Inuk filmmaker Arnaqaq-Baril and the National Film Board, is a feature-length documentary defending the Inuit seal hunt for its central role in Inuit culture, health, well-being, and food security (Arnaqaq-Baril, 2016). Seal hunting is first and foremost a valued and necessary food source for many Inuit in Nunavut, where food insecurity rates are among the highest in Canada (Nunavut Food Security Coalition, 2014). Due to the polarizing nature of the protests and 1983 European Union ban, the market for seal skins has never truly recovered, despite government subsidies to offset the crash. However, in recent years, the conversations around Inuit and sealing has begun to shift due to public pressure from Inuit activists, artists, and filmmakers. *Angry Inuk* and the #sealfie social media campaign that celebrates hunting, eating, and wearing seal, while also calling out Greenpeace for the undo harm caused by their anti-sealing campaigns.

Angry Inuk and the #sealfie campaign share community-centered perspectives that can dramatically change understandings between cultures and experiences. In many ways, *Angry Inuk* is a response to the stereotypes shaped by films such as *Nanook.* These two films, diametrically opposed in their message and approach, demonstrate the powerful medium of film for steering public perception and policy. Many films directed by non-Inuit for non-Inuit audiences have fallen short and done harm to Inuit communities. But as *Angry Inuk* has shown, films can also be an opportunity to change the conversation about Inuit subsistence and commercial activities.

3.2 Mixed local economies: challenging dualisms

Despite the stereotypes of Inuit harvesters created and upheld by southern media, Inuit continue to strike a balance between commercial and subsistence through mixed local economies. Mixed economies incorporate household subsistence, commercial, wage labor, and government transfer economies. With harvesting comes social sharing networks and rules, gender and intergenerational rules, community economy, environmental knowledge, tools, cultural practices, trade, and education (Qitsualik, 2013). Hunting and fishing, commonly labeled as the "traditional" economy, have not disappeared in the face of modernization, and continue to play a significant role in local economies and cultures, becoming integrated with market activities

(Abele, 2009; Usher, Duhaime, & Searles, 2002). The mixed economy is an adaptation of the knowledge and social relationships of Inuit Qaujimajatuqangit to contemporary life in settlements. Mixed economies include a system of human relations, in which the reproduction of social relationships is as much a concern as the production of material goods (Usher et al., 2002). Subsistence activities are underpinned by social relationships that are reinforced in the short-term, as well as reproduced over generations, through the sharing of work, learning of skills and values in the course of production and distribution of goods and services (Usher et al., 2002).

In Northern Canada, the mixed economy is likely a major reason for the survival of Indigenous knowledge and language, enduring fluctuations in the fur market and changing living conditions (RCAP, 1996). Many Inuit have continued to harvest and share fish, seals, and other country foods, while also incorporating changing technologies and increased opportunities for wage employment. While the technology has changed, detailed knowledge and understanding of animals, weather, seasons, tides, and specialized techniques for observation and hunting has remained relatively the same. Indeed, the ongoing existence and resilience of Inuit in the Arctic environment is proof of their success as harvesters and stewards of their lands (Kristofferson & Berkes, 2005).

Focusing on this idea of a mixed social economy in the context of historical changes and the role of the Canadian states helps avoids dualisms of traditional and modern (Abele, 2009). Understanding the many levels, interactions, and contributions of the mixed economy is essential for realistic northern development that contributes to community wellbeing, as well as for assessing the impact of development projects and harvest disruption (Usher et al., 2002). As settlements and the wage economy emerged in the 1960s, policy focused on measures of development and well-being derived from southern standards and expectations. These measures include employment, income, and education, with no account taken for subsistence production and activity, which has been replaced by quantitative Eurocentric measures of economic production.

3.3 Nunavut fisheries: striking a balance

Fisheries and marine activities have been identified as the best opportunity for long-term socio-economic wellbeing in Nunavut, including job creation and food security (Government of Nunavut, 2016). Nunavut commercial fisheries include off-shore turbot and shrimp fisheries, as well as in-shore/in-land fisheries of arctic char, turbot, and less commonly whitefish and dried whale meat products. The fishing industry, including subsistence and commercial fisheries, remains an important component of economic, cultural, and nutritional activities, as well as a fundamental aspect of the health and well-being of Nunavummiut (Myers et al., 2005). Commercial fisheries have the potential to support traditional knowledge and land skills (Roux, Tallman, & Lewis, 2011). With increasing numbers of Nunavummiut participating in commercial fisheries, more people are able to afford fishing and hunting activities or combine part-time work in fisheries with other employment – contributing to economic development, food security, and community well-being (Government of Nunavut, 2016).

Nunavut fisheries are co-managed by the Department of Fisheries and Oceans Canada, the Nunavut Wildlife Management Board, Regional Wildlife Organizations, and Hunter and Trapper Organizations, in accordance with the Nunavut Land Claims Agreement. Government regulated fisheries in Canada use research and monitoring to better understand the impact that increased harvesting from the region would mean for fish stocks. However, this continues to be largely driven by western approaches to management and conservation. Including Inuit Qaujimajatuqangit (IQ) in fisheries management is a top priority for the Nunavut Fisheries Management Strategy (Government of Nunavut, 2016). IQ is needed to best respond to changes in the fisheries, and generate positive responses in social-ecological systems (Kristofferson & Berkes, 2005). However, in order for IQ to be used within management and policy, it needs to be considered within its context of relationships.

While numbers and quotas related to fisheries are measurements understandable to the general population and Canadian government, they likely do not capture deep understanding of and relationships to the land. Attempts to reduce the value or importance of small-scale fisheries into particular fragments does not do justice to the multi-dimensional value of fisheries for communities (Johnson, 2018). Narrow approaches to accounting for the benefits are inadequate

and even harmful for understanding the social, cultural, and historical embeddedness of small-scale fisheries. Representing the often intangible but critical social relational and cultural aspects of small-scale fisheries is part of the broader movement towards valuing many ways of knowing and appreciating the land and water (Johnson, 2018). These relationships and relational values are important for understanding Inuit perspectives on the co-production of environmental knowledge (Sheremata, 2018).

3.4 Focusing in: Pangnirtung Fishery

Over the past 50 years, southern-driven research, policy makers, and governments have often interpreted IQ to be a knowledge of the past, no longer relevant to settlement lifestyles and the wage economy. However, Inuit have consistently struck a balance between both traditional culture and modern life, adapting IQ to local economies. A successful example of how subsistence and commercial activities fit together is in the Pangnirtung Fishery in Pangnirtung, Nunavut.

The Pangnirtung Fishery is a commercial Arctic Char and Turbot/Greenlandic Halibut fishery in-shore fishery, established over 30 years ago. Pangnirtung is situated near many lakes and rivers rich with Arctic Char stocks and was the first community in Nunavut to receive federal funding to construct a small craft harbor to support the fishery. The fishery continues to grow with strong landings and high local participation year round (Government of Nunavut, 2016). *Iqaluk*, Arctic Char (*Salvelinus alpinus*) is a salmonid and are distributed across the Arctic Ocean in Canada, harvested in the summer months with gill nets. Arctic char is a staple of the Inuit diet, widely accessible and high in fatty acids The in-shore char fishery is the oldest commercial fishery in Nunavut, made up of small fisheries by families and community-based groups (Myers et al., 2005). *Qaliralik*, Turbot/Greenland Halibut (*Reinhardtius hippoglossoides*) is an Arctic deep-water fish, harvested through the ice by long-line fishing in the winter months. The local processing plant operates year-round to process, freeze, and ship char and turbot to southern markets [**Figure 3.1**].

The summer char fishery employs roughly 30 fishers as well as 15 plant processors (Personal communications, 2018). Commercial fishing quota are managed by the Department of Fisheries and Oceans, and distributed through lottery by the local Hunters and Trappers Organization

(HTO). Fishermen receive their quota location, pick-up a large plastic tub from the fish plant, and head out on their boats to their assigned location, which could be a lake, river, or inlet. Usually after a day or two of fishing, fishers return to town with their quotas filled and drop-off their fish at the fish plant for processing. Back at the fish plant, the char are cleaned and processed for different preparations, the majority vacuum packed and frozen. Excess fish beyond the fishers' quota is either taken home by the fisherman or donated to the local soup kitchen. About two thirds of fishers donate some or all of their excess fish to the local soup kitchen and the fish plant washes, cleans, and stores this excess fish free of charge. In both the turbot and char fisheries, there is room to grow and increase harvest. Demand for char far exceeds the current supply and many communities have identified the development of local char fishers as one of their top priorities (Government of Nunavut, 2016). The turbot harvest is also still well below the Total Allowable Harvest that is set by the Nunavut Wildlife Management Board for the inshore fishery (Government of Nunavut, 2016).

3.4.1 From Fishing to Film

Although film and video have often distorted how Inuit are represented and understood, Inuit involvement in filmmaking and Inuit-led media such as *Angry Inuk* have the potential to create thoughtful, high impact media that document and represent IQ and Inuit lifeways on the land and water. However, not all communities have access to filmmakers and producers to develop media production capacity and share community voices. Participatory video research is one response to this gap, allowing community members to participate in filmmaking and research as collaborators, guiding the research process and directing the overall narrative. Participatory video has the potential to break down the power dynamics of research and filmmaking, creating media products that are better representations of communities and their knowledge. Video research methods are well-suited for working with oral histories for their ability to enable direct participant voice (Cunsolo et al., 2013), act as a repository of knowledge in rapidly changing times (Bali & Kofinas, 2014), maintain language and relational qualities of knowledge (Kunuk & Mauro, 2010), and reach diverse audiences.

Figure 9. Processing char at the Pangnirtung Fishery

The overall goal of this chapter was to work with Pangnirtung fishers, community members, and Elders to answer the following questions:

- How is the Pangnirtung fishery experiencing and responding to ocean social-ecological change?, and
- How can participatory video be used as a tool for understanding and representing fishing activities and associated knowledge in and outside of the community?

3.5 Approach

3.5.1 Participatory Video

Participatory video (PV) is an action-oriented research approach that uses video and filmmaking as a means to identify and address participant needs and provoke collective action (Milne et al., 2012). PV lends itself to collective production, allowing communities to better self-represent their realities and priorities beyond their communities (Orbach et al., 2015). Participatory video methods include a spectrum of participation in the research/production process, allowing community members to contribute and/or lead the planning, filming, editing, and distribution. Combined with Indigenous storytelling, video as a rich visual information is an effective tool for transmitting experience in cross-cultural context, particular in bridging ways of knowing in research with Inuit (Cunsolo et al., 2013; Zurba & Berkes, 2013). With video, the storyteller's knowledge can be embedded within and expressed by the storyteller, thereby avoiding the pitfall of non-Indigenous researchers objectifying and co-opting Indigenous knowledge (Denzin et al., 2008). PV can also maintain rich non-verbal data that are otherwise lost in conventional methods that translate human experience into text (Crichton & Childs, 2005).

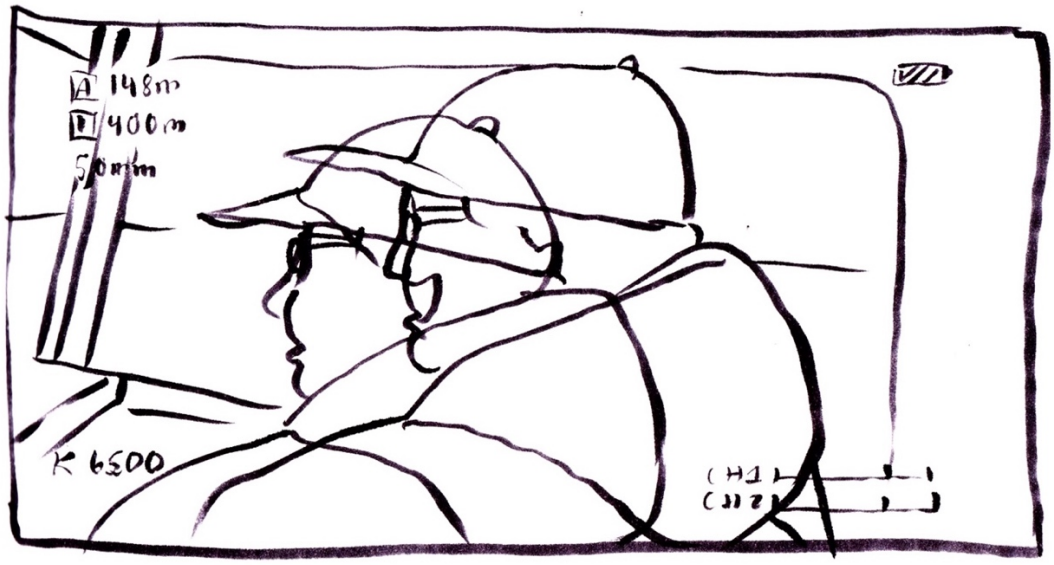


Figure 10. Looking through the camera lens while also engaged in the moment

3.5.1 Participatory Video Process

This research process engaged Panniqtuumiut in a modified participatory video approach, adapted to work within an Indigenous research context including (a) trust and relationships, (b) co-creation, (c) synthesis and feedback, and (e) sharing and celebration. Our research team included Natalie Baird (Qallunaaq Master's student and artist-filmmaker), Ian Mauro (Qallunaaq professor and filmmaker), David Poisey (Pangnirtung filmmaker) and Len Peterson (Qallunaaq cinematographer). Importantly, the research team spent multiple weeks in the community, participating in fishing and community activities over three consecutive summers. Through an informed consent process, all participants agreed to participate in the research and be identified by name and image in the video products and written thesis.

In 2015, Mauro began working with Panniqtuumiut to develop participatory video projects and received support and license approval from the local Hamlet as well as the Nunavut Research Institute. In 2016, Ian Mauro, Len Peterson, and Natalie Baird travelled to Pangnirtung to work with local research coordinator Sim Kullualik, with support from numerous community members to help guide the process, including Paulette Metuq. In 2017 David Poisey joined the research team as the community-based filmmaker.

Over a three-year period, the research team conducted 28 semi-structured qualitative interviews (Dunn, 2008) with 27 community members (one Elder was interviewed twice) **[Table 3.4].** Mauro conducted 15 interviews between July 27 – August 14, 2016. Natalie Baird and David Poisey conducted 12 additional interviews between August 4 – September 16, 2017, and one more on August 10, 2018. The majority of interviews were conducted in the hamlet of Pangnirtung, although in 2016 and 2017 several participants were interviewed "on the land" while fishing in Cumberland Sound [**Figure 3.4**]. In 2016, the majority of interviews conducted by Mauro were in Inuktitut and English. Participants answered their questions first in English and then in Inuktitut. Two unilingual Elders were interviewed, with interpretation during the interview provided by a family member. One community member was interviewed in English. As part of the research process, the research team followed two fishing crews – one commercial, and one subsistence – to investigate though interviews and visual analysis the similarities and differences between the two activities. In 2017 and 2018, the interviews were conducted by David Poisey (Inuktitut) and/or Natalie Baird (English), depending on the language chosen by the participant. Interviews conducted by David in Inuktitut were recorded and then translated in their entirety by David Poisey and Natalie Baird at a later date.

Research participants were approached by the research team regarding their knowledge of the ocean waters, sea ice, and/or animals, and their interest in sharing these perspectives through video media. This included three non-Inuit participants who were chosen for their work in the community or with the Pangnirtung Fishery. All participants live in Pangnirtung, many of whom had grown up in the area. In total there were 7 youth participants, 18 adults, and 8 Elders interviewed. This variety ensured that multiple perspectives were included in the research project.

Natalie worked with David Poisey to translate the Inuktitut interviews into English, as well as transcribe the interviews into Word documents. Written transcripts are helpful for searching keywords and skimming through interviews but they lack the rich audio/visual data. On the other hand, long video interviews can be cumbersome to work with while visualizing themes. Working with both written transcripts and audio/visual data helped take advantage of the strengths of

both kinds of data, while also contributing to a richer understanding and analysis (Crichton & Childs, 2005; Tessier, 2012).

Table 1. Participant demographics related to age, gender, and interview language

		Gender	Interview language
Elders	Abraham Arnaqaq	M	Inuktitut
	Elisapee Ishulutaq	F	Inuktitut
	Geela Sowdluapik	F	Inuktitut
	Jaco Ishulutaq	M	Inuktitut
	Joanasie Karpik*	M	Inuktitut
	Lasaloosie Ishulutaq	M	Inuktitut
	Meeka Arnaqaq	F	Inuktitut
	Taukie Qappik	F	Inuktitut
Adults	Ann Kullualik	F	Inuktitut and English
	David Kullualik	M	Inuktitut and English
	David Mike	M	Inuktitut and English
	David Nakashuk	M	Inuktitut
	Jacopie Maniapik	M	Inuktitut
	James William (Non-Inuit)	M	English
	Johnny Mike	M	Inuktitut and English
	Joopa Sowdlauapik	M	Inuktitut
	MaryAnn Mike	F	Inuktitut and English
	Markus Wilcke (Non-Inuit)	M	English
	Norman Mike	M	Inuktitut and English
	Oleepeeka Arnaqaq	F	Inuktitut and English
	Peter Kilabuk	M	English
	Rosie Naudlak	F	Inuktitut
	Sakiasie Sowdlooapik	M	Inuktitut and English
	Sim Kullualik	M	Inuktitut and English
	Steven Kuniloosie	M	Inuktitut and English
	Todd Johnson (Non-Inuit)	M	English
Youth	Paulette Metuq	F	Inuktitut and English

**Joanasie Karpik was interviewed twice*

Working with the transcript and video files, key moments, based on the content or importance given by the participant, were highlighted by the research team. Quotes from multiple interviews were arranged into themes to create a narrative carried by ideas or participants. Iterative cycles of listening/viewing of the transcripts allowed the overall narrative to emerge. Next, the visual story was crafted through associated visuals and b-roll. B-roll is any footage that is not an interview: the participant engaged in an activity, scenes from the

community, archival footage, etc. This additional video material helps create a multi-dimensional portrait of the participant, and leads to a better understanding of the setting (Genzuk, 2003). This process took place over two years, with an ongoing dialogue with Pangnirtung participants while editing was taking place at the University of Winnipeg. The large geographic distance between Winnipeg and Pangnirtung was a challenge necessitating a total of three multi-week visits to Pangnirtung to ensure the video material was appropriately constructed.

Figure 11. Stills from the participatory video process: interviews on the sea ice and in community, operating a drone and fishing in Cumberland Sound

In summer 2018, once a draft of the video was ready for community review, Natalie Baird and David Poisey hosted a community screening during the Pang Fest, an annual music festival that attracts musicians and audiences from across Nunavut. Over 30 people attended the screening at the local arena, including participants, youth, community members, and Pangnirtung Fishery employees and management. After the screening, audience members provided feedback

to Natalie Baird and David Poisey, and shared char and refreshments. The overall tone was positive and community members were pleased to see the film on a big screen, and celebrate the process and outcomes, along with suggesting some minor revisions to the visuals or interview content. Afterwards, the research team followed-up individually with participants who were unable to attend the screening.

Themes were interpreted through an integrated interview and filmmaking process, drawing from the transcripts, audio/visual data, and experiential learning. Given that the research and filming was conducted in the summers of 2016 and 2017, the film focuses on the summer char fishery. Themes related to the winter char fishery are examined through writing, in order to provide a full picture of the char and turbot fishery in Pangnirtung.

3.6 Results

3.6.1 "Walking in two worlds"

Many fishers practice fishing in order to feed their families and continue traditional livelihoods while also garnering income to support life in the modern settlement. As youth Paulette Metuq described,

> *"It could be challenging sometimes. Say, if you have a home, and you have a job, you have to support your family. But also, you want to be out there to go camping, to go seal hunting, to provide for family. To provide traditional food. It can be challenging sometimes, because we have to work, to have a home, and to support our family. It's like walking in two worlds: One side which is living in the community, and one side is to be outside the community. It's sometimes hard to juggle those two." – Paulette Metuq*

The Pangnirtung fishery supports sustainable economic development, putting food on the table while also contributing to intergenerational knowledge exchange. Southern tools and technology, as well as the large social-cultural changes of the past 100 years, have changed the ways in which Inuit harvest marine resources. But as shared in the interviews, despite these changes, Inuit still harvest and eat the same country foods as did their ancestors:

> *"We are here for a reason. This is our land, our waters. We depend on both the land and the environment… country food is the reason why I'm standing before you and saying something about it. Those country foods that my ancestors enjoyed, that's how they survived… [without them] I wouldn't be here today."*
> *– Johnny Mike*

Pangnirtung Fishery board member Sakiasie Sowdlooapik described how the local lifestyle dramatically changed in the 1980s when Greenpeace activists killed the sealing industry. Over the past 150 years, mixed economies in Cumberland Sound have gone through many transformations, including the rise and fall of the commercial whale hunt of the 19th century, fox fur trading with the Hudson's Bay Company, and most recently, the collapse of the sealskin market in the 1980s (Qikiqtani Inuit Association, 2013). Shortly after the EU ban of 1983, two Greenlanders came to Pangnirtung to start a long-line winter turbot fishery. Since then, the Pangnirtung Fishery and Fish plant has created meaningful employment in the community. This is significant as there are only a few options for employment in Pangnirtung, a community that has no large factories or industries, with very little construction or conventional development.

Fishing and hunting are the main source of income for many families, allowing fishers to buy gas, gear, and equipment as well as have time and flexibility for subsistence hunting and fishing activities. Fisher Norman Mike remarked that Panniqtuumiut are *"pretty lucky"* to be one of four communities in Nunavut to have a commercial fishery and fish processing plant. During the winter turbot season, the Pangnirtung fishery supports about 125-150 fishers out on the ice, who provide the processing plant with fish. The plant employs 40-50 people for fish processing during the turbot season. In addition, there are six full-time office and administration staff. The turbot fishery produces close to one million dollars for the community over four months, and the char fishery brings in roughly $50,000 for the community.

Direct cash sales of fish and secondary benefits such as the purchase of fuel and supplies contribute much economic benefit to the small community. Fisherman David Nakashuk shared that money generated from commercial fishing contributes to community well-being – *"ever since the fishery started, people seem happier, now that they can buy the things they need."* For Todd Johnson, the fish plant general manager, the benefit to local people is what distinguishes the Pangnirtung Fishery from his experience with fisheries in the south, where the corporations

benefit the most – *"everyone seems to want to work together, for the bigger picture."* Todd spoke to the inherent sustainability of the fishery, where people are *"looking forward into the future, not just in their lifetimes, but the long-term benefit of everybody in this area."* Fisheries development in Pangnirtung has a positive impact on other Qikiqtani communities as well, who are benefiting from the lessons learned and the research in Cumberland Sound.

3.6.2 "We're here all year"

Many participants expressed that IQ and local knowledge should be a foundational element to fisheries co-management, capacity, and consultation at all levels in order to maintain existing fisheries, fishing more of the available quota, and establishing new quotas to sustainably grow the fishery. As David Mike relayed, *"I think Traditional Knowledge is a lot better than science. We're here all year."* Inuit are in the best position to lead research related to marine resources and fisheries development in their territories. As Johnny Mike shared, *"As we are living in the Arctic, we are at the frontlines to witness the change […] Younger generations will be facing much more climate change than we can see today".*

Pangnirtung Elders and knowledgeable people have been observing dramatic changes to their ocean environments with major implications for local economies and safety of harvesters [**Figure 3.6**]. In order to understand how these changes will affect the fishery, fishers and fish-plant managers identified the need to embed IQ into fisheries research in order to fill gaps related to growing the fishery sustainably in the context of change. Fishers reported change in their marine environments, many of which are outside of the oral histories of their Elders. Many fishers related these changes in the fishery to climate change, including unpredictable ice conditions, rising sea levels, the appearance of new fish species, and changes to the arctic char diet. Participants also held perspectives on the future and how to move forward.

Figure 12. Observations of changing oceans from Pangnirtung Elders and hunters Abraham Arnaqaq, Lasaloosie Ishulutaq and Joopa Sowdluapik

Many of these changes have implications for the subsistence and commercial fisheries. Changes to the weather and warmer waters also have significant implications for sea ice conditions and winter turbot fishing. As Maryann Mike shares,

> *"[turbot fishermen] go much later, they stop so early. Sometimes they don't make enough income for them to be able to rely on their employment income. And then it's harder to feed their family because the cost of food is so high here." – MaryAnn Mike*

Participants have noticed that the growth rate of certain species is changing, and are connecting this higher productivity to warmer waters. As Sakiasie Sowdlooapik, notes:

> *"I am not a scientist, I am not a biologist. But as an Inuk, I notice their behavior and growth seems to be changing in our area…. Fish growth rate used to be very slow. It's quite fast now, or seems like it… The char seems to be a lot bigger these days, probably because it's a bit warmer. The other day we got a 19-pound fish that one fishermen brought – that's quite something… We even see clams getting bigger, probably because something is changing out there."*
>
> *– Sakiasie Sowdlooapik*

Many Elders shared concerns for increasing numbers of new species such as capelin (*Mallotus villosus*). Elder Joanasie Karpik shared that he knows capelin are new to the area, as there is very little knowledge or understanding of the species. In Pangnirtung, the increasing numbers of capelin has implications for Arctic char feeding habits. Many people have noticed that the colour of the arctic char meat is changing, which they attributed to changes in the fishes diet. Some Elders are concerned for this change, remarking that they won't eat char that has white meat, including Elder Abraham Arnaqaq who remarked that when he comes across a white char he loses his appetite. However, not all Elders are concerned about the changes to the Arctic char meat. Elder Jaco Ishulutaq shared that as arctic char eat less shrimp and more capelin, the colour of their meat changes and doesn't concern him – *"it still tastes good!"* Similarly, the fish plant did not seem concerned about the changes in the colour of the arctic char meat, noting that southern markets generally prefer a whiter fish.

As noted by manager Todd Johnson, this is just one change among many that those working at the plant adapted to, a quality that he praised about the commercial fishery: "*The versatility of the fishery is phenomenal. Because it's adapting all the time to whatever is thrown at it…it's*

constantly changing, and the adaptions required are constantly being accomplished." One response to the changing ice conditions has been to pursue a summer turbot fishery, in order to provide more employment for both the fish plant and fishers. In addition to climate change, with more fishers participating, the Pangnirtung Fishery will need more quota:

> *"Today, our younger generation is coming back and forth on their own. They're starting to have their own equipment. If they don't give us more quota, there won't be enough for the younger generation. It's nice to think they could have a future." – Joopa Sowdluapik*

3.6.3 "The living of fishing"

Sustainable employment for fishers and fish plant employees puts food on the table in the form of income and access to country foods, while also supporting intergenerational knowledge exchange. But for many participants, the sustainability of the fishery was centered around not just employment and marine resources, but also the sustainability of knowledge and skills. Many participants shared that they were happy to pass on their knowledge in the same way it was passed to them. David Kullualik shared, "*This year I started fishing with my oldest son. He's 13 years old. He's a good helper too. The same way that I started. I'm happy my son is focused on hunting and enjoys it more out camping*." As Norman Mike described,

> *"The reason why I fish is because I intend to keep [my grandfather's] knowledge. Since he passed it on to us. In order to keep fishing alive, we've got to move on and have younger generations fishing as well… it's the living of fishing […] We don't go to school or university to learn fishing, but many times we learn from our older generation, like my father and my grandfather. [Later] I'll forfeit [my knowledge] to my children, and my cousin's children. That's been happening for a long time." – Norman Mike*

Norman's description of "the living of fishing" speaks to how in order for the fishery to be sustainable, knowledge must be shared in practice with younger generations. As part of the participatory video process, the research team accompanied two intergenerational fishing trips. In summer 2016, the research team participated in a commercial char fishing trip into Davis Straight, about six hours or 130 miles, by boat from Pangnirtung. Char fisherman Jonny Mike, his

son Norman Mike, and grandson Nate Mike set nets and fished into the night and early morning. The following week, the research team accompanied a family fishing trip in Cumberland Sound with fishermen Sim Kullualik and his son Sean Kullualik. As the short film highlights, one trip was commercial, and the other, subsistence – and yet, both times we ended up "fishing with our hands" **[Video 1].**

Video 1. "Fishing With Our Hands: The ecological and cultural richness of the Pangnirtung Fishery" https://youtu.be/l2R_6WMMi7o

The film shows how subsistence and commercial fishing are visually the same, woven by narratives of Panniqtuumiut who are seamlessly navigating both worlds. As Johnny Mike shares at the end of the film, *"Even though we live in a modern world, we still live off the ocean. It's still our food."* Regardless of whether or not fishers are monetizing their catch, the equipment, techniques, and associated knowledge remain similar, grounded in IQ and local knowledge.

3.7 Discussion

3.7.1 Responding to change

Panniqtuumiut have experienced huge social and economic change in the last two centuries. The arrival of European whalers in the 1800s, and the following boom and bust as resources depleted and alternative fuel sources were found, transformed the lives of Inuit in Cumberland Sound (Ross, 1989). The fur trade of the early 1900s had a similar trajectory, leaving many Inuit depended on state resources (Tester & Kulchyski, 1994). Later, the sealing economy showed promise but soon crashed due to European import bans (Arnaqaq-Baril, 2016; Wenzel, 1991). Resource explorations and extraction projects have come and gone, with little improvement to Inuit employment or hope for long-term and stable development (Bernauer, 2019).

Throughout these economic and social changes, Inuit have continued to reconcile and navigate traditional and modern situations, highlighting the adaptive cultural practice and knowledge of Inuit. Alongside these transformations, as Johnny Mike notes, “we are here for a reason.” Inuit continue to harvest and share country foods that their ancestors “grew on eating”. Regardless of whether fishers are monetizing their catch, the equipment, techniques, and associated knowledge remain similar, grounded in IQ and local knowledge, building strong social-ecological systems around fishing activities.

Across Nunavut, fishermen and hunters continue to navigate the “two worlds” of subsistence and commercial harvesting. Small-scale fisheries such as the Pangnirtung Fishery make multiple contributions to economy, society, and culture, through supporting economic development, family and social ties, and intergenerational knowledge exchange. As many participants noted, there are few jobs and industries in Pangnirtung. The commercial and subsistence fisheries, intertwined by their knowledge, tools, and skills, bring family and community members together around activities that reinforce social ties. Unlike resource extraction activities, fishing reinforces knowledge and family ties.

Alongside the large social changes, Inuit are also “at the frontlines” of climate change. As fishing activities in Pangnirtung are closely related to wellbeing, environmental change has significant implications for local food systems. Over thousands of years, Inuit have adapted and responded to climate variability, but the amount of social-ecological change experienced in the

past 60 years greatly surpasses this history of adaptation. Inuit are currently facing unprecedented environmental change related to climate change, as shared by Pangnirtung Elders. Rising sea levels, changing ice conditions, new species, and serious concerns for harvester safety are daily experiences for Panniqtuumiut, particularly turbot fishers who are navigating the changing sea ice. Hunters and Elders identified very real safety concerns for fishermen traveling on the sea ice.

Fishermen and the Pangnirtung Fishery are responding to these changes and identifying steps for future action. Inuit Environmental stewardship is an intrinsic part of Inuit cultural values, and as such protection and conservation have always meant the active use of land and water and a healthy harvesting industry (J Karetak et al., 2017; Watt-Cloutier, 2015). As noted by fisheries management, the sustainability of the fishery involves sustainable employment and resources – but also of knowledge and skills. These relational values also include relationships between generations. Many hunters and Elders are concerned, yet also hopeful, for what the future holds for younger generations. As Johnny Mike noted, "younger generations will be facing much more climate change than we can see today". Opportunities for younger generations to learn and transmit traditional knowledge about the land, wildlife, and harvesting are increasingly challenged by environmental, social, economic, and cultural changes (Council of Canadian Academies, 2014). As such, a crucial part of reclaiming the community roles of harvesters – be it hunters or fishers – is also supporting youth knowledge and skills. As many fishermen shared, they wish to share their knowledge and skills the same way it was shared with them – through observation and practice. This will continue what Norman Mike described as the "living of fishing".

Fishermen are sustainers of their communities, contributing to what Inuk scholar Pitseolak Pfiefer refers to as "reclaiming the hunter" (Qikiqtani Inuit Association, 2019a). In the QIA report *Food Sovereignty and Harvesting*, Pfeifer calls for investing resources into developing the harvester – be it a hunter or fisherman – as a profession, recognizing the holistic contribution that hunters make to sustainable economic development, environmental conservation, and Inuit identity and ways of life that sustained Inuit for millennia. Hunters and fishers are a source of pride and central to community wellbeing, applying IQ and their extensive knowledge,

experience, and understanding to the current political-cultural context of wage labour and settlement life. Inuit harvesters are under pressure to conform to global markets and wage economies that disconnect Inuit from land and animals, and therefore from their social fabric. Recognizing and supporting the adaptation of IQ through the actions of fishers brings positive change to communities, rather than limiting knowledge and practice to ecological and cultural domains.

3.7.2 Visualizing relationships

The process and products of the film "Fishing with our hands" created a dynamic portrait of fishing activities in Pangnirtung, contributing to a more nuanced perspective of the relational dimensions of knowledge and practice, the values that underpin the fishery, and the importance of fishing activities for cultural continuity. When we make space for and focus on relational values, what we hear is the community placing great importance on supporting knowledge transfer through intergenerational fishing activities. IQ is a land-based knowledge, where knowing the land is using the land (Huntington et al., 2016). The emphasis on intergenerational knowledge sharing and strengthening relationships between Elders and youth underscores the desire to maintain IQ (Sheremata, 2018).

Participatory video was an effective approach for sharing the values, relations, and exchange that underpin the fishing activities and contribute to the fishery being economically, environmentally, and culturally sustainable. The film "Fishing with our hands" shows the ways in which the fishery supports "walking to two worlds" of commercial and traditional livelihoods. As films such as Angry Inuk (2016) have explained, Inuit harvesters are often criticized and judged for "making money" off their catch, when it is ultimately a larger form of subsistence. Many people participate in the commercial fishery so they can pay for the equipment and tools to continue personal fishing and hunting practices, with large positive impacts for the community.

Equally as important is the continuance of "the living of fishing" through intergenerational knowledge exchange. What is lacking from the earlier examples of films, *Arctic Outpost* and *Nanook of the North,* are relationships fostered by filmmakers and communities that centre the experience and knowledge of Inuit. "Fishing with our Hands" is a multi-layered portrait of the

community and fishery, weaving multiple narratives of language, knowledge, tools, technology, and values. The film shares multiple perspectives, honoring the intelligence of each participant by including their language, practices, and lived experience. The participants' experiences and knowledge are contextualized and situated by their surroundings, but also in their bodies, expressions, intonations, and pauses. By weaving multiple layers of time and space, the film addresses the viewer on more than one level, encouraging careful listening and observance.

Western lenses that focus on economic impact and material consumption limit the understanding of the holistic contributions of small-scale fisheries (Weeratunge et al., 2014). For example, the Nunavut arctic char fishery is often valued for its food replacement value – the value of food harvested that would otherwise be purchased at the store – estimated at over $7 million for Arctic Char in 2015 (Government of Nunavut, 2016). This cash value, however, does not account for the many other benefits, such as empowering Inuit by providing opportunities to locally source and process culturally appropriate nutritious food; transmitting Inuit Qaujimajatuqangit; promoting knowledge, skills, and language transfer; safeguarding Inuit cultural traditions and values related to harvesting, food preparation, and sharing; as well as the physical and mental benefits of participating in the food fishery (Qikiqtani Inuit Association, 2019b). The value and importance of personal bonds with the land and each other, supported through fishing activities, are generally excluded in fisheries management discussions centered around access to fish and equipment.

Figure 13. Supporting the next generation of fishers

3.8 Conclusion

Popular representations of Inuit have glossed over the huge impacts of colonization and created a binary between traditional and modern hunting practices and ways of life (e.g., *Nanook of the North*). Because of this Inuit are perceived to be no longer engaged in traditional knowledge and sustainable harvesting practices when they use modern tools and technology. This has implications for how Inuit knowledge is respected and upheld in regards to discourse related to adaptation and resilience in the face of social-ecological change. While research regarding social-ecological change and the human dimensions of climate change have made important contributions, the relationships and values that underpin actions and approaches to adaptation are often lost in academic discourse. Today, media about the urgency of climate change in Arctic Canada are centered around sickly, skinny polar bears – again created for southern audiences and their desire to see Arctic Canada as a vast, majestic, untouched landscape. But it is the

hunters, the fishers, and the communities of Inuit Nunangat that are calling for recognition and action, as the active stewards and guardians of their homelands.

As Pangnirtung continues to face and respond to the challenges of a changing climate, layered with new conditions for industrial development off the coasts of Nunavut, sustainable economic development that contributes to community wellbeing will require drawing on the talents, assets, and abilities of Nunavummiut. They are experiencing the impacts and they are also generating the solutions. Centering relationship building through the participatory video approach created necessary space for local voices, values, and knowledge. Inuit have continuously adapted Inuit Qaujimajatuqangit and the associated values, knowledge, and practices to the contemporary context of commercial production and wage economy in the form of mixed economies.

CHAPTER 4: Shifting Our Lens

Engaging youth in climate change and oceans research through arts-based research

"As we are living in the Arctic, we are at the frontline to witness the change […] younger generation will be facing much more climate change than we can see today.

- Fishermen and hunter Johnny Mike, 2016

"It's very important for youth to get involved with Elders, learning about the knowledge that we don't learn in school […] to speak with Elders, to spend time with them, and talk about their what their thoughts are on how life is today, and how it was before colonization."

- Youth Paulette Metuq, 2016

4.0 Abstract

Many Inuit hunters and Elders are concerned about the impacts of climate change on land-use and access, community activities, and animal populations. Researchers have increasingly been collaborating with local experts to document, visualize, and mobilize knowledge of socio-ecological change. However, Inuit youth remain underrepresented in climate change research, policy making, and dialogue, despite the power and significance of their voices as they face the challenges of a changing climate. One approach to this research gap is to engage youth by sharing their energy, creativity, and perspectives through participatory arts-based methodologies. In 2017, our research team hosted two video and photography workshops for youth in Pangnirtung, Nunavut. This paper highlights the research process and products that integrated capacity building, community engagement, and filmmaking regarding youth perspectives and Inuit Qaujimajatuqangit of climate change and oceans. Through workshops and on-camera interviews, we co-created dynamic portraits that centre youth knowledge and experience, community resilience, and important linkages between Elders and youth. Because of the unique qualities of the short films and photographs, the research findings have been shared extensively online and through academic conferences and film festivals. As such, the arts-based process and products were an effective tool for developing relationships and supporting youth voice in research regarding social-ecological change.

4.1 Introduction

In the past 20 years, there has been a surge of community-based research that seeks to assess the exposure, vulnerability, and adaptability to climate change impacts. A portion of this work has been focused on specifically on analyzing the human dimensions of climate change through a vulnerability framework (J. D. Ford & Pearce, 2010; J. D. Ford et al., 2018, 2008, 2016; J. Ford et al., 2007). While this approach has made important contributions to climate change policy development, increasingly there is a dialogue about the challenges and risks of vulnerability-centered adaptation research.

Critics have noted that across Arctic Canada, the vulnerability framework has become a "hegemonic lens" through which scholars, policy makers, political leaders, and the media understand the relationships between Inuit and climate change (Cameron, 2012, p. 111). Despite its promise to respond to community needs and integrate knowledge systems, without a critical lens, a vulnerability-centered approach to community-based adaptation research has the potential to create inappropriate or misguided policy and action (J. D. Ford et al., 2016). It is important to note the politics and power of vulnerability, "as a power-laden concept who application could hold very real consequences for the populations who are bestowed such a label" (Haalboom & Natcher, 2012, pg. 320). These consequences can include legitimizing outside action and control, further marginalizing communities – as well as shaping how communities view themselves and their ability to take action.

In response, many have called for humanizing and relationship-based approaches (Sheremata, 2018; Watt-Cloutier, 2015) to developing epistemologically-grounded action plans that are relevant to the values and perceptions of community members (Veland, Howitt, Dominey-Howes, Thomalla, & Houston, 2013; Wolf, Allice, & Bell, 2013). However, there remain many gaps in how and who is engaged in research regarding climate change in Inuit Nunangat. Knowledgeable hunters and Elders continue to be the primary focus of research regarding the human dimensions of climate change (Gérin-Lajoie et al., 2016; Krupnik et al., 2010; Krupnik & Jolly, 2010; Laidler, 2006; S Nickels et al., 2005). In Canada, Inuit youth are largely absent from the academic literature regarding human dimensions of environmental change (Brunet, Hickey, & Humphries, 2016; Petrasek MacDonald et al., 2013). This lack of literature on youth

experiences and perspectives on climate change is concerning as youth make up a substantial part of the population in Inuit Nunangat. For example, in Nunavut, nearly 60% of Nunavummiut are under the age of 30, close to double the percentage of Canada as a whole (Statistics Canada, 2017).

The vulnerability approach has both limited and characterized the ways in which youth are engaged in climate change research. Youth, who will inherit the decisions and action plans of today, are of course key stakeholders and rightsholders in climate change (Brook et al., 2009; United Nations, 1989). However, social, cultural and political perceptions position youth as unwilling, uninterested participants (Lohmeyer, 2019; Wyness, Harrison, & Buchanan, 2004), or passive victims with little-to-no voice in climate change research and policy development (Haynes & Tanner, 2015).

Indigenous youth in particular face many barriers to participation in research, related to higher levels of poverty, discrimination, and tokenization (Matthew, 2009). In the few examples where Indigenous youth are included in climate change research in Arctic Canada, they are often identified as an "at-risk" population for the impacts of environmental change, with lower adaptive capacity compared to other age groups (e.g. Ford et al., 2008). Framing youth as "at-risk" in the vulnerability narrative reinforces a deficit approach, characterizing young people as victims with little chance of succeeding (Garakani, 2014).

Given the moral and ethical responsibilities to current and future generations, it is critical to facilitate youth engagement in climate change research and policy development (Eichler, 2015; Page, 2007). In a time of rapid environmental and cultural change combined with increasing industrial development, the future of Nunavut is closely tied to youth knowledge and participation in research and resource management and development (Brown, 2016; Schlag & Fast, 2005). Furthermore, an engaged, knowledgeable, and skilled and engaged youth population – as organizers, leaders, and communicators – may be overall less susceptible to the socioeconomic and socio-psychological impacts of climate change (Eichler, 2015; Petrasek MacDonald et al., 2013).

As many have noted, Inuit youth "have a lot to say… with trust, time, and tools" (Garakani, 2014, p.233). Across Arctic Canada, arts-based research is increasingly used to as an active tool

to address challenges faced by Indigenous youth, build resiliency, form relationships, and stimulate discussions for change (ArcticFOXY, 2014; Empower, 2009; Fanian, Young, Mantla, & Daniels, 2015; Leafloor, 2012). Arts-based research (ABR) employs art and visual media as a way to understand participant experience or perspectives (Hesse-Biber & Leavy, 2008; McNiff, 2008). This growing field incorporates visual media, such as photography, video, and drawing into the research process, be it by generating, analyzing, interpreting, and/or communicating knowledge (Boydell et al., 2015; Cole & Knowles, 2012). Art and art making are used to generate dialogue and form discussion that do not seek to determine objective reality, but rather, to uncover multiple ways of knowing and subjective realities (Edenloff, 2011; Hesse-Biber & Leavy, 2008). As such, ABR represents an intervention into the dichotomy of academy and community by co-creating knowledge that is "accessible, evocative, embodied, empathetic, and provocative" (Cole and Knowles, 2012, p.33).

Collective artworks created through arts-based methods can act as a platform for discussion and change, as the creative process is often more familiar and inclusive than scientific or bureaucratic discourse (Zurba & Berkes, 2013). Collaborative art-making can be a non-threatening point of entry into research, as it is not tied to written expression, which may otherwise exclude or deter participation in the research process (Edenloff, 2011; Garakani, 2014). A combination of tools and approaches can be modified to suit the interest and comfort level of each participant, eliciting diverse voices and a more comprehensive understanding of the research question as defined through artistic expression (Garakani, 2014; Pink, 2001).

Arts-based methods are well suited to engaging Indigenous youth, offering the opportunity to participate equally in the decision-making process, learn and share new skills, create counter narratives, and build on or reclaim cultural identity or practice, and centre youth voices and complex identities (Finley, 2008; Flicker et al., 2014). Embedded in the research process and products are multiple meanings, interpretations, and experiences, without seeking to find universal truths or uncomplicated solutions. Importantly, ABR have the potential to break down the standard narrative of youth as passive victims, and instead, highlight individual and community strengths, innovation, and capacity (Hammond et al., 2018).

In Nunavut, there is a large artistic cultural economy, including carving, printmaking, textile arts, and filmmaking. Researchers have begun to draw strength from this context to inform participatory research regarding social ecological change, as a way to bridge knowledge across cultures and generations, supporting resilience and adaptive capacity in the face of climate change (Petrasek MacDonald et al., 2015; Rathwell & Armitage, 2016). These projects have included collaborative mural making and filmmaking with Inuit youth. However, more work is needed to understand the potential for mobilizing these artistic process and products to wide audiences.

In Inuit Nunangat, The National Inuit Climate Change Strategy calls for climate initiatives that support the contribution of Inuit children and youth, to understand impacts and inspire Inuit-led adaptations while also supporting health and wellbeing (ITK, 2019; United Nations, 2009). Climate change research should engage youth through community-based research and partnerships that include spending more time in communities, mentoring, training and compensating youth, and ensuring research is relatable (Gbetholancy, Henri, & Brunet, 2018; Liebenberg, Sylliboy, Davis-Ward, & Vincent, 2017). Creating opportunities for Inuit youth to be meaningfully involved in oceans and climate change research requires including their perspectives and observations while also supporting research capacity and skill development (Brown, 2016). Focusing on hands-on learning such as land-based camps and workshop, as well as co-creation and co-learning in interdisciplinary and intergenerational settings show promise – particularly participatory visual methodologies that incorporate Inuit Qaujimajatuqangit and Inuktitut.

Given the significance and urgency of meaningfully including youth in climate change research, this paper focuses on processes and lessons learned from two approaches to participatory arts-based workshops for Inuit youth surrounding land, identity, and environmental change. Specifically,

- What are the perspectives of Indigenous youth on climate change, what is their role? How can arts-based methods address this gap, and meaningfully include youth?
- What are the challenges and opportunities of participatory video and photography methods?

By examining the iterative workshops as case studies, it is possible to gain a broader understanding of how to use arts-based methods to engage Inuit youth in climate change research.

4.2 Methodology

4.2.1 Study Area

This research projected was conducted in the Inuit coastal community of Pangnirtung, Nunavut, as part of a multi-year community-based research project to document and share the perspectives and Inuit Qaujimajatuqangit regarding changing oceans. Pangnirtung is world renowned for its artists, including carvers, printmakers, and weavers, and one of three Nunavut communities with dedicated art studios, the Uqqurmiut Centre for Arts and Crafts. Many beloved Inuit artists are from Pangnirtung including printmaker Andrew Qappik, designer of the Nunavut flag and coat of arms; Jaco Ishulutaq, master carver; and his mother, the late Elisapee Ishulutaq, who received the order of Canada for her cultural and artistic contributions to the community.

In Pangnirtung, visual arts play material, cultural, and therapeutic roles – as important income for families, a tool for embedding traditional knowledge into art objects, and a means to heal from intergenerational trauma (Rathwell & Armitage, 2016). As Elisapee Ishulutaq shares, Inuit art has particular value for the production and transmission of Inuit Qaujimajatuqangit, as art can be a visual version of oral histories, communicating knowledge about traditional values and practices (Rosen, 2013). Art and artistic process have also been found to play a role in bridging knowledge systems regarding to social-ecological change, as well as a source of learning, adaptation, and maintaining identity in times of change and transformation (Rathwell & Armitage, 2016).

While Pangnirtung continues to be a community of many artists, there are relatively few opportunities for youth to engage in arts programming outside of school. In a small and relatively isolated community with a large youth population, there is a need for positive programming for children and youth (Hamlet of Pangnirtung, 2011). The Pangnirtung Youth Centre (PYC) works towards meeting that need, as a drop-in recreation space for youth, arts and cultural activities, as well as operating a canteen and soup kitchen. For a number of years, the PYC and youth council

have acted as community partners for a variety of youth-engaged research projects, including photography and collaborative management of national parks (Brown, 2016), intergenerational mural-making (Rathwell & Armitage, 2016), representation and hip hop culture (Marsh, 2013) and radio dramas promoting healthy eating (Racicot-Matta, Wilcke, & Egeland, 2014). Similarly, the research team partnered with the Pangnirtung Youth Centre to host this research project, collaborating with the board and youth summer staff.

4.2.2 Methodology

This research draws from Indigenous and participatory arts-based research methodologies centered on strength. In Inuit Nunangat, research exists within a long history of extractive practices, where researchers "parachute in and out", based on their own timelines, passions, and ethics, with little to no communication before, during, or after (Castleden, Morgan, & Lamb, 2012). Indigenous methodologies, on the other hand, are focused on building and reinforcing relationships of respect, relevance, reciprocity, and responsibility (Kirkness & Barnhardt, 2001). Indigenous methodologies extend from Indigenous ways of knowing, using aligned methods centre a relational approach to research process and products (Kovach, 2010; Wilson, 2008). Indigenous scholar Shawn Wilson highlights "relational accountability" in research, where rather than answering research questions, the question is "how am I fulfilling my role in this relationship?" (Wilson, 2008, p.177). Rather than searching for an empirical truth, Indigenous research methodologies can work towards centering responsibility and accountability to participants and the wider community.

Participatory arts-based research has been adapted to research with Indigenous communities by methods that centre Indigenous ontologies, enquires, and knowledge through robust ethics of reflexivity, relationship building, and respect for diverse ways of knowing (Hammond et al., 2018). In their international scoping review of ABR in Indigenous research, Hammond et al. (2018) identify five areas where arts-based methods have potential to benefit an Indigenous research agenda, including: participant engagement, relationship building, Indigenous knowledge creation, capacity building, and community action.

In particular, participatory arts-based methods have the potential to highlight centre narratives of strength and survivance of Indigenous youth. The term survivance captures both survival and resistance, celebrating the endurance of Indigenous peoples in the face of colonialism (Smith, 2012; Vizenor, 1999). Damage-centered narratives of Indigenous youth are no longer sufficient, as young people cannot practice agency or sovereignty in a framework of deficit (Tuck, 2009). A strengths-based approach, on the other hand takes into account the impacts of colonization while focusing on the resilience, resourcefulness, and strengths of young people (Crooks, Chiodo, & Thomas, 2010). Strengths-based frameworks understand and value complexity, contradiction, and self-determination (Tuck, 2009).

4.3 Methods

Camera and lens-based media, including photography, video, and animation, are common approaches to engaging youth in participatory, community-based research for their ability to connect across art and technology (Lin & Bruce, 2013). Participatory lens-based methods including photovoice, documentary filmmaking, and digital storytelling are most commonly used in arts-based research with Indigenous communities, particularly in rural and remote areas of Canada (Hammond et al., 2018). These photography and video-based methods allow participants to determine the subject and meaning of their photograph or video, leading to a richer understanding of a particular research topic.

Participatory lens-based methods are well established as an approach to working with Indigenous youth, with many examples across Canada exploring education and identity (Garakani, 2014), sport (Mchugh, Coppola, & Sinclair, 2013), health and wellness (Moffitt & Vollman, 2004; Stewart, Riecken, Scott, Tanaka, & Riecken, 2008; Young et al., 2013), and urban living and social justice (Skinner & Masuda, 2013). Paired with storytelling and oral history, photography and video media can be effective tools for engaging youth in personal and community narratives of change, building cohesion between generations and geographies and promoting resiliency in a time of uncertain social-ecological change (Cunsolo et al., 2013; Petrasek MacDonald et al., 2015; Rathwell & Armitage, 2016; Rice & Ingrid, 2018).

Given the potential and usability of lens-based media, the research team used video and photography methods to engage, document, and share the perspectives of youth participants. The research team included Master's student Natalie Baird and community-based filmmaker David Poisey **[Figure 14]**. Natalie Baird is a visual artist, filmmaker, and community-based researcher based in Winnipeg. David Poisey is director and cinematographer living in Pangnirtung.

Figure 14. Natalie and David stand outside the Pangnirtung Youth Centre. David is a local cinematographer and director, as well as a founder of the Inuit Broadcasting Corporation and a mentor for Inuit filmmakers.

In August and September 2017, the research team hosted two video and photography workshops for youth: (a) The Video and Storytelling Workshop at the Pangnirtung Youth Centre and (b) the Pinhole Camera Workshop at Attagoyuk High School **[Table 2].** In collaboration with the Youth Centre and High School, Natalie and David developed the workshop structures to engaged youth participants in planning, producing, editing, and sharing digital media narratives, facilitating the workshops in both English and Inuktitut. The workshop processes, described in detail below, were designed to be iterative, where we learned from the first workshop and applied lessons to the second workshop.

Table 2. Dates, location, structure, facilitators, and participants for youth workshops in Pangnirtung in August and September

	WORKSHOP A: Video and Storytelling Workshop	**WORKSHOP B:** Pinhole Camera Workshop
Dates	August 14-25, 2017	September 11-15, 2017
Location	Pangnirtung Youth Centre and on-the-land at Sannirut	Attagoyuk High School
Structure	7 days of drop-in programming and 2 day camping trip	5 days of in-class programming
Facilitators	Natalie Baird, David Poisey	Natalie Baird, David Poisey, Sara Fitzpatrick, Maryrose Kilabuk, Jenna Kilabuk
Participants	Youth (n=6)* Elders (n=3)	Youth (n=11)**
Method	Modified participatory video	Modified photovoice

**Up to 20 more youth participated in the Video Workshop but not in the research process.*
***Similarly, in the Pinhole Workshop, up to 40 students participated by creating cameras and images. However, only 11 youth participants were part of the research process.*

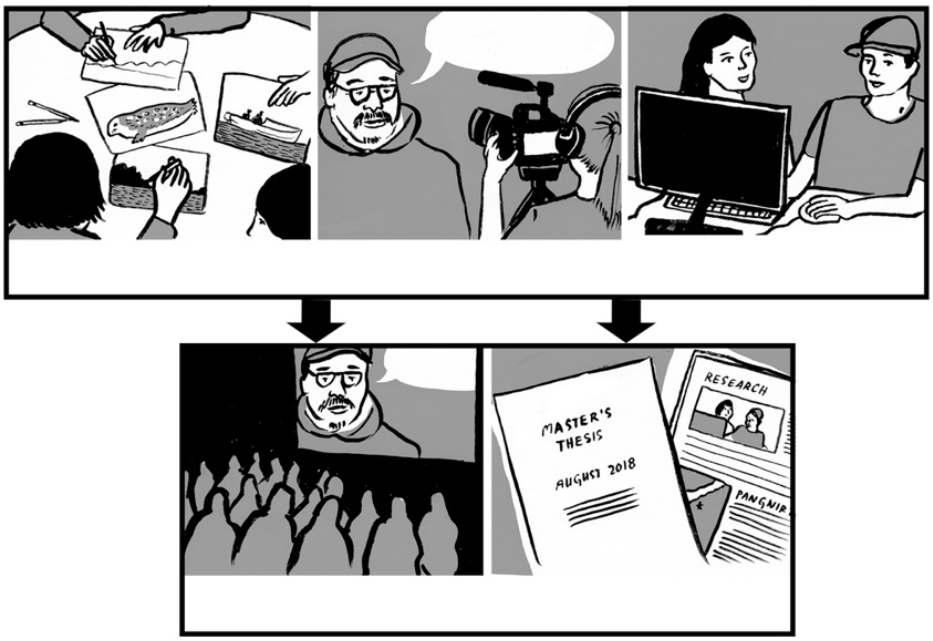


Figure 15. Visual project information for participants, describing the workshop process and associated media and written outcomes

Special attention was given to creating an informed consent process that was inclusive of youth participation. Consent forms for research including participant identification through video media are by nature quite dense. Descriptive illustrations **[Figure 15]** were included in the project information document with the intention of increasing meaningful engagement in the informed consent process (C. Mitchell, 2011).

4.3.1 Workshop A: Video and Storytelling Workshop

The Video and Storytelling Workshop was a drop-in program for youth where each day focused on a different step of video of production, including planning, shooting, editing, and sharing short films **[Figure 16]**. Our hope was that a group of youth would participate in the full two weeks but we found that a drop-in program suited the space better and was more inclusive to youth who may not be able to commit to the entire length of the programme.

The program was centred on the question, theme, “Why are the land and water important to you?” We advertised the program through community radio, Facebook, and posters. Youth participants started by learning about cinematography and how to compose images in a frame, and then moved onto creating storyboards of their short narratives. During the workshop, youth were instructed in video camera operation and sound recording, as well as how to conduct interviews on camera. Once youth participants had gained basic skills in video production, we began shooting and then collaboratively editing their short films. Once a rough cut was complete, youth participants reviewed the film, discussed it, and further refined it in an iterative process of engagement and reflection.

The program included an overnight camping trip to Sannirut, a camp located about an hour by boat outside of the community that has cabins to host workshops and retreats, where we invited Elders to share their knowledge of social and ecological change. At the end of the workshop, youth participants (n=6) were interviewed on camera about their perspectives of the land, environmental change, and the role of sharing and documenting knowledge through video.

Figure 16. Video production workshops in community at the Youth Centre and on-the-land at Sannirut, a one-hour boat ride from town

4.3.2 Workshop B: Pinhole Camera Workshop

Learning from the Video Workshop, the Pinhole Workshop was designed to focus more on directly questions about oceans and environmental change. The research team partnered with Attagoyuk High School staff Sara Fitzpatrick, Mary Rose Kilabuk, and Jenna Kilabuk to facilitate a week-long workshop entitled "The Ocean From My Eye", exploring grade 10 and 11 student perspectives of the importance of the sea ice and ocean through the lens of pinhole photography.

The workshop started by watching a film featuring local perspectives on climate change and Inuit Qaujimajatuqangit. Next, the students brainstormed about the importance of the water and sea ice for youth in the context of climate change. We asked students, why is the ocean important to you? What can affect the health of the ocean? How does climate change affect youth in Pangnirtung? These discussions informed the next phase of the workshop. The following day, students built pinhole cameras out of recycled materials gathered at the school **[Table 3].** We instructed the students on basic pinhole photography, including light science, exposure times, and darkroom techniques. Next, students went down to the shoreline to create photographs guided by the question, why are *imaq* (sea water) and *siku* (sea ice) important to you? Students took a number of photos over two days **[Figure 17]**. On the last day, students chose their

favourite photograph and wrote a written statement about their photo and its meaning. Students were then invited to record an audio statement about their photograph. Many chose to not make audio recordings of their statements and one student opted to play the accordion instead.

At the end of the workshop, Natalie edited together a short video that brings together the process, photographs, and reflections in conversation with the interviews from the Video and Storytelling workshop. A rough cut was shared with the students via their teacher, and they provided feedback that was incorporated into the final edit.

Figure 17. Left: students with teacher with their hand-made coffee tin cameras. Right: pinhole negative prints drying in the darkroom

Table 3. Instructions for making and using a pinhole camera made from recycled materials

COFFEE TIN PINHOLE CAMERA

Making your camera

- Using a hammer and nail, make a 1cm hole in the middle of the coffee tin wall.
- Paint inside of tin with matte-black paint. Let dry. If your tin has a transparent lid, paint it as well.
- Cut 5x5cm inch of aluminum from a pop can. Using a size 10 beading needle, carefully make your pinhole in the middle of the aluminum square. Sand both sides of aluminum piece to remove any shards. Wash off dust and let dry.
- On the outside of the tin, line up your aluminum pinhole with the hole in the coffee tin. Tape down the aluminum with electrical tape, ensuring the edges of the aluminum are lighttight.
- Place a piece of tape over your pinhole – this is your shutter.
- Examine your camera and be sure it is lighttight. You may need to add additional electrical tape to the edge of your tin's lid.

Loading your camera

- In the darkroom, load your camera with light sensitive paper, ensuring the paper is directly across from the pinhole, emulsion side up. You may want to tape the paper to the wall of your camera so it doesn't move around. Close your camera.

Testing your camera

- Your camera will have a 30 second exposure in bright, direct sunlight. Depending on the conditions (cloud cover, time of day, shade) you may need to add time to your exposure.
- Do a test to ensure your camera creates a good exposure in 30 seconds. Set up your camera in a location where it will remain still.
- Arrange your photograph. For portraits, place your camera at least 1 meter from your subject.
- Set a timer for 30 seconds – do not count in your head. When you are ready, open your shutter for 30 seconds. When the timer goes off, close your camera promptly. Do your best to not move the camera at all during the exposure time.

Developing your negative

- In the darkroom, open your camera and process your negative print using the paper processing trays.
- Assess the exposure of your camera and adjust your exposure time accordingly.
    - Negative has good distribution of whites, black and greys: good exposure! Take more pictures using the same exposure time and in the same light conditions.
    - Negative is very bright: your photo is underexposed and the positive print be very dark. Expose for more time (try in 10-30 second increments)
    - Negative is very dark: your photo is overexposed and the positive print be very bright and faint. Expose for less time (try in 10-30 second increments)
    - Negative is grey and has no visible image: your camera may have a light leak, or your paper somehow became exposed to light. Examine your camera, tape up any leaks, and try again.
- Hang your print to dry and re-load your camera.

Printing your positive

- To develop a positive print of your negative, either contact print your negative using the enlarger in the darkroom or scan the negative and invert the image in Photoshop.

4.3.3 Analysis

This paper uses a multiple case-study approach to analyze the workshop process and products (Yin, 2003). Camera and lens-based methods include a wide variety of technologies and approaches to engagement, and as such, each workshop has value on its own, as well as emergent properties. Workshop A and B are examined as individual cases to highlight differences within and between the process and products (Baxter Pamela & Jack, 2008), and evaluate their merit and challenges.

Emergent themes from the workshops were interpreted through an integrated interview and filmmaking process. Drawing from the workshop process and products and youth reflections through on-camera interviews, as well as the research team's roles as observing participants, a huge variety of knowledge and information was processed through iterative cycles. The data included short films, youth participant reflections, oral histories, photographs, and observations and informal conversations captured in written and visual fieldnotes. Overall, the youth-generated visual content, participant reflections, and the observations allowed the research team to triangulate and ground their findings in participant experience, leading to the key messages and larger patterns reflected in the results.

4.4 Results

Workshops A and B are described as individual cases [4.4.1 and 4.4.2] to understand the differences between the workshops, and then brought together for comparison and integration [4.4.3]. Within these cases, emergent themes are examined through participant generated video and photographic media, interviews with youth and Elders, as well as community context and observations from the research team.

4.4.1 Case A: Video and Storytelling Workshop

The Video and Storytelling Workshop produced 4 short films, spanning languages, generations, in town and on-the-land. As the opportunity to share knowledge between generations was significant for both the youth participants and Elders, we have chosen to include Elder Jaco,

Joanasie, and Geela's knowledge alongside the youth's interviews and films. Importantly, each Elder underscored that they spoke from their own experience and were careful to distinguish what knowledge was theirs, and they had heard from other people but not witnessed themselves. As Joanasie put it, his knowledge is *"what I'm thinking, just me – maybe I'm wrong, maybe I'm right"* but also, "*this is my story. Everything I said that I know is true."*

Overall, the films, interviews, and observations underscore that spending time on the land and water through land-based and harvesting activities, are important pathways to identity as well as physical and mental well-being. Many participants articulated that being on the land, as well as harvesting, eating, and sharing country foods "makes them an Inuk". As youth participant Seemee Qaqasiq shared,

> *"The moment we left the dock I felt complete – that missing person always comes back to me… I always look for him [in town] but I can never find him. But once I go out, I feel complete… It's part of our culture, to be out. To explain this in a way, like my full Inuk-ness, comes back to me. I lived a life like this before and I live this life now." (Seemee Qaqasiq, interview, 2017)*

Youth participants in the Video Workshop all spoke to the importance of country foods such as char, beluga, seal, caribou, and tundra plants for youth and their communities at large. In Tyler Kilabuk's video *Pukuk* **(Video 4.7)***,* youth pick *paurngaq* (crowberries) at Sannirut, a popular camping spot near Pangnirtung. Tyler talks about his favorite summer activities: *nunivak*, collecting berries in a bucket, and *pukuknuk*, eating them right off the bush. He talks about his favorite memories of picking berries with his grandmother, who would mix them with Crisco oil or caribou fat to make *aluk*, a special summertime treat.

Harvesting activities as well as sharing and eating country foods make important contributions to mental and physical health. As Tyler shared in his interview*, "out on the land – my body feels refreshed. It connects, it becomes one with nature in a way, releases a lot of stress, anxiety. Takes away my stress."* Tyler's comment was echoed by Jaco, who shared in his interview,

> *"There's a lot of us, we know – if you're out there, it helps you be a human being. Hunting and being on the land, it's quite different than town. If you're down, or*

sick, if you go out there, it heals you. It's good for your body and soul." (Jaco Ishlulutaq, interview translated from Inuktitut, 2017)

Video 2. Youth film "Pukuk" follows Tyler Kilabuk on his favourite summertime activity, picking berries on the tundra (Video available upon request)

As youth participant Sean Michael puts it, country food brings him joy, they're his "stock". Accessing this pathway to health and well-being is not always easy, as they must balance expectations of education and employment with their desire to be out on the land. Some youth expressed the challenges of living within a traditional culture and modern life, and the challenge of juggling both worlds as young people. As Sean expressed, *"[When I'm on the boat] I feel alive. I'm working now, I can't go [out] that much anymore. I'm not happy about it, but I have to get a job to make money."*

One way that youth are bridging these two worlds is by pursuing careers in the environmental sector, allowing them to spend more time on the land and to act as stewards. Both Seemee and youth participant Dylan Qappik expressed that they hoped to pursue environment and technology programs in college so they could spend more time learning and

caring for the land and water. As Seemee shared, he feels a personal responsibility to look after the land and water, because *"land provides us with everything."*

Given this close connection, youth participants had perspectives and concerns for the changing climate. Youth had personal observations of social-ecological change in their lifetimes, as well as understanding from Elders and knowledgeable people. Youth participant Mary Angmarlik shared in her interview, *"climate change is something big here, it's happening fast… I heard from some Elders that it used to be colder, longer winters, and shorter summers."* Many participants identified changes to the sea ice as their primary observation of climate change. As Seemee shared in his interview*, "a couple years ago the ice didn't form until early January. I guess that's when people realized that climate change was really affecting us."*

During her interview Alika Komangapik situated climate change in larger social-cultural changes, describing how the consumption of fossil fuels and the over production of garbage, plastic, and disposable goods was disrupting a larger balance. Alika shared,

> *"It's just the small things. Sila[1]: it's a balance... long before I was alive, Inuit would only kill animals when needed…when people just hunted what they needed, it kept the balance….but now it's just out of whack." (Alika Komangapik, interview, 2017).*

Alika also expressed that as climate change, seismic testing, pollution, and globalization disrupt *sila*, great strength lies in Inuit culture to restore the balance.

Inviting Elders to share their perspectives on social-ecological change was important to contextualize today in relation to the past, as many participants expressed that they felt too young to have personally observed climate change. While camping at Sannirut, Joanasie Karpik, one of Baffin Island's most respected Elders for knowledge related to climate change, joined the youth to share his knowledge of environmental change. In the film *Elder Joanasie Karpik* –

[1] *Sila,* often interpreted in English as "sky" or "weather", is well beyond western interpretations of the environment (Pfeifer, 2019). S*ila* has nearly 100 variant meanings across Inuktitut dialects, and is "arguably the most important concept in Inuit thought," including intellectual, biological, psychological, environmental, locational, and geographical senses (Qitsualik, 2013)

Joanasie reflects on the changes he has seen in nearly 80 years of observing his environment [**Video 3**]. According to Joanasie's oral history, these are unprecedented changes that have not been observed previously:

> *"As Inuit, we follow the knowledge of our ancestors. They observed the weather of their times in order to build their knowledge. But today, because of climate change, we can't use their knowledge in the same way." (Joanasie Karpik, interview translated from Inuktitut, 2017)*

Video 3. "Elder Joanasie Karpik" - Generations of observation in Cumberland Sound, Nunavut

https://youtu.be/pyUunP4EhXo

In many ways, this is a great loss, and as youth participant Sean shared, *"I was really sad because the weather is changing"*. However, as Joanasie says at the end of the film, the strength and ongoing adaptation of Inuit Qaujimajatuqangit means that there is potential to work together in order to understand this new weather pattern. Joanasie called for action and collaboration, stating – "*the weather is changing so much, to the point that we should be working with researchers to find out what is going on."* Youth participants expressed that Joanasie's

observations can be "a wake-up call" to action for the huge impacts of climate change, and the associated importance of documenting and sharing Elder's observations of change.

The youth participants and Elders agreed that video was an effective way to document knowledge and share stories. The youth and Elders that participated in the Video Workshop expressed gratitude for the opportunity to come together to share knowledge and stories on the land at Sannirut. During her interview, Alika also shared the ability of video to be "*a pea\ek into Inuit culture*". Art and film can play a role in performing, recording, sharing, and celebrating culture, particularly in documenting knowledge and practices for future generations. In the short film *Alika's drum dance*, two young people drum dance on the shore of Pangnirtung Fjord [**Video 4**]. Drum dancing, once discouraged by missionaries, is being taken up by young Inuit like youth participant Alika and her drumming partner Simon. The drummers show us different moves inspired by animals – *tulugaq* (raven), *tuttu* (caribou), and *nanuq* (polar bear). As Alika shares,

> *I just hope that enough of our culture can be retrieved, so we can pass it down to generations after us – like stories, pissiq, throat songs. I want to learn more. I just want to learn more from my Elders, about Inuit culture, so I know who I am. (Alika Komangapik, interview, 2017)*

Importantly, the workshop was an effective and important way to bring youth and Elders together around a camera. As part of the Video Workshop, youth practiced interviewing their Elders on camera, including Jaco Ishulutaq, master carver and hunter [**Video 5**]. Jaco explains that sometimes, he doesn't even have to "plan" the carving – an animal just emerges from the stone. When he was a little boy, Jaco used to watch his grandfather carve, but never thought he was learning. It wasn't until he was a teenager that he tried carving and it has been his job ever since. Through careful observation and practice, anything is possible.

Video 4. Youth film "Alika's Drum Dance" showcases participant Alika Komangapik drum dancing on the shores of Pangnirtung Fjord, as she shares her thoughts on the strength and identity of young Inuit (Video available upon request)

Video 5. Youth film "Jaco" features master carver Jaco Ishulutaq as he works on a carving and shares his personal journey as a carver (Video available upon request)

Jaco's success in carving highlights that through many years of careful observation and practice, anything is possible. During the Storytelling workshop at Sannirut, Geela also shared the importance of learning through observation. As Geela recounted, she learned her knowledge through observing older women – *"I used to watch a lot, watch what she did."* This approach to learning of course takes time. In reflecting on the difference of her youth and today, Geela shared, "*it was hard, it was not like today. Everything is so fast now."*

Youth participants expressed that they enjoyed the opportunity of learning photography and filmmaking skills with friends in hands-on, land-based, and intergenerational settings. As Sean shared, *"I really liked it because I got to bond with friends, make new friends, and learn all about the cameras, and learn about the stories Geela told us – I was very [engaged]."*

Specifically, youth participant Dylan shared during his interview that he enjoyed hearing stories from his great uncle, Joanasie: *"His knowledge, his experience about these things – I would like to learn more of his knowledge, [and] the differences between his life and mine."* Dylan continued, expressing that in order to learn more, *"going out more with Elders, that's the number one thing. They teach more than our parents do, because they know more."* Similarly, Joanasie also expressed his desire to spend more time advising youth –

> *"What we used to talk about in the past, you guys don't talk about anymore. The environment surrounding us, we used to look at it a lot more than you do today. It's our own fault too, us, Elders – we don't advise you too much anymore. It should be us that are teaching you." (Joanasie Karpik, interview translated from Inuktitut, 2017)*

Overall, the workshop was an effective way to bring youth and Elders together, to share knowledge and stories, and to create short films that center local perspective on land, water, and identity.

4.4.2 Case B: Pinhole Camera Workshop

To start the workshop, participants watched the film *Inuit Knowledge and Climate Change* (Zacharius Kunuk & Mauro, 2010). The film includes many Panniqtuumiut, including Elders and hunters whom had since passed. Students piped up when their family members came on screen, including one student who mentioned "*I never heard my uncle talk about that."* During a shot of archival material featuring fishermen chipping through thick ice, and many youth exclaimed that they had never known the ice was that thick. After we watched the film, youth discussed their experiences of environmental change, including increasing extreme weather events such as thunder storms as well as changes to seasonal ice patterns.

Next, the students build pinhole cameras and created their photographs. The students collectively produced 49 pinhole photographs **[Figure 18]**. Participants were just as keen to learn new photographic techniques through a highly simplified analogue technology. As one student put it, *"it makes everything recent look so old. A new age captured by an old camera."* The photographs vary from excellent exposures with fine details and subjects in focus, to obscure and abstract images of faint landscapes and dark silhouettes. Of the 49 pinhole images created, students chose their favourite images and then wrote or recorded an audio statement about the photograph.

What emerged are statements and photographs that connect the importance of the water and sea ice to land-based activities and how these activities relate to and reinforce identity. As one student shared *"my favourite activity is hunting because it makes me feel more like myself."* Students connected being on-the-land, whether it was the sea ice or open water, as a space of freedom and possibility that feels different than being in town. Both open water and solid sea ice are important for traveling and hunting, as Pangnirtung is located in a fjord, surrounded by mountains, making travel through the land difficult. One student paired their photograph of a boat with the statement "*you can go anywhere, if you want, with the boat."* Here, the boat is an image of possibility and opportunity.

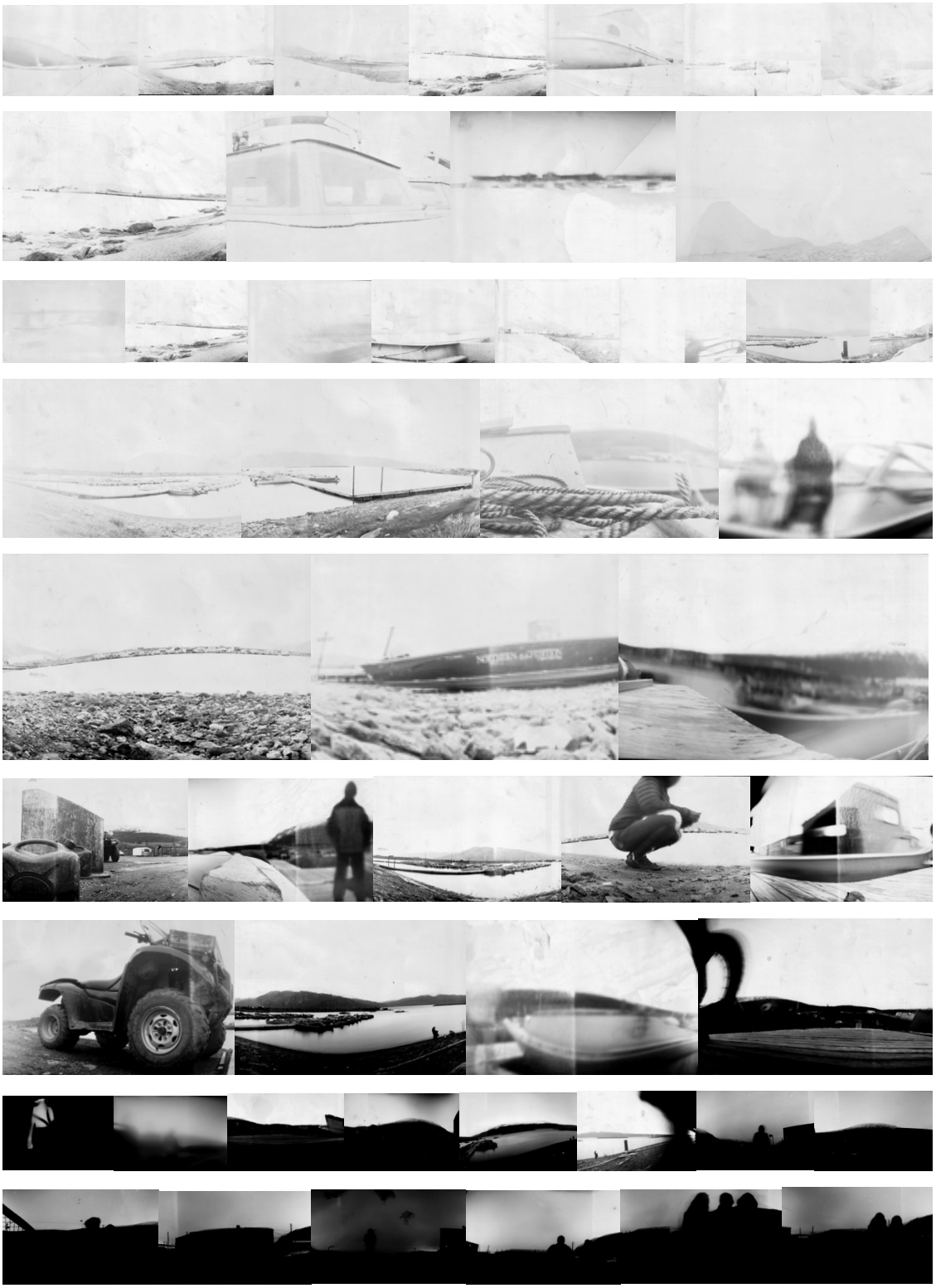


Figure 18. Collage of pinhole photographs, showing gradient from over-exposed to under-exposed images, including abstract, ethereal landscapes as well as clear, in-focus portraits

"What's important to me is that both [imaq and siku] give me raw meat. You can go anywhere, if you want, with the boat." [Audio]

"Ima and siku are important to me because they provide country food. We use Honda to travel." [Audio]

"Water is important to me because we can go out boating, camping and hunting. My favorite activity is hunting because it makes me feel more like myself." [Audio]

"Ima is important to me because I like to go boating, berry picking, and camping. My favourite activity on siku is fishing in the spring." [Audio]

Figure 19. Pinhole photographs and audio statements created by participants

Travelling through the sea water and sea ice are both important for harvesting activities as well as connecting to traditional and ongoing family camps. In addition to hunting and fishing, many Panniqtuumiut continue to visit the outpost camps of their ancestors, spread across Cumberland Sound, or to travel to other communities in the Qikiqtani region. Students also used their photographs as a platform to reflect on the importance of the sea water and sea ice for the historic and ongoing survival of Inuit. As one student shared, *"the sea holds animals and passage*

to our ancestor's lands". Another student shared, "*our ancestor's wouldn't have survived without water and animals."*

The water is important to us because our Ancestors Wouldn't survive without it.

The sea holds animals and Passage to our ancestors land

I'tS imporient cause you go boating in Summer, in winter you can go hunting with Skidoo.

I feel like going boating Seeing this photo.

SIKU is important to me because My favourite activity is seal pup hunting.
The picture is at the dock. I like it because the picture is me and my friend.

Figure 20. Pinhole photographs with written statements created by participants

Overall, the pinhole camera construction allowed students to both engage and understand camera construction and light science, and then put these techniques into action to reflect on the importance of *imaq* and *siku*. What emerged are haunting images of that transcend time and technology. The photographs call to mind archival photography photographs from the early days of when Pangnirtung was first growing as a settlement. Looking further, these self-representations of modern youth through an old technology call attention to the ongoing strength of the presence of Inuit on their homelands.

Figure 21. Four students stand in the schoolyard in a pinhole photograph created by Natalie while testing cameras before the workshop

4.4.3 Integration

The iterative process of the two workshops calls for reflection, in regards to the tools, structure, and outcomes – in particular the contrast of employing analogue and digital camera technologies **[Table 4].** During the Video and Storytelling Workshop youth learned on professional digital video

cameras. Learning the skills and technique necessary to create a high-quality video product in a 2-week program proved challenging for youth participants who had high expectations for a professional looking product, and limited participation in some cases. On the other hand, the video technology allowed the project to document six youth voices and perspectives through on-camera interviews, as well as the oral histories of three Elders. The video shot during the Video and Storytelling Workshop amounted to up to 30 hours of raw footage, all of which contributes to a deeper understanding the research question.

Table 4. Comparing the process and products of digital (video) and analogue (pinhole camera) technologies

		Video methods	**Pinhole camera methods**
Technology	**Equipment**	High-budget, expensive, and inaccessible	Low-budget, found, and inexpensive materials
	Usability	High-fi, advanced, and opaque	Low-fi, accessible, and hands-on
	Reliability	Almost guaranteed video	Non-guaranteed image
	Speed	Instant	3 minutes
	Ability	Endless, nearly infinite ability to capture and store material	Limited, one-shot at a time
Approach	**Intention**	"Shoot everything" mentality	Deliberate yet experimental
	Process	Slow, many steps from conceptualization to completion	Quick, little set-up and almost immediate results
	Visual material	Multi-dimensional portraits of time, space, subjects, and stories	Stand-alone snapshot suspended in time
	Audio material	Soundscapes of voices, music, landscape	Not applicable
	Representation	Realistic, documentary style depictions	Abstract, temporal portraits
	Product	Polished, refined, digital final product	Tactile, material one-offs

Meanwhile, the Pinhole Camera Workshop was an opportunity to break down the process of image making into very basic steps, allowing participants to go through a process and reach their desired product in a short time frame. The unpredictability and magic nature of the pinhole process created a space for experimentation and play. However, the pinhole images are also limited in what they are able to say as under 50 stand-alone photographs. These photographs are made richer and deeper when activated by participant statements and reflections. Video and pinhole methods vary greatly in their process and product, with limitations on each end. However, the strength of each technology can be highlighted when they are brought together, as complementary and responsive pieces.

The short film *Tariuq Takujannik* **[Video 6]** brings the Pinhole Workshop process and products in conversation with youth voices from the Video and Storytelling Workshop, across multiple technologies, generations, and languages. *Tariuq Takujannik* shows youth coming together around analogue pinhole and digital video cameras, sharing their voices and positions in spaces that cross ideas of traditional and modern. Brought together, the youth voices speak to the continuum of knowledge and observation through time, bringing together the past, present, and future of Inuit Qaujimajatuqangit and observational knowledge. As Alika shares at the end of the film, *"I'm so hopeful for the future… people are putting more of an effort in. Not just Inuit, but society as a whole. And I can't see how much more of an effort they can put in."*

Video 6. "Tariuq Takujannik" – Inuit youth share the importance of sea ice and sea water through the lens of pinhole photography https://youtu.be/fJrzmYguBOQ

4.5 Discussion

4.5.1 Centering youth voices

The dominant narrative of climate change and adaptation research is that due to a loss of language, culture, and knowledge, youth are more at risk to the impacts of social-ecological change. The youth films, photographs, and reflections from Pangnirtung offer a different story. Working with multiple arts-based methods generated many kinds of data, which together share a nuanced and complex portrait of youth perspectives. The multisensory products – including digital and analogue media, soundscapes, music, and performance – offer "glimpses" into the multiple identities and expressions of youth, including strengths and weaknesses, hopes and dreams (Garakani, 2014). Importantly, these multi-sensory depictions break away from the standard narrative of Indigenous youth as passive victims of climate change.

In Pangnirtung, climate change is not an abstract scientific concept, but a very real issue that affects the daily lives of hunters, youth, and families. Compounded with the existing stress and

distress, the mental and physical impacts of climate change will be large. As youth participant Sean put it, hearing about the changes to the weather patterns and sea ice made him feel sad. However, what the youth chose to focus on was media and messages of hope and ongoing resilience and adaptation. Facing climate change, many youth are drawing strength from the success of their ancestors who over centuries, adapted and thrived in the Arctic environment – as well as the huge social-cultural changes of the recent past. As Mataali Okalik, former president of the National Inuit Youth Council, shares "so much has happened in the last 70 years alone when it comes to Inuit having to quickly react and respond to change" (Cecco & Okalik, 2015, p.3).

Today's youth have many new challenges ahead. Pride in identity and engaging in traditional and harvesting activities are both protective factors for the mental health and wellness of Inuit youth (Petrasek Macdonald, 2014). As many youth participants shared, being on-the-land and harvesting activities connect youth to identity, strength, and sustenance, or as the youth put it – their "stock", "inuk-ness", or that "that missing person" that can't be found in town. The pinhole photos of the Honda and the motor boat may challenge the common perception of environmental stewardship and conservation, given their greenhouse gas emissions and connection to hunting. But as one participant put it, "my favourite activity is hunting because it makes me feel more like myself."

Youth are often interpreted as existing within a binary of traditional or modern, but in many cases, youth are moving through both worlds, negotiating and navigating these spaces. Their position is a strength, not a deficit – with a foot in both western and Inuit culture, youth can act as a bridge between academics and communities and a platform for two-way learning (Ikaarvik, 2019). The mediums of digital video and analogue photography brought people together across generations, sharing stories and media that move beyond ideas of traditional and modern. The youth films and photographs, in conversation with Elders and the larger community, speak to the continuum of knowledge across time. Youth and Elders echo one-another, placing importance on spending time on the land, living in respectful relationships will all living things, and continually preparing for the future by learning more through observation and practice.

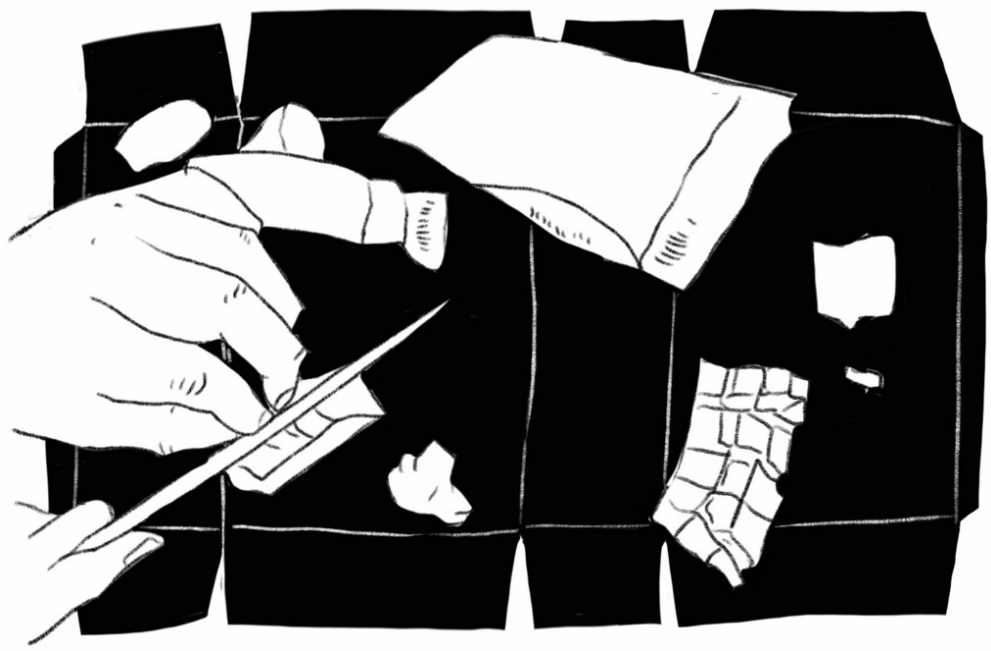


Figure 22. Learning to prepare maktaaq, the outer skin of beluga whale

Youth feel personal responsibility – and hope – for their future and how it is tied to the land and water. Similarly, youth connect the survival of their ancestors to the land and water, as well as the on-going survival of Inuit. Knowing this continuum of knowledge and experience over time, many youth are drawing strength from their Elders, seeking guidance and knowledge to better understand their experiences within a larger history. Climate change is related to human action, the burning of fossil fuels, but also to human interaction, our relationship to one another and the land. Across Canada, many Indigenous communities are focusing on strengthening the bonds between Elders who had their language and cultural practices forcibly removed by government policies, and youth who may be navigating what their culture means to them, as essential steps to climate change action and adaptation (CEIR & UBC, 2011). Building social connections can foster individual resilience in the form of mental and physical health, as well as collective resilience through promoting intergenerational knowledge transmission and cultural connection (Hirsch et al., 2017).

As youth participant Alika noted, "*when people hunted just what they needed – it kept the balance*." Today, a life without limits has created a situation where greenhouse gas emissions are challenging the well-being of the earth can accommodate. As such, Elders have called for more

than a change in our actions – we also need to connect and rebuild relationships based on reciprocity (Fienup-Riordan & Rearden, 2012). As Pangnirtung Elder Elisapee Ishulutaq has shared, "*the environment is changing. Everything is following the environment. As it happens now, it's different now, our beautiful environment is changing. We, Inuit, are changing too"* (Zacharius Kunuk & Mauro, 2010). Building and fostering relationships between people and research are key steps to climate change action.

4.5.2. Building relationships through process and product

Overall, the creativity, strength, and hope shared in their photographs drive home the need to meaningfully engage youth in climate change research through inclusive, participatory designs. The iterative workshop process integrated community engagement and capacity building, creating dynamic portraits of local knowledge and community resilience. The video and photography media from the workshops were novel approaches to situating youth perspectives in local experiences. Unlike traditional interviews or focus groups with a question-answer format, a participatory arts-based approach created an opportunity for youth to reflect on ideas related to the research questions. This included many ways to participate in the research process through visual, audio, and written expression – including informal conversations while berry picking or drawing together, or more formally in semi-directed interviews on camera or recorded statements.

There is a need to train youth and teach skills needed for climate change action and adaptation, without relinquishing culture – as language and cultural grounding are also important tools facing change (NTI, 2005). Research regarding the documentation of sharing of Inuit Qaujimajatuqangit and local knowledge should go further to supporting the kinship systems that produced the values, knowledge, and stories of Inuit Qaujimajatuqangit (Schwan & Lightman, 2015). Arts-based research methods were an effective approach to building relationships through process and product: at the local level, between youth and the larger community and the research team, as well as at the national and global level, through sharing their films with international audiences.

Through the two workshops, we were able to collaborate with a wide spectrum of youth participants through hands-on and culturally relevant programming that engaged Elders and the community at large. Sharing cultural histories and stories of resilience can connect circumpolar Indigenous youth to a shared context from which they can draw strength, resources, and skills, as well as situate themselves and their experiences in relation to others (Allen et al., 2014). As youth participant Alika shared, "video can be a peek into Inuit culture." Art, media, and creative processes have the ability to store and safeguard knowledge for future generations and sustain Indigenous ways of being through relevant forms of knowledge co-creation (Igloliorte, 2017).

Throughout this research process, arts-based approaches were used as a way to slow-down, re-creating the pace of learning on the land through observation and practice. As Elder Jaco shared in his interview during the Video and Storytelling workshop, it takes time, through learning by observation and practice, to develop a skill and become masterful. In a similar way, it takes time for themes and ideas to emerge from a participatory process – just as Jaco described*, "sometimes I don't even know what it will be, it just happens".* Time centered on collaborative media production, as well as learning and building camera technology, were essential processes to create the space and rapport for youth participants to share their perspectives on large, complex, and sometimes deeply personal topics. These processes also allowed youth to build various skills in video and photography, as well as learn from and spend time with Elders. The structure of the video production process created a space where youth felt comfortable to ask questions of their Elders, and where Elders had the opportunity to share with youth (Kublu et al., 1999). The oral histories and youth perspectives captured by this process are important documents for current and future generations within and beyond the community.

At the local level, these creative, imaginative, and experimental spaces drew youth into the research process, but they also go further into audiences around the world. The films have the ability to share youth and community perspectives far beyond Pangnirtung. *Tariuq Takujannik* has been screened at film festival across Canada and internationally, including the FOCUS! Climate change video contest (BC), Dawson City International Short Film Festival (YK), Elements International Environmental Film Festival (BC), Hamilton Youth Film Festival (ON), Reel 2 Real International Film Festival for Youth (BC), Gimli Film Festival (MB) and APECS International Polar

Film Festival (online), as well as being shared widely through online platforms and at academic conferences.

Figure 23. Gathering around the computer during the editing process

4.5.3 Slowing down

Between the two workshops, digital and analogue camera technologies offered challenges and opportunities. Video interviews remain a challenging way to document and share youth experiences and perspectives. Many youth were shy to share their thoughts on camera and chose to do an off-camera interview or statement. On the other hand, through the pinhole process, youth had an opportunity to reflect on their statement, as well as choose an image from the collective photograph pile. Drawing from the collective pile meant that youth had an opportunity to learn from each other's mistakes and successes, represented in the photographs. This generated different statements and choices than if we had asked a participant directly on camera.

Overall, the pinholes in particular were an effective approach to pair-down, simplify, and slow down the image-making process to encourage observation and reflection. “Fast” photography – an unconscious approach to image-making, a reflex rather than a ritual – dominates the current approach to image-making in a nearly limitless digital age of creating, sharing, and storing data. Pinhole photography, on the other hand, with its lack of lenses and viewfinders challenges the photographer to pause, compose, and play with the idea of creating an image with light. The process requires that the photographer be present throughout the entire artistic process (Jickling, 2009). Less like snapshots, and more like “blotters soaking up light”, the pinhole images, taking three minutes themselves, and often capturing movement within them, speak to the duration of time, stretching it across the image (Mandelbrot, 2019).

Utilizing the magic of pinhole photography as a “slow” visual methodology in youth-generated visual research is only just emerging, for its ability to create embodied, experiential moments between the photographer and their environment (Socha, Potter, Potter, & Jickling, 2018). At this time, there is no published work on the potential for pinhole photography as a methodological tool for bridging ways of knowing and relating to the world. Notably, the following spring after the workshop, David travelled with a group of high school students from Pangnirtung to nearby community Kinngait to teach the pinhole process to students at the local high school. Pinhole cameras were then both an opportunity to develop youth skills during the research process, and then beyond into other communities and contexts.

4.5.3 Moving forward together

These collaborative, cross-community, and multi-year connections are key pieces to adapting and creatively finding solutions to unprecedented environmental change. As Elder Joanasie expressed during his oral history, Inuit are in the best position to observe their weather systems, but need to collaborate with others to understand the signs of the new weather system, his “second world”. Indeed, many hunters and Elders across Inuit Nunangat agree that a mix of traditional and modern technologies are needed to address environment change (Nickels et al., 2005).

The iterative cycles of the workshop allowed for openness to adapt to the workshop contexts and creatively find solutions. However, there were also limitations to the process. It takes significant time to develop community-based video research centered on relationships of trust and mutual benefit – made even more complex by layers of timelines, geography and language. Given the colonial legacies of "parachute in and parachute out" research, the research team worked towards developing iterative research that was layered with meaning and efforts to create opportunities for meaningful youth engagement. That being said, a Master's project is still a relatively short timeline to develop a fully participatory youth-engaged, cross-cultural, and arts-based research project. Based at a southern university, there were many logistics involved in organizing hands-on workshops using video and photography with youth in a remote, fly-in community. The commitment to youth engagement in research is an ongoing process and the research team recognizes many ways to improve in the future. Moving forward, the research team now has a foundation established with many youth in the community, allowing future projects and collaborations to include higher levels of youth leadership through all parts of the process. The process and outcomes have been well-received by youth and community participants, as well as local, national, and global audiences.

Figure 24. Sharing meals at while camping with at Sannirut

4.6 Conclusion

The four students standing in the Attagoyuk school yard **[Figure 21]**, captured through a coffee-tin camera, call to mind archival photographs from the early days of when Pangnirtung was first growing as a settlement. Looking further, these self-representations through an old technology reimagined, call attention to the ongoing presence of Inuit on their homelands. These material photographs have travelled across the world through the medium of digital video, layered with the voices and concerns, strengths, and hopes of young Panniqtuumiut.

Around the world, children and youth are gaining momentum in climate action, mobilizing and striking in order to ensure their voices are heard. There remain many barriers for Northern Indigenous and Inuit youth involvement in this movement. This research was centered on building relationships with Inuit youth in Pangnirtung, whose voices have generally been excluded. Our approach to iterative, participatory workshops with Pangnirtung youth highlighted the strengths and weaknesses of video and photography for meaningfully engaging youth and mobilizing their voices to diverse audiences. Simplifying the camera technology, in an increasingly fast-paced and digital world, slowed down the image making process leading to unexpected results. When brought together, digital video and analogue photography have the ability to transcend time and space, through landscapes of sound, voices, and images.

Participatory arts-based methods have great potential to share and ignite hope in youth around the world, highlighting the survivance, persistence, and adaptation of Inuit youth. The youth films created through the workshops have been shared extensively online and at gatherings, conferences, and film festivals. Arts-based approaches to research regarding complex issues such as climate change have the potential to bring community voices to the forefront. Methods that collaborate with local artists, filmmakers, and educators through a hands-on process, with a variety of mediums, show promise.

I hope that the findings of this paper will inspire future projects that centre youth experiences through participatory arts-based approaches that nurtures the skills, abilities, and voices of youth. There is still much work to be done to ensure that youth are included and ideally leading the youth-centered research, from concept to action. There is not just an opportunity, but a responsibility, to work towards meaningfully including youth in research and supporting

the next generation of leaders through engaging and innovative approaches to research. Youth will directly inherit the decisions made today, and their participation, creativity, and leadership are essential to our futures in a changing climate. Participatory arts-based approaches have the ability to engage youth in a research process that builds skills and develops local and international connections – a key component to understanding the global dimensions of climate change drivers and its impacts on communities. Just as youth in Pangnirtung may feel too young to witness or understand the changes that their Elders have observed over 80 years – today's generation may not see the effects of our efforts to mitigate climate change impacts. However, we have a duty to many generations to come to work towards the best possible scenario, while also enriching our daily lives. Along the way, there is a rich opportunity to share the stories of the past, and carry these stories with us into the future – to better understand where we come from and where we are going.

CHAPTER 5: Concluding, continuing

5.1 Concluding

On June 8, 2018, *Tariuq Takujannik – The Ocean From My Eye* premiered at the FOCUS! Red Carpet Screening at the Vancouver International Film Festival VanCity Theatre in downtown Vancouver, BC. The film had been submitted to a national climate change video contest for youth, hosted by Kimberly Foundation, a non-profit based in BC. The theatre was packed with students and filmmakers from across Canada. Of 160 films involving more than 400 Canadian high school and post-secondary students, our film tied for first place as an "exemplary and evocative" film focused on real-life, community-level perspectives and hopes of climate change through the innovative storytelling lens of pinhole photography.

For many of the young audience members at the FOCUS! screening, this was their first time hearing the perspectives and voices of Inuit youth. This was a wonderful outcome that supporting bringing voices to larger audiences, sharing perspectives of the people, families, and communities that are experiencing and responding to these changes. The $10,000 prize was brought back to Attagoyuk Ilisavik to support on-going on the land and visual arts programs at the school.

While sharing voices through film, and bringing the cash prize back to Pangnirtung, are important parts of this process, imbalance in this research process remain. As a Master's student, I received public funding to study and work on this project for multiple years, including three trips to a remote community that is financially inaccessible to most people. This experience will likely continue to lead to many more professional and learning opportunities. Throughout the experience I have attempted to navigate this imbalance and its implications, and how to use my position to steer opportunities back to Pangnirtung.

Alongside my concluding thoughts, are also threads of continuing – ways to work towards the ongoing process of equity in research relationships between north and south. Inuit are the among the people most affected by climate change in Canada, and yet, Inuit voices are still not incorporated into national discussion as much as they should be, leading to little action on the needs and priorities of Inuit (Rosano, 2019). In June 2019, in response to the ECCC Climate Changed report, ITK released the National Inuit Climate Change Strategy (NICCS), the first of its kind (ITK, 2019). The purpose of the strategy is to shape policy at all scales, and to advance Inuit-

driven research, policy, and action through ethical partnerships that meet the distinct, immediate, growing and diverse needs of Inuit in Inuit Nunangat.

Art may be a rich opportunity to bring together the worlds of Inuit Qaujimajatuqangit and Western science. Space for art can arguably be made within both knowledge systems, and then act as a bridge between the two. Back in the city, as I ride my bike to the University of Winnipeg each morning, I pass one of the most prominent billboards of downtown. Facing west is a giant print by Kinngait printmaker Kenojuak Ashevak, the famous *Enchanted Owl* (1960). Facing east are portraits of Kenojuak, and Montreal-based filmmaker assinajaq, with the text *"ᓴᓇᒐᕐᓂᐱᓕᒃ – ART IS A VOICE".*

What brought me to this Master's project was the belief that art can be a vehicle for change, and that by nurturing creativity, we can work together towards shared, resilient futures. Collaboration and partnership through visual arts and filmmaking brings together the skills and abilities of individuals, while working towards a common goal that reflects the hopes, needs, and priorities of the group. This spirit of collaborative artmaking is not new to Nunavut, a territory that is internationally renowned for its printmakers, carvers, and filmmakers. As the late Elisapee Ishulutaq said, "I make prints so the next generation would know of who I was and what I have gone through" (unpublished interview, 1996; quoted in IAQ, 2018). Artists and art-making have the ability to connect people with shared histories and cultivate stories of resilience. Captured and stored in visual art and films, these stories and histories are ever present. Video, in particular, has great potential to document and preserve Inuit oral wisdom, as well as act as a tool to build relationships and bridge generations.

In this Master's project, arts-based method created an inclusive and collaborative space to investigate different facets of the research questions through a multitude of media. The participatory video process and workshops were an opportunity to contribute to the different skills and abilities of individuals, working towards a common goal of collaborative films that reflects the needs and priorities of the group, while still emphasizing each individual's role. The structure of arts-based research allowed us to dynamically combine methods and new collaborators and meet diverse participants where they are at in their lives. In Pangnirtung, a community of many artists, an arts-based process was well suited for its ability to include a

diverse set of people in research regarding social-ecological change, that may otherwise be limited to hunters and Elders.

5.1.1 The camera as a tool

This thesis made contributions to using the cameras a tool for documenting and sharing Inuit Qaujimajatuqangit and Panniqtuumiut perspectives, grounded in multi-year relationships of respect, responsibility, reciprocity, and relevance (Kirkness & Barnhardt, 2001). Outside of the context of relationships, the camera can become imbalanced in a powerful role. Research and cameras have been used as tools of colonialism, creating and perpetuating harmful stereotypes of Indigenous people. As shared throughout this thesis, cameras have been used as an extractive tool, creating images and films about Inuit for non-Inuit audiences.

While unbalanced power relationships between Inuit and non-Inuit remain, the camera can also be used as a powerful tool to support communities. Through a participatory arts-based process, cameras can be reclaimed and refocused on what youth and community members want to explore. Within a foundation of relationships, the camera acted as a positive force, embedded in iterative cycles of trust, co-creation, synthesis & feedback, and sharing, over many cycles of multi-year engagements [**Figure 25**]. When embedded in relationships, the camera can be positioned in a way to create a positive space of engagement: a bridge, an opportunity for interaction, where decisions flow back and forth, with benefits to many contributors (Shrum & Scott, 2017). These spaces of engagement, captured on camera – on the sea ice in Cumberland Sound, gathered around a picnic table at an outpost camp, through a coffee-tin camera – generate rich data, analysis, and outcomes.

Figure 25. Iterations the research process, cycling around a camera and embedded in relationships.

To start, **trust** was a foundational element of the participatory video process that continued well-beyond the first steps. Entering this research project, I stood on the shoulders of my advisors and committee members who have many long-standing relationships with Panniqtuumiut. These relationships provided the foundation for the first phase of research. Later, when I returned to Pangnirtung on my own, it important for me to build my own relationships. Working with David Poisey was essential to this process. At the community level, David contributed a lifetime or relationships, experience, and connection with community members, ensuring the project was unfolding in a good way. As a filmmaker, David is highly skilled, with rich experience working with

Elders and knowledgeable people, approaching each subject with curiosity and respect. As a facilitator, David was a role model for youth who participated in the video and photography workshops.

Through this Master's research, David and his family have become dear friends, providing endless support for which I am so grateful. However, the issues research and friendship are complex, and the camera adds yet another layer of complexity (De Leeuw et al., 2012). I encountered this early on when in the first week of meeting David, I asked if I could join him on a weekend hunting trip. David, very politely, expressed hesitation of me joining and so I sat it out. Later in the summer, this moment came up in conversation, and I asked why he had been hesitant, to which he replied – "because I didn't know you." Working closely with David granted me access to his relationships and connections – also creating risk for him, as he was responsible for me and my actions.

Developing rapport and trust with youth was also key. The video and photography workshops created a space to build relationships between participants and the research team. Arts-based methods created an inclusive process, allowing different forms of expression over a multi-week workshop, diving deeper into the experiences and perspectives of youth than a traditional interview or focus group. The workshops were a fruitful and dynamic research collaboration – particularly in a context where outsiders often fly in and out of communities for a day of engagement or workshops.

During **co-creation**, the camera was an effective tool for documenting and sharing Inuit oral histories and knowledge, as well as rich site for intergenerational exchange. As documented in this Master's project, participatory video and arts-based methods show potential for documenting and sharing oral histories and traditional knowledge. Inuit oral histories include the stories, cultural histories, and personal memories that preserve the morals, values and knowledge (Igloliorte, 2017). Transmitting these from one generation to the next can be done in real time, just as Joanasie and Geela shared with youth at Sannirut, and also documented through video to share further beyond.

While video does not solve all of the complexities of "freezing" dynamic and living knowledge and histories, in comparison to writing, it is a rich opportunity to better communicate the

relationships and place-based dimensions of IQ, as shared in Chapter 3. Additionally, the ability to maintain orality and language is a significant component to using video-based research to document IQ. As David Nakashuk remarked in Chapter 3, the ability to speak about his land and his people in his own language was important to him.

Overall, gathering around a camera, in a participatory arts-based process, was an inclusive approach to research. These spaces are not limited to individual verbal or written expression, in the ways that a traditional interview or academic publication may be. The camera was an important tool, a prism of sorts, for youth and Elders to gather around and interact together. The videos that emerge are significant for that specific context, as documentation of dialogue between Elders and youth. I also come back to David, a core member of the research team – who may not otherwise be included in research regarding social-ecological change, that would conventionally not engage filmmakers.

After the co-creation phase, **synthesis and feedback** took place in the shape of gathering all of the video material and transforming into short films. This phase is equally a rich site to gather around. The editing process was an opportunity for a "deep dive" into all that was shared, and to examine our understandings of one another through the videos. These aesthetic objects provide another layer of understanding, as the artistic creations are conversations themselves. Engaging with these objects helps open up the complexity of representation and collaborative relationships, as aesthetic and visual elements are considered, negotiated, and made visible in the creative output (Thomas & Britton, 2012). In this way, the "media product itself is a manifestation of the relationship between the maker(s) and their subject(s)" (p.216).

Moving back and forth in our understanding of one another – through the camera, through the video, and through conversations – leads to a deeper understanding of the material. Sharing the videos with participants and community members ensured that the translations and interpretations were accurate representations of the participant's perspectives and concerns. Showing the video back to community members lead to further discussions that informed the writing process. Gathering feedback provided an opportunity to continue working with participants. In one instance, I was nervous to share Elder Joanasie his short video, unsure of what he would think of how we had condensed his knowledge into a shorter narrative. After

showing him the video, he said *qanuinngi!* – good! then noted that he had much more to share, and invited us back to film another interview about his knowledge.

Sharing and celebration was a key component of this cycle. At the local level, the process and products facilitated dynamic intergenerational knowledge exchange – that has always existed, but has transformed with social change. Creating direct opportunities to cycle knowledge within communities is significant – through sharing in real time, and later, through videos. Looking out to broader audiences, the videos have been shared across Canada and internationally through film festivals, conferences, and online sharing. Overall, the films hold a lot of power as emotive, multisensory depictions that have the potential to engage more audiences and gain more momentum than contemporary forms of publications (Garrett, 2011).

However, there are also limitations to the centering of our process around the camera. The filmmaking process takes significant time and resources – as does building capacity and training people to be true collaborators in video-based research. Because our research team was invested in creating a final product for knowledge mobilization, we were more involved in the filmmaking and technical processes, creating films that have been widely shared.

Overall, in this thesis there was a spectrum of participation in the video and arts-based processes, recognizing that participation through a process is a continuum, and should vary in accordance with local capacity and interest in participation (ITK & NRI, 2006). In Chapter 3, the camera was a tool for co-creation in participatory research, a camera in conversation, where the research team continued to hold the camera – a predominantly collaborative approach. As the process moves closer to the centre, participation increases, and by Chapter 4, the camera is tool for youth engagement in participatory research, a camera held by community members.

This movement towards the centre is an on-going process. While moving towards the goal of communities doing this work themselves, there are many roles to play, over **iterative cycles** of multi-year of engagement. Beyond the four steps of trust, co-creation, synthesis & feedback, and sharing, is the importance of continuing engagement and momentum, especially in remote areas and communities. These reflexive cycles of creation are regenerated and reimaged from the experience of the previous cycle(s). This Master's project learned from the first cycle (Chapter 3) in the following cycle (Chapter 4), responded to the community need for youth programming

and literature gap on youth perspectives of social-ecological change in Nunavut. That being said, a three-year period, with many community relationships and a dedicated research team, is still a relatively short timeframe to develop the skills and capacity to produce video-based research.

Recalling the graph in Chapter 1 [**Figure 6**], the iterative cycles of the research process contributed to building relationships overtime. Looking further, bringing together the cycles of trust, co-creation, sharing, synthesis and feedback, and sharing; relationships built-up over time [**Figure 26**]. It is not as simple as bringing cameras to remote communities, and having opportunities for youth to use them – the work must be built upon a foundation of relationships that are reinforced over many years.

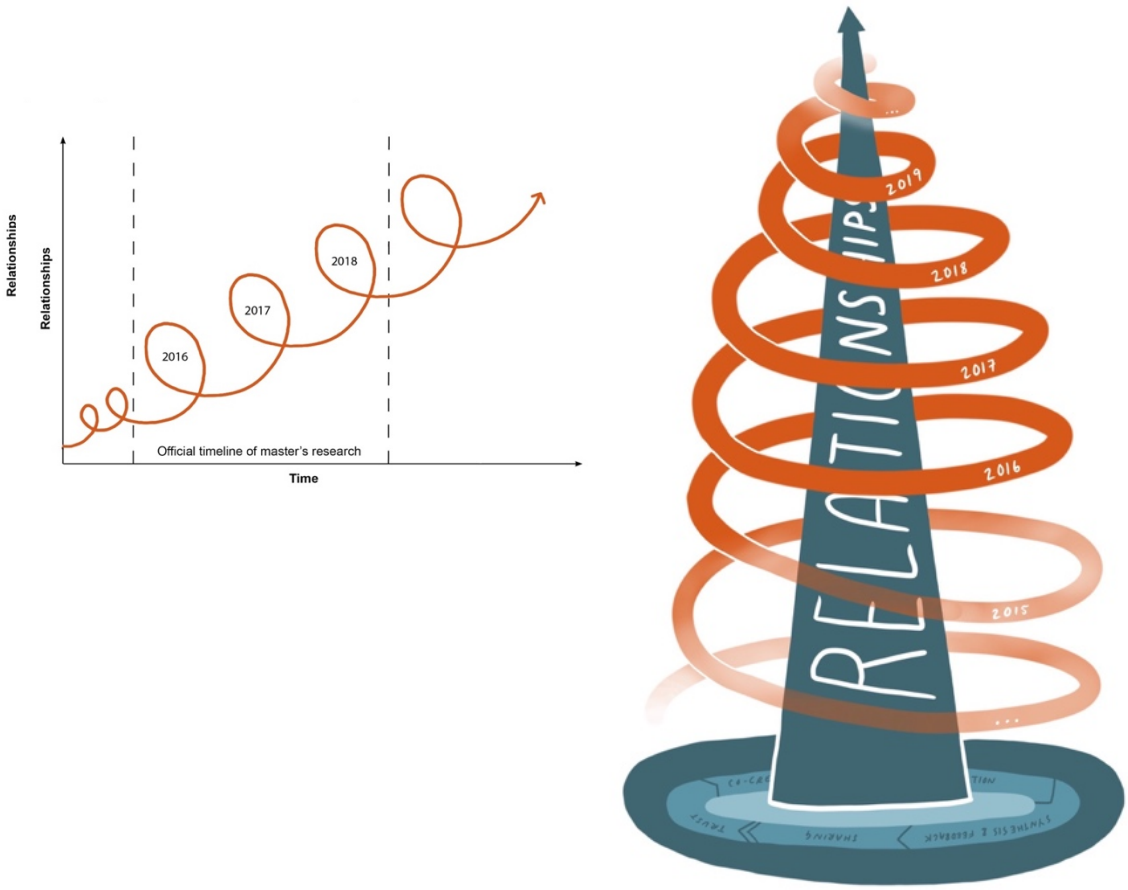


Figure 26. Building relationships over time through multi-year cycles

These multi-year cycles have also included many spin-off layers of this project that were beyond the scope of this Master's thesis. While I was in Pangnirtung it was important for me to share my skills for the specific and immediate needs of community members, such as producing short videos for local initiatives, designing poster for the annual music festival, hosting art workshops, writing grant applications, and supporting cross-national youth exchanges [**Figure 27**]. We have also left much of the tools and technology, such as digital and pinhole cameras, in Pangnirtung for future use in the community and beyond. In 2018, David and a group of students and teachers from Attagoyuk brought the pinhole cameras to Kinngait and shared the technology with youth artists in Kinngait. In 2019, I was invited back to Pangnirtung to lead video and photography workshops as part of the annual Spring Camp program, as well as design, print, and sew a collaborative cyanotype printed wall-tent. I am very grateful to be able to continue building my relationships in Pangnirtung through supporting community projects as an artist, filmmaker, and researcher.

5.1.2 Liminal spaces of engagement

Throughout this thesis there have been many themes of representing, living, and moving between worlds. In Chapter 3, youth participant Paulette Metuq shared "it's like living in two worlds", speaking to the balance of living in community while also having a life out on the land. The film *Fishing with our hands* highlighted the importance of supporting intergenerational knowledge exchange, where for many fishermen, their knowledge is the most prized inheritance for their children. Across three years of interviews, we heard many examples of changing oceans and climate change in Pangnirtung, including changing ice and weather conditions, impacts to animal populations and health and rising sea levels. Elders have seen dramatic changes unfold in their lifetime, and understand the significance of these difference. As many Elders shared through this research project, in order to plan for and protect the land and water of the future, we must understand the past. As Joanasie shared, "I've lived two worlds now", and in the current climate crisis, we must work together in order to move forward.

Figure 27. Contributing to on-going community-led art, music, and video projects in Pangnirtung

On a very different level, I too have felt like I have experienced two worlds, as I've been invited into the life worlds of Panniqtuumiut. Experiencing the generosity, strength, and resilience of this community has been transformative for me. In many ways, the participatory arts-based approach of this Master's thesis created a liminal space of engagement and relationship building between myself, a Qallunaaq woman from Winnipeg, and Panniqtuumiut. Liminality is "a condition of psychological ambiguity in which basic ideas and mental constructs of identity and society are broken down or weakened and can be re-worked" (Meekison and Higgs, 1998; quoted in Curtis, Reid and Ballard, 2012). Liminal spaces then can also refer to spaces between worlds – of time, place, or understanding. As a researcher, existing in a liminal space can be a reflexive practice where I position myself between the boundary of researcher/researched, placing multiple ways of knowing conversation. In this space, many practices of knowledge can operate and interact, outside of the dominant knowledge system (Kindon, 2012). These liminal spaces can give rise to new understandings, as they undo the habitual patterns of engagement, creating an "endless dance of co-emergence" (Waldrop 1992, quoted in Yassi *et al.*, 2016).

The image of dancing is a generous way to describe the leaps, spins, and tumbles of a process that has been at times easy and effortless, and others, uncomfortable and awkward. Throughout this Master's project I made many of mistakes – and continue to, as I learn and strive to respond with humility and vulnerability. Since starting this project in 2016, I've changed, and the process has changed along the way, as I respond to the people I am dancing with. Recognizing that this dance is on-going, I hope to leave parts of this thesis unresolved – as it is within me. This is at odds with what is generally expected of a research process, where we are told we're supposed to be experts. But I am not an expert of Inuit experience, perspectives, or knowledge (Inutiq, 2019). I can only be an expert in my own experience. I've built my understanding through experience and what is shared with me by knowledgeable people. In comparison to the voices who make up this Master's project, I know very little. I continue to miss so much – through the translation of language, geography, experience, and knowledge systems [**Figure 28**].

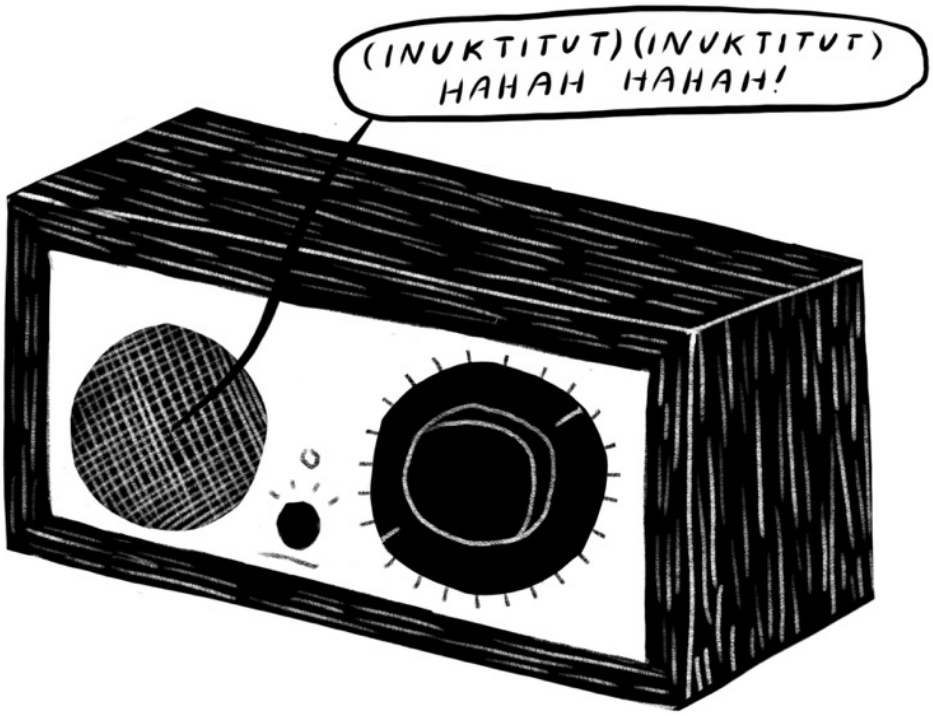


Figure 28. Voices on Pang radio

This thesis is a representation of my learning experience, a small piece of complex knowledge systems and histories. While my lens and perspective remain a challenge, from the perspective of Inuit Qaujimajatuqangit, all knowledge is personal and relational, and from my position as a Qallunaat Master's student, also political. As such, I position this Master's thesis as "this is my relationship, and this is my experience" rather than "this is how it is," and so I must remain humble in my experience and understanding Pangnirtung and Panniqtuumiut. The youth, Elders, hunters, families, and community leadership that I've worked with continue to greet me with warmth and openness [**Figure 29**]. In response, I continue to return with an open and humble heart [**Figure 30**].

Figure 29. With Geela at Sannirut

In 2019, David gave me an *ulu* (woman's knife) as a gift and told me, "now you can clean your own skins – cowhides or whatever you have." Alongside the teasing was an important moment for me to recognize the tools, experiences, and knowledge that have been shared with me – as well as the confidence and independence to try things on my own. From the perspective of Inuit Qaujimajatuqangit, knowledge without application has little or no value – "skills and information must be applied and used to improve the common good. This process builds wisdom. Knowledge without wisdom can be dangerous" (Karetak and Tester, 2017, p.19).

I've also reflected on the nature of what has been shared with me, as a Qallunaaq woman from the south, and the privileges I have given my position. Here lies a responsibility to put both my position and these tools into action. My relationships are the thread that weave these tools, experiences, and understanding together, through time and time shared with many people over multiple years [**Figure 31**]. I continue to build this relationship and understanding by spending

time in these liminal spaces. This is perhaps the most significant outcome for me, to be able to continue to supporting projects and contributing my skills and mentorship when it is invited.

Figure 30. Wash your face in the river and give thanks

Figure 31. On-going process of piecing together understanding through multi-year relationships

5.2 Continuing

On September 27, 2019, I walked alongside 12,000 marchers in the Winnipeg General Climate Strike. Marching through the streets, we were led by local youth leaders and Indigenous women and two-spirit folks who drummed and sang the huge crowd through downtown. It was moving to see so many generations of mentorship, community, and action come together – and recognize all that has come before, so much love, effort, and commitment leading to this moment.

At this critical moment in the climate crisis, creating space for action that brings people together from a variety of background to express their experiences, lessons, and deepest hopes is essential. Inuit Nunangat continues to warm at an alarming rate, with shorter ice seasons, thawing permafrost, and rising sea levels. Meaningful community engagement and education is critical in creating local and relevant solutions and actions to climate change. This Master's project has made contributions to the use of participatory, arts-based research for creating and centering relationships with knowledge, the land, and one another. Through a participatory approach, these methods have the potential to centre the stories of resilience and strength of Inuit that continue to occupy their homelands.

In collaboration with local artists and filmmakers, visual arts and filmmaking were a rich site bridging gaps and strengthening bonds between generations and geographies. This is especially important, as there remains a disconnect between what is currently known, and what younger generations know – as youth do not always have opportunities to hear from these knowledgeable people about the scale and implications of climate change. Youth are seeking the knowledge of their Elders to connect them to their past and present. Many of the youth engaged through this Master's project worked want to learn the knowledge and skills of their Elders, as well as alongside hands-on skills in media and science. Indeed, youth will need to draw from many skills and ways of knowing in order to adapt and respond to the social and ecological change of today.

Nearing the end of the project in 2018, it was important to reflect on ways to continue supporting youth skills and capacity in arts and research. The connections and relationships fostered through this Master's project have led to a partnership between Pangnirtung community members, not-for-profit organization ARCTIConnexion, the Prairie Climate Centre,

the Hamlet of Pangnirtung, and the local Hunters and Trappers Association, *Pangnirtung Land and Climate Program: On-the-land knowledge exchange, monitoring, and filmmaking to promote adaptation and wellbeing*. The multi-year youth mentorship program brings together scientific monitoring, Inuit Qaujimajatuqangit and storytelling through visual arts and video to address community concerns and document knowledge related to climate change and health.

Figure 32. "Pangnirtung Land and Climate Program" – an on-the-land program that brings together Inuit Qaujimajatuqangit, scientific monitoring, and storytelling through film promoting adaptation and well-being

In August 2019 I returned back to Pangnirtung to help kick-off the new program [**Figure 32**]. The first summer of on-the-land workshops and activities brought together youth with local hunters, Elders, as well as *Inuit Nunaligalaani Qaujisarti* (Inuit mentors), scientists, and

filmmakers. Our mentor Poasi Alogut from Rankin Inlet started the program with a tool making workshop at David Poisey's shack. Youth made their own *sakku* (harpoon head), *unaaq* (harpoon), and *niksik* (fishing hook) for hunting seals and whales. Before the workshop started, Poasi underscored the importance of completing the tools from start to finish, even as you are learning – "*you have to finish the tools so you can use them."*

I hope that this Master's project, and the many spin-offs that have emerged, can inspire future projects that nurture the skills and abilities of diverse voices as we collectively face the challenge of a climate changed. Much needs to be done to meaningfully include youth as key actors in research and policy-making, as youth will directly inherit the decisions of today. Across Canada, young people's perspectives are generally still underrepresented in discussions about climate change impacts and potential solutions, including in the media and other public forums. Over the course of their lifespan, today's youth will arguably be the most impacted by climate change and society's collective response. There is an urgent need for youth to able to communicate their perspectives and ideas about climate change to wider audiences and decision-makers. Inuit youth, in particular, are at the frontlines to experience the impacts of climate change. Their energy and actions are the future and force to adaptation. There is a need to support and equip youth with all the tools and knowledge necessary to make them capable to cope with the urgency of climate change, while also sparking their interest to take action.

Facing an uncertain climate future requires tapping into the resources, skills, and ingenuity of many people. We need all kinds of thinking – artists, hunters, writers, fishermen, scientists, mothers, children, and youth. Youth have many different skills, abilities, and interests, as well as diverse hopes and dreams. Finding those points of entry and nurturing them can be a point of entry for engaging youth in community-led research. As 15-year old water protector Autumn Peltier has said, *"we are the next Elders. We are the next leaders. This is our future."* Now is the time to uplift our youth by supporting their voices and answering their calls to action.

FIGURE SOURCES

Figure 1. Digital map by Natalie Baird
Figure 2. Drawing by Natalie Baird
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Figure 4. Photographs by Natalie Baird
Figure 5. Drawing by Natalie Baird
Figure 6. Graph by Natalie Baird
Figure 7. Digital collage by Natalie Baird
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Figure 31. Digital collage by Natalie Baird
Figure 32. Photographs by Natalie Baird, Joanasie Mike, Megan Kilabuk, and Iris Sowdluapik

All other illustrations by Natalie Baird

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