

# “All the problems in the community are multifaceted and related to each other”: Inuit concerns in an era of climate change

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## Abstract

**Objective:** Human dimensions of climate change research in the Arctic often proposes ways for local communities to adapt to changes to their environment, foregrounding problems posed by climate change while treating social, political, and economic factors as background conditions. We explore the relevance of this research paradigm for Inuit by examining how Inuit from Kangiqsujuaq present and discuss the major issues facing their community.

**Methods:** We thematically code and analyze the responses of 107 Inuit to three free-response questions about the problems facing their community and the best things about their community. The data were collected as part of a questionnaire for a project focused on food security and food sharing conducted in Kangiqsujuaq, Nunavik, in 2013 to 2014.

**Results:** Few respondents mentioned issues relating to climate change among the most pressing problems faced by their community. Rather, a suite of interconnected social and economic issues, particularly substance abuse and the cost of living, emerged as the main concerns of Kangiqsujuarmit. However, the environment was a central theme in respondents' favorite thing about their community.

**Conclusions:** In light of the concerns identified by Inuit, we argue that much research on climate change makes incorrect a priori assumptions and consequently fails to capture aspects of Arctic socioecological systems that are essential for how Inuit are responding to climate change. An inductive, open-ended approach can help produce research more relevant to communities.

## 1 | INTRODUCTION

Rates of climate change in the Arctic are rapid and significant (ACIA, 2004), and research on climate change in the region is accordingly prolific. Alongside natural science

research that focuses on topics including sea ice measurement and modeling, permafrost melt, vegetation changes, and of course, polar bears, a veritable industry attends to the human dimensions of climate change. The currently dominant paradigm in this area of scholarship draws on

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concepts from ecology and other fields to identify potential “vulnerabilities” and “adaptations” to climate change in Inuit communities. While research in this paradigm primarily addresses the implications of climate change for food security and traditional subsistence activities, it also increasingly addresses the potential impacts of climate change on human health and well-being. This literature has also been the focus of significant and, in our view, valid critiques that provide important guidance for improving research practice. However, what is still missing in all of this research are Inuit voices themselves. While some research reminds scholars that Inuit may have fundamentally different understandings of vulnerability and adaptation, little research has considered how Inuit view the problem of climate change within the context of other issues that they confront in their everyday lives.

This article examines responses of Inuit from Kangiqsuaq, Nunavik, to questions about what they perceive as the important problems in their village, based on interviews conducted in 2013 to 2014. Participants were asked three open-ended questions that concluded a survey about subsistence hunting, household economics, and food sharing. Given that the interview touched on themes of subsistence, access to country foods, and livelihoods, we expected that the questions might prompt Inuit to mention climate change in their responses. However, while the questions frequently elicited themes related to substance use, the high costs of living, and the economy, issues relating to climate change (even tangentially) rarely occurred in the responses. When Inuit mentioned the environment, their comments generally addressed the positive aspects of being on the land.

In the following, we first briefly discuss human dimensions of climate change research in the Arctic and critiques of this literature. We then introduce the study community, Kangiqsuaq, after which we explore the data on Inuit-identified problems. In the final sections of the article, we consider the mismatch between assumptions made in the climate change literature and how Inuit discuss issues faced by their community. We see this mismatch as a procedural vulnerability (Veland, Howitt, Dominey-Howes, Thomalla, & Houston, 2013). That is, the theoretical models employed in much of the human dimensions of climate change research, by ignoring the socioeconomic context of Inuit settlements, generate self-confirming questions. Furthermore, the data question the narrative that rapid climate change is outpacing Inuit cultural capability to cope.

## 1.1 | Climate change research and its discontents

Over the past 25 years, Arctic human dimensions of climate change research has largely appeared in two forms.

One form attends to Indigenous observations, both documenting local perceptions of climate change and recording the strategies Indigenous peoples employ to cope with those changes (see Berkes & Jolly, 2002; Fast & Berkes, 1998; Huntington & Fox, 2004; Langdon, 1995; McDonald, Arragutainaq, & Novalinga, 1997). In addition to providing insight into the experience and meaning of climate change, this research expands knowledge produced by Western science-based investigations (Guyot, Dickson, Paci, Furgal, & Chan, 2006; Krupnik & Jolly, 2001; Weatherhead, Gearheard, & Barry, 2010).

A second area of research focuses on the consequences of climate change for Indigenous peoples, employing paradigms emerging from systemic perspectives used in ecology (Gunderson & Holling, 2002) and research on hazards and vulnerability (Kelly & Adger, 2000; McCarthy & Martello, 2004). This research employs concepts such as adaptability, resilience, and vulnerability (eg, Berkes & Jolly, 2002; Ford & Smit, 2004) to develop analytical frameworks and apply them to the Arctic. This approach (henceforth AV for adaptation and vulnerability) seeks to identify climate-related changes that might pose problems for communities (vulnerabilities), and to consider what interventions (adaptations) could mitigate the impacts of these changes. While much of this research focuses on food security and subsistence hunting (Ford & Pearce, 2012), the AV approach has also been applied in the study of health. Examples of work in this mode include the development of methods for applying AV frameworks to the study of Inuit health (Ford et al., 2012), cataloguing and describing potential health consequences of climate change and possible adaptations (Berner & Furgal, 2004; Ford, Berrang-Ford, King, & Furgal, 2010; Furgal & Seguin, 2006), examinations of the links between perceived climate change and health priorities (Harper et al., 2015), and investigating the links between vulnerability to climate change and health outcomes (Brubaker, Berner, Chavan, & Warren, 2011; Dudley, Hoberg, Jenkins, & Parkinson, 2015; Sawatzky, Cunsolo, Jones-Bitton, Middleton, & Harper, 2018).

Research in the AV paradigm has been remarkably prolific and currently dominates Arctic social science research, but it has also generated significant critique. Most scholars addressing the limitations of AV research (see Cameron, 2012; Haalboom & Natcher, 2012; Hall & Sanders, 2015; Leduc, 2006; Pfeifer, 2019; Young, 2020) argue that it replicates colonial discourses in multiple ways, including that it (i) frames Indigenous peoples as inherently vulnerable while ignoring existing capacities to cope with change; (ii) essentializes Traditional Ecological Knowledge as static and incapable of addressing rapid, presumably novel change; (iii) employs outdated understandings of acculturation and adaptation; and (iv) overlooks the significant historical and ongoing role of colonialism and extractive industries in the welfare of

Indigenous peoples. Equally problematic are authors' claims of engagement with local stakeholders through "community-based," "Community-Based Participatory Research," or "applied interdisciplinary research" without adequately demonstrating community engagement in research design, being accountable to local peoples when reporting results, or maintaining scholarly standards of quality (Hall & Sanders, 2015).

Other critiques of the AV approach address methodological or conceptual concerns. While some early studies (Berkes & Jolly, 2002; Krupnik & Jolly, 2001) were careful to make a distinction between individual (coping) and community (adaptive) responses to change, AV research is less clear about its units of measurement and analysis. Collings (2011), for example, argues that using the geographically bound settlement (referenced as a "community") as the analytical unit frequently ignores social connections that exist between settlements and makes faulty assumptions about uniformity among residents. Huntington et al. (2019) point out that AV research generally begins with a priori definitions of AV that may have quite different meanings to Indigenous peoples. Jones, Ready, and Pisor (this issue) address the theoretically problematic uses of the term adaptation. Furthermore, most studies cast political, legal, economic, and social factors as a backdrop to the problems posed by climate change, without addressing them directly or specifying ways in which these problems interact with climate change (Sejersen, 2015). Or, as Hall and Sanders (2015, p. 446) state, "no justification is required for why such consequential analytic choices have been made, what is at stake in making them, and why they are thought to deliver the most powerful lens for the issues at hand."

We take this last concern as our starting point. As we laid out above, most AV research about climate change begins with the assumption that the climate is changing dramatically and that Inuit are vulnerable to these changes, which threaten their culture and well-being. We do not deny that the climate is changing rapidly—we have seen and experienced these changes first-hand in our own research. We do, however, question the extent to which climate change registers as a problem for community members. Do Inuit perceive "climate change" as a threat to their individual or cultural well-being? How does climate change resonate within the general constellation of problems that Inuit navigate in their daily lives?

## 2 | RESEARCH METHODS

### 2.1 | Study background

Kangiqsujuaq is an Inuit settlement of approximately 800 people on the coast of the Hudson Strait in Nunavik.

Like many Inuit settlements in the Canadian Arctic (Damas, 2002), the location of the modern settlement was largely a result of decisions made by missionaries, fur traders, and federal agents rather than by Inuit. Inuit settlement at the site occurred gradually, but government agents pressured families still living on the land to move to the settlement after the construction of a federal day school in 1960.

Access to the settlement today is limited primarily to air travel. Consequently, the cost of imported goods is quite high, and in some domains, particularly food, the quality of imported goods tends to be poor in comparison to southern Canada. The contemporary economy is dominated by wage labor, but most employment is in the public service sector and un- and underemployment rates are high. Despite the high costs of equipment and supplies, subsistence hunting remains important to residents. Hunted or "country" food is an important source of high-quality calories and nutrients, while food-sharing networks distribute food and strengthen social ties.

Research on the human dimensions of climate change in Kangiqsujuaq follows trends across the Arctic (see Allard & Lemay, 2013 for a broad overview of climate change research in Nunavik and neighboring Nunatsiavut). Early climate change research in Kangiqsujuaq in 2002 and 2003 (The Communities of Ivujivik, Puvirnituk, & Kangiqsujuaq et al., 2005) documented local perceptions of climate change, which included reports of changes in ice conditions, shorter winters but cooler summers, stronger winds, and less predictability in weather conditions. Kangiqsujuaqmiut likewise identified changes in the quality and availability of different species, noting changes in berry production, more sightings of polar bears, sightings of new species (deer, black bear, hooded seal, black flies, and new birds, including robins), and changes in migration patterns among beluga, fish, and geese. Recommended adaptations to "minimize the effects of climate change" included increasing food sharing between communities, building more cabins on the land, sharing travel plans beforehand, marking ecologically fragile or dangerous locations, and improving intergenerational communication.

Cuerrier, Brunet, Gérin-Lajoie, Downing, and Lévesque (2015) conducted similar research between 2007 and 2009. Respondents in their study reported longer summers, earlier ice break-up, more rain and less snow, more wind, fewer mosquitoes, and increased shrub growth, all of which necessitated changes to hunters' travel routes. However, Cuerrier and colleagues also noted limited consensus regarding changes in vegetation and in animal abundance and quality. Research in Kangiqsujuaq has also focused on documenting ice formation and safe snowmobile trails (Tremblay et al., 2006), the availability of berries (Boulanger-Lapointe et al., 2019) and changes in sea ice thickness (Dufour-Beauséjour et al., 2018). The long-term



environmental and socioeconomic impacts of mining activities in the region is also a subject of concern (Duhaime, Bernard, & Comtois, 2005; Rodon & Lévesque, 2015).

Ready began work in Kangiqsujaq in 2011, examining the relationships between the wage economy, participation in subsistence activities, food sharing, and food security, topics logically tied to issues of climate change. However, although climate change is a clearly observable phenomenon, it rarely came up as a specific or pressing problem in peoples' lives. When the topic emerged in conversation, it typically appeared as an observation or memorable story told while traveling on the land, or as a comment in response to a news item. One often-told anecdote recounts an encounter with a black bear that was initially mistaken for a dog. Another relates the first Christmas in memory (2011) without ice on the bay, which led to canoe races being held on Christmas Day instead of snowmobile races. The relatively low profile of climate change relative to the other challenges in daily life led Ready to focus her research on the role of country foods in food insecurity (Ready, 2016a), food-sharing practices and their relationship to socioeconomic status (Ready, 2018a; Ready & Power, 2018), and the role of hunting and wage labor in household structure (Ready, 2018b). Research results have been communicated to Kangiqsujuarmiut on several occasions through diverse methods in both English and Inuktitut, including shows on the local radio, presentations to community councils, one-on-one conversations with participants, and sharing of research reports. Research findings concerning the relationship between food sharing, gender, and socioeconomic status led the community council to develop a new program supporting young families to go on the land.

## 2.2 | Data collection

The data considered in this article come from a household questionnaire on household economics, food security, food sharing, and harvesting activities, conducted between September 2013 and July 2014. The questionnaire was administered as part of a year-long ethnographic research project. Analysis and results of research based on this questionnaire were discussed in the previous section, but see Ready (2016b) for a more thorough discussion of sampling and data collection. Here we examine the final section of the questionnaire, which contained three free-response questions. These questions were included to help contextualize the responses to other sections of the questionnaire and understand how the research addressed local concerns and priorities. To what degree did the survey address issues that mattered to the respondents? How could future research be designed to meet community needs and priorities?

The free-response questions were as follows: (i) "What do you think are the most important problems affecting you and other Kangiqsujuarmiut?"; (ii) "Do you have any other comments, questions or concerns related to the issues discussed in this survey that you would like to share?"; and (iii) "What do you like the most about your community?" The final question was included to conclude the interview of a positive note, at the recommendation of Jessica Arngak, who provided feedback and suggestions on the survey design.

Local research assistants accompanied Ready on the majority of interviews, and interviews were conducted in English or Inuktitut depending on the respondents' preference. A small number of interviews were conducted by research assistants alone. IRB approvals were provided by Stanford University (IRB# 00000349, Protocol #26053), and the study was approved by the Kangiqsujaq Northern Village.

We coded the responses to each question using an inductive, iterative "cutting and sorting" process (Ryan & Bernard, 2003) to identify and refine the set of themes we considered and to classify each response. Most answers to these questions were brief, and it was a straightforward process to code comments into categories. However, some respondents' answers to the questions were extensive, going into more detail on specific topics or discussing a wider range of issues. Consequently, we coded a thematic comment as present or absent for each response. As an example of how we managed this process, the following is an excerpt from a response to the first question:

ER: What do you think are the most important problems affecting you and other Kangiqsujuarmiut?

Yaaka Yaaka: A whole slew of them. Drugs and alcohol, substance abuse. I find it hard to keep kids away from trouble, I can't be there 24/7. [...] Even if they [kids] don't do it, it has effects (danger, lack of sleep). The jobless rate is very high, too.

We marked this text as having two thematic elements: Drugs and alcohol (with subthemes deviance and impact on kids) and Jobs/Economy. We discuss our handling of these themes as part of a larger pattern of responses in the following section.

## 3 | RESULTS

As we indicated above, we consider responses to three open-ended questions, the results of which we treat



**TABLE 1** Age and gender composition of sample

Ages	Men	Women	Total
18-30	3	7	10
31-50	29	30	59
51+	17	21	38
Total	49	58	107

separately in the following paragraphs. In total, 107 Inuit responded to these questions. The age and gender composition of the sample is provided in Table 1. Respondents were household heads, or someone who was able to speak for the household head, and so the gender and age composition of the sample is not balanced by age and gender but instead reflects household structure.

### 3.1 | The most important problems affecting Kangiqsujaq

Table 2 shows the 10 most common themes coded in responses to the question “What do you think are the most important problems affecting you and other Kangiqsujuarmiut?” We coded a mean of 1.63 (SD = 1.36) themes per respondent for this question, excluding “do not know” answers, but including the subthemes presented in Table 3. The most themes coded for a single respondent was seven; the answers of 46 respondents contained more than one theme.

By far, the most common topic mentioned by respondents was drugs and/or alcohol: nearly 46% of respondents highlighted substance use as a pressing issue. We note that “drugs” in this context preponderantly references cannabis, although some other drugs, such as speed and, more recently, cocaine, are occasionally available. A majority of respondents who mentioned substances specifically linked substance use, and alcohol in particular, with other problems. These subthemes, along with examples, are listed in Table 3. The most common reason given was the economic impact of substance use, followed by its relationship to interpersonal conflicts (eg, arguments and relationship problems) and deviant behaviors (violence and crime).

Following drugs and alcohol, the most commonly mentioned themes were jobs and the economy, the cost of living, and culture change (see Table 2 for examples). By “culture change,” we refer specifically to local narratives about acculturation due to contact with Qallunaat (white) society and resulting changes to or loss of traditional practices, often specifically regarding sharing practices, food tastes, and language (see Collings, Marten, Pearce, & Young, 2016). Interpersonal conflict, deviant

behaviors (eg, “sex abuse” and “crime”), the beluga quota, youth, and the costs of hunting were also among some of the most frequently mentioned concerns. Six respondents indicated that they perceived no major problems in the settlement. Other themes mentioned by more than one respondent but not listed in Table 3 included: environment or weather (four respondents, discussed below), laziness or a lack of motivation (4), lack of country food (3), not enough sharing (3), housing (3), and suicide (2).

A large proportion of responses (20, or 18.7%) for this question were coded as “do not know” or “no response.” These responses (often just a shrug, or the Inuktitut word “aatsuk”) are not unusual when interviewing Inuit. This response reflects a tendency among Inuit to avoid speaking about issues before careful reflection, to avoid generalizations, or to avoid discussing issues they have not experienced directly (see Collings, Pearce, & Kann, 2018). “Aatsuk” may also reflect fatigue, as the questions came at the end of a long survey.

We find limited gender or age differences in the responses. Somewhat more women than men reported cost of living (7 W, 2 M) and interpersonal conflict (8 W, 4 M; including mentions related to drugs and alcohol) as important themes, while more men than women mentioned themes relating to deviant behaviors (2 W, 10 M). Women were somewhat more likely to respond “do not know” to this question (15 W, 5 M). The main observable age trend is that respondents in the 18 to 30 age group were more likely to respond “do not know” or with a simple answer, while respondents over 50 tended to provide longer answers that were coded for more themes. Older respondents seemed to be more often concerned about interpersonal conflict (9/12 mentions of this theme). Specific mentions of youth were absent from the answers of respondents under 30.

In total, only four respondents mentioned environmental or weather-related concerns among the most important problems in Kangiqsujaq. One person mentioned “environment and conservation” as an important issue, while the other three responses focused on patterns that impeded hunting and access to food:

The animals are getting further away from here.

It's been bad weather for a long time now and we can't go out and get food as much.

And the fog—it's always in the way! You want to go hunting by skidoo or Honda and the fog makes you stay home. I guess it's

**TABLE 2** Ten most common themes mentioned by respondents as important community problems (n = 107)

Theme	Examples	N	%
Drugs and alcohol	See Table 3.	49	45.8
Jobs/economy	"Jobless rate is very high too," "Not enough jobs for everyone so families are struggling to feed their children," "Not having a job," "It felt like we had nothing to eat until Hunter Support said we could sell sealskins."	11	10.3
Cost of living	"Everything costs too much—food, bills," "Groceries and food and clothing are so expensive."	9	8.4
Culture change	"Our language and culture are being turned into Qallunaat ways," "Ever since we got things from the south there are more problems than ever before," "Not enough hunters—they do not want to," "Culture changes so fast people do not know which way is up or down sometimes." One mention of selling country food was included here.	7	6.5
Interpersonal conflict	"Cheating in relationships. Hatred," "Personal problems at home," "People lose their jobs because they do not want people to tell them what to do." Excludes interpersonal conflict mentioned specifically in context of drug/alcohol use (see Table 3).	6	5.6
No major problems	"We're OK," "Nothing, close to nothing," "No big problems."	6	5.6
Deviance	"People breaking the houses," "Stealing other people's belongings," "Sexual abuse of kids." Excludes deviance mentioned specifically in the context of drug/alcohol use (see Table 3).	5	4.7
Beluga quota	"Beluga quota is not enough, it makes everybody angry if they do not get one, they argue about sharing," "Beluga quota because some people do not get mattak anymore."	5	4.7
Cost of hunting	"All the good hunters are working because it costs too much to go out now," "Gas. The price being so high," "Having no vehicle for hunting and fishing because when they break fixing them is unaffordable."	5	4.7
Youth, incl. parenting and education	"I find it hard to keep kids away from trouble, I cannot be there 24/7," "Children today have no respect and no discipline," "Youth who do not have a job and quit their job," "Kids not completing education."	5	4.7

always like that maybe in summer and spring.

The latter two comments reflect a general perception that fog and wind have increased in recent years, particularly in the summer months. Although no respondents specifically mentioned "climate change," these comments reflect local discourse regarding climate change. A more common concern relating to food availability was the beluga quota (mentioned by five respondents), which limits each village in Nunavik to 25 animals per year. We think these comments reflect frustration with wildlife management regulations rather than concerns about climate-related impacts on beluga.

### 3.2 | Comments and concerns about the subject of the research

The second free-response item asked respondents if they had any questions, comments, or concerns about the issues that had been discussed in the survey. We expected that the topics discussed in the survey, which included country food and hunting activities, might have primed respondents to discuss issues related to the environment or climate change. Non-response to this question was

high, as it was phrased as optional ("Do you have any comments, questions, or concerns you would like to share?"), so we take the set of 55 responses as the total sample. We coded an average of 1.45 (SD = 0.72) themes per response. Nineteen responses were coded for more than one theme. The highest number of themes coded in a single response was four.

Table 4 shows the most common responses to this question. The most common theme was sharing, usually specifically with respect to country food. Many respondents noted that they wished there was more sharing in the community or that they did not like the practice of selling country food. Outside of those who commented on problems relating to sharing, five additional respondents made general comments about the importance of sharing (eg, "I share well," "We just share—everything is shared for me. It always comes back somehow," "We should share [food sharing] with the world—people would be less hungry.") Other common answers referred to the cost of living or to the cost of hunting specifically, as well as to a general theme of concern about cultural decline.

Beluga was once again a common theme, mentioned by seven respondents, most of whom referred to the quota or wished that beluga in particular would be shared more. One respondent's answer illustrates the connection between the quota and sharing:

**TABLE 3** Details on respondents' concerns regarding substance use

Subtheme	Examples	N	%
Economic impact	"They run out of money because of what they buy," "Buying drugs and alcohol instead of food and rent," "They would have jobs if they did not do drugs. If they are drinking, they miss work."	9	31.0
Interpersonal conflict	"I am scared of people who are drunk. People are being too loud, they are being too loud in the house, having arguments," "On the internet, swearing at each other, especially on Facebook," "People do not respect us when we are trying to sleep," "People arguing and it feels like it's for nothing," "[People use] drugs and alcohol based on their hearts, broken hearts."	8	27.6
Deviance	"It creates violence," "It's destroying people. Suicide, murder, you know."	7	24.1
Impact on kids	"There's a lot more younger people drinking," "When our family members drink too much, we have to take care of their children," "I do not want my kids to see people smoking drugs."	7	24.1
New/more alcohol and drugs in town	"People selling pills, that's new around here," "Maybe we try to drink more often," "It's getting more more more more more. Looks like we have a bar now because it looks like they are drinking every night."	5	17.2
Bootleggers	"Alcohol and drugs because southerners are selling a lot," "A lot of people get busted or in jail when they are drunk or selling drugs."	3	10.3
Accidents	"Fighting, yelling, accidents, breaking things, going to hospital," "We lost a lot of friends due to alcohol, accidents."	2	6.9

*Note:* Twenty-nine of 49 respondents who mentioned drugs and/or alcohol gave additional details on why they felt they were an issue in their community. The rightmost column gives the percentage of these 29 respondents who mentioned a particular reason.

**TABLE 4** Most common comments and concerns about issues discussed in the survey (n = 55)

Theme	Examples	N	%
Problems relating to sharing, including selling country food.	"I wish there were more people sharing country food," "People should share not just within their family but outside," "These days they are selling the country food over Facebook. I'm against that, I never sell to individuals, I share my food," "We would want to share with everybody but we do not have enough."	17	30.9
Cost of living	"Store-bought food is too expensive," "The cost of living is so high in the North. Due to lack of land transportation," "The cost of food is extremely high. I spent a lot of time down in Montreal this summer so I know the difference," "The cost of living does not match income here."	11	20.0
Cost of hunting	"Most able-bodied men cannot afford to go out [hunting] so they become needy. And we have to provide for them if we can or if we want," "Sometimes to go hunting it's really expensive. A Honda, canoe, skidoo they are so expensive with the gas," "Weekend [of hunting costs] not less than \$200—almost just for gas."	8	14.5
Culture change	"The Inuit tradition is being pushed further to the back of the household because it's 'me, me, me' instead of sharing. It's laptops and iphones...it's not hospitable," "We need to practice more our culture, how to make nikku and misiraq and igunaqs. We never get to do that because we never have enough [beluga meat]," "Our generation seems to be forgotten slowly, like mussel picking in the summer—there are fewer and fewer people each year."	7	12.7
Beluga	"Beluga meat—that's the most unshareable, beluga meat," "I do not want quota for beluga. It's our culture, it's our food."	7	12.7

Mostly beluga. We have a problem because of the quota. If I got a seal and some one next to me got a beluga, they'd be finished before I was done butchering because people want it so badly. They don't care about sharing with the people because of the quota, they save some for themselves for all year.

The beluga quota is also considered to have altered hunting practices. Hunting from distant camps to avoid the pressures to share which occur when butchering a beluga on the beach near the community is now more common.

Due to the somewhat smaller set of responses for this question, we found no clear patterning by gender, except that three women mentioned having to feed children

from other households, a topic not mentioned by any men. The small number of respondents under 30 (2) who answered this question makes it difficult to discern any age-related pattern, but respondents over 50 more often mentioned topics relating to culture change than younger people (6/7 mentions of this topic), and no respondents over 50 mentioned beluga.

Despite our expectation that this question might lead respondents to discuss issues relating to the environment, very few people explicitly mentioned this topic in their answers. Once again, only four respondents (four different individuals than in the previous question) mentioned topics related to the environment or the availability of animals:

Only January and February. Sometimes hunters don't find country food when they go out in those months. It's really cold.

We need more caribou meat.

Most of the people seem to be selling the food more instead of sharing. And fewer caribous are traveling through our town, they are further away.

This summer I found there were less natsiq [ringed seal] except further away, out of the bay. Not as much as compared to the south side.

We interpret the first statement as a reflection on the rhythm of life in the North rather than a comment concerning climate change. Regarding the second and third comments, decreases in the availability of caribou were happening at the time of the study and have since worsened (Taillon, Brodeur, & Rivard, 2016). This decrease could conceivably be related to climate change, but caribou in the Ungava region have undergone major fluctuations and recovery in the past (Bergerud, Luttich, & Camps, 2008) and the effects of climate change on caribou are expected to be mixed (Mallory & Boyce, 2018). In the final case quoted above, the respondent attributed the local decrease in seal to excessive boat noise near the settlement in the summer.

### 3.3 | The best things in the community

The final question asked respondents what they liked most about their community. We coded an average of 1.65 (SD = 0.88) themes per respondent. Forty-six responses contained more than one theme, with four

being the most themes we coded in a single response. One respondent was excluded because it was clear he did not understand the question. "Do not know" or non-responses were much less common here than for the other questions, with only three instances.

Table 5 shows the most common themes in responses to this question, along with examples.

In contrast to the previous two questions, the salience of themes relating to the environment, or perhaps to the "outdoors" generally, is notable here, as the most common response was the enjoyment of hunting or camping activities (33.0%). Many respondents also noted the abundance of animals in the region, an appreciation for the landscape, or simply that they enjoyed walking. Other common themes related to the kindness of people in the community, a sense of home and belonging, and what might be called aspects of local culture, such as "community-mindedness," and not being controlled by time (in comparison to the South).

Other answers listed by more than one respondent but not listed in Table 5 included "Everything!" (three respondents), church (3), Christmas (3), country food (3), isolation (2), and good communication within the village (2). We again find limited age or gender differences, although somewhat more men than women mentioned enjoying work (1 W, 6 M).

## 4 | DISCUSSION

The aggregate responses to our three questions strongly suggest that the well-documented problems of climate change hardly register for Kangiqsujarmiut. When provided with an opportunity to identify important issues, their answers prioritize other problems, especially those relating to social issues and poverty. Only a small number of participants (a total of 8 of 107) specifically mentioned problems relating to the abundance of animals (other than beluga) or to the weather. Even in these cases, no respondent specifically mentioned climate change, although mentions of "bad weather," "fog," and decreases in caribou reference personal observations potentially linked to climate change. As we noted above, specific concerns about beluga availability were identified as political problems and related to wildlife management. Other problems related to access to country food were economic and highlighted worries about the high costs of equipment and supplies.

Weather-related barriers to travel, which might initially seem to be a consequence of climate change, are likewise interconnected more to social and economic issues than they are directly tied to climate change. Many Inuit simply do not own a functioning snowmobile or



**TABLE 5** Favorite things about their community identified by respondents (n = 106)

Theme	Examples	N	%
Hunting and camping	"Camping is my favorite," "Hunting and berry picking make me happy," "I like to try to get meat," "To go hunting. I wish I could stay there forever with my kids but I have to make money," "Maqaitsunga. It's my way of life since I was a kid."	35	33.0
Nature, landscape, animals	"And the scenery. Inexplicable," "The land, how it is, it's nice. Especially when it becomes green during the summertime—wow," "We have a beautiful village," "The animals—rich animal area. You can go hunting mostly everywhere by canoe, ATV, skidoo," "Char, seal, caribou, ptarmigan. All year long!" "In spring, birds and geese singing in the morning," "And going outdoors, like just going for a walk, the fresh air," "Walking to a place, like the point and Allagiaq." Most mentions of animals were double-coded with hunting as the local abundance of animals was mentioned in the context of hunting.	26	24.5
Kindness and the people	"Everybody is welcoming. They do not put anyone down anywhere," "Nice people here, we are complimented on this most of the time," "Being nice, love, patient, welcoming, helping each other out," "It's like a big family, everybody tries to have respect for each other," "The people are helpful. Because whenever I need to go out people are warm, welcoming, waiting for people to ask them for something."	26	24.5
Sense of family or home	"I can simply say home, it's my hometown," "Friends and family," "This is where I grew up and I'm never going to move away because I love where I am!" "I know them very well so I'm happy with my people. Whenever we come back in the place, we clap to say welcome home," "This, Kangiqsujuaq. It's the best place because it's our home."	23	21.7
Sharing	"They share a lot," "When they help each other and mostly for the hunters, they get meals for us," "I am happy to be sharing country food."	11	10.4
Sports, community activities, and games	"Hockey. It's good for exercise," "When there are young people playing sports," "They're doing a lot of sports, that's what I like the most," "Sports-oriented, social towards others."	11	10.4
Work	"Working," "Work! It helps us a lot. Without work we cannot go hunting, we cannot eat, cannot go to the store," "My job too, I love my job. Still learning for myself."	7	6.6
Culture	"The community-mindedness. I hope we do not go too much into individualism, it's not our way of living or our culture," "Young men go hunting more [than elsewhere]," "The Elders, they try to keep the culture and sharing alive," "Our own knowledge," "We're not run by time."	6	5.7

other means of transport that would allow them to go hunting. For those with equipment, the demands of wage labor jobs often significantly constrain their ability to go hunting. One hunter's comments about a canceled hunting trip, written in a diary he kept as part of this project, highlights this problem:

Wanted to go fishing to [my camp] and seal hunting/polar bear hunting, but, I didn't buy any gas yesterday cause it's expensive (HSP [Hunter Support Program] budget is not ready to get discount for gas), need over 100lt. to hunt to my camp and always better to leave early in the morning for short weekend.

Getting organized for weekend hunting is a complicated balancing act for hunters with a job, involving numerous tasks such as rushing to the gas station during afternoon coffee break and hoping that the fuel attendant

has not already left for his own break. Reliance on the Hunter Support fuel discount further complicates these tasks. On another occasion, the same hunter lamented, "2 days of weekend is way too short! 'Just saying!'" a comment on the fact that working all week followed by two days of physically exhausting travel and hunting provides no time for rest and recovery. In Ulukhaktok (NT), where Collings conducts fieldwork, "It's the weekend, so must be the weather is bad," is a regular observation that reflects the incompatibility of hunting with a strict work schedule. Furthermore, though sharing or even renting hunting equipment to households without machines might reduce the costs of or increase access to hunting, such lending is limited. Households with equipment do not want to risk their equipment not being in working order when a weekend with good weather finally comes around (see Wenzel, (1995) for a pertinent example).

That issues related to climate change so rarely emerged from these interviews was somewhat surprising, given that a significant portion of the questionnaire



focused on subsistence, which the AV literature has identified as under significant threat from climate change. If climate change was as significant a problem for Kangiqsujuarmit as the literature suggests, we think that the questionnaire would have primed respondents to discuss it specifically. Instead, alcohol and drugs—primarily cannabis—were the most commonly identified problems in the settlement. In addition to being viewed as problems all on their own, alcohol and drugs were identified as intertwined with other problems. Substance use was problematic because of its role in amplifying economic hardship, generating interpersonal conflict and stress within households, contributing (alcohol especially) to abusive behavior, and damaging to the well-being of youth.

Because of the focus of the original study and the format of the questionnaire, we did not explore local ideas about why substance use is an issue in great depth in the interviews analyzed here. However, informal conversations in subsequent fieldwork and interviews conducted as part of a pilot study in 2018 suggest that many Kangiqsujuarmit anchor their problems with alcohol and drugs in personal experiences of trauma, including residential schooling, sexual abuse, or the premature or tragic loss of family members. The lack of available recreational alternatives in the settlement was also cited as a reason for alcohol and cannabis use.

Significant here is that substances are viewed by many Kangiqsujuarmit as part of a feedback loop. They are employed as a short-term strategy for coping with the economic and social stresses of living in a settlement with limited opportunities but which, in turn, contribute to further stress. Money spent on alcohol and cannabis, for example, cannot also be spent on food and clothing—and relatives may be asked to make up the difference, which can lead to family conflict. Interpersonal conflict or abuse stemming from substance use likewise engenders further trauma, particularly for the children of parents who are drinking.

None of these are particularly novel observations. Alcohol use among Indigenous peoples is a literary industry in its own right, with its own research paradigm and critique (see Waldram, 2015; Moses et al., 2017). Our experience is that many Inuit drink infrequently, if at all, although nearly everyone in the settlement nevertheless has experience with negative consequences of drugs and alcohol, either as a consequence of use, as observers, or as victims of others acting under the influence. The results of “Qanuilirpitaa,” the 2017 Nunavik health survey, are not yet available, but the 2004 Nunavik health survey found that 23.1% of Nunavimmiut were current abstainers, 26.8% drank less than once a month, and 50.1% drank more than once a month, figures which are

not that different from the rest of Canada. However, among those who drank, episodes of heavy drinking were more frequent than among the Canadian population as a whole (Muckle, Chevalier, Boucher, Laflamme, & Rochette, 2007). These reports are consistent both with alcohol use in other Indigenous communities in North America and highlight misconceptions about drinking among Indigenous peoples (May, 1999).

We suspect that “drugs and alcohol” may be a kind of shorthand used by Kangiqsujuarmit to reference a constellation of problems, among them trauma and loss, deviant behaviors, interpersonal conflict, poverty, and the well-being of youth, through objects and activities that link them together. Though few respondents directly mentioned health issues in the 2014 survey, the problems referenced by “drugs and alcohol” are nevertheless deeply connected to Inuit concepts of health. According to Fletcher and Riva (2016, p. 19): “To be healthy in Inuit terms is to be situated among caring people and families who all have comforting and secure physical and social environments to live in.” Interviews from our 2018 pilot study, though not yet fully analyzed, suggest that Kangiqsujuarmit concerns about health tend to be focused on social and behavioral determinants of health such as having a healthy mindset, having people to talk to about problems, and eating well—themes clearly connected to those referenced by “drugs and alcohol,” including trauma, interpersonal conflict, and poverty—rather than on specific diseases such as tuberculosis, cancer, or diabetes. Kirmayer, Fletcher, and Watt (2009) also draw out the connections between social and economic difficulties (isolation, unemployment, and poverty), interpersonal conflict, drug and alcohol use, and mental health among Inuit.

Given the apparently shared understanding of this theme among many Kangiqsujuarmit, future research might productively examine in greater detail how Inuit understand the relations between and the dynamics of the aforementioned issues. Such an approach could offer a potential way to better understand how Kangiqsujuarmit conceptualize their own ability to respond to the problems that they identify in their community, and how and why certain experiences may have a particularly strong impact on Inuit well-being, particularly in relation to mental health and stress. The interviews we conducted in 2018 involved an initial exploration of this concept.

Finally, while the questions about problems in the community sometimes led to uncomfortable silence, answers to the question about the “best things” in the community (which was included after piloting the survey) were readily forthcoming from respondents. Feelings of home and the importance of friends and family were



frequently referenced, but themes relating to the local environment were the most common responses to this question. These positive feelings were expressed as a love of hunting, camping, or simply going for a walk. Other positive sentiments referenced an appreciation of the local abundance of animals, for country foods, or for the beauty of the local landscape, aligning with past research throughout the circumpolar region that emphasizes the importance of closeness to nature to the quality of life of Arctic residents (Crate, Forbes, King, & Kruse, 2010). No respondents qualified their response to this question with concerns about how hunting or other activities might be threatened by climate change.

Overall, the responses to the three questions are best summed up by Yaaka Yaaka, a hunter who noted that “all the problems in the community are multifaceted and related to each other.” Although Yaaka was deeply concerned about climate change and a self-identified conservationist, in the context of this interview he prioritized issues relating to substances, youth, and jobs (see the excerpt quote in the Methods section). Although climate change is connected to the interrelated social and economic themes identified by Kangiqsujuarmit (eg, through the importance of country food and the cost of living), few respondents explicitly mentioned environmental changes as posing problems. Our analysis of the data suggests that part of why climate change does not register in these interviews is because more basic issues, such as generating cash and equipment, are much more immediate. However, despite awareness of climate change, the positive aspects of the local environment appear to be more important to Kangiqsujuarmit than do concerns about it.

How do we account for this seeming disconnect between climate change being clearly observable but not registering as an urgent problem? One potential explanation, mentioned above, is simply that most Inuit have more pressing issues to deal with. An additional possibility is that many researchers fundamentally misunderstand Inuit adaptive capacity; framing *Inuit Qaujimaqatuqangit* (Inuit knowledge) as “tradition, myth, and story” rather than as a dynamic worldview focused on learning and problem solving (Pfeifer, 2018, p. 29; Omura, 2005). Aporta and Higgs (2005) provide an instructive example: unlike Qallunaat, who prioritize regular machine maintenance, Inuit understand that a snowmobile *will* break down on the land, regardless of its maintenance record. Consequently, a good mechanic can improvise repairs in unfavorable conditions to get home. This problem-solving approach to repairing machines reflects a more general feature of Inuit knowledge. Weather conditions have always been variable and are beyond the control of individuals. Engaging with the

environment is consequently an active process in which each hunting trip poses different problems that require unique solutions. Climate change, in this view, is part of the dynamic environment to which one adjusts in the moment rather than an abstraction that poses an existential threat.

In fact, local initiatives to deal with changing hunting conditions reflect the dynamic nature of Inuit hunting strategies, and show solutions emerging from a combination of individual and community action. For example, a “walkie-talkie” communication system was recently built in Kangiqsujuaq by a local resident and was quickly adopted by other hunters. Compared to the former CB radio system, this new system improved the ability of travelers on the land to stay in touch with the community. The local Hunter Support Program and Landholding Corporation have also increased the gas discount over recent years and offered subsidies for the purchase of hunting equipment. Several hunters have invested in powerful fishing boats that allow them to travel long distances more quickly, and over rougher waters, than with freighter canoes. Nevertheless, such investments are expensive, and Kangiqsujuaq is relatively fortunate compared to many Inuit settlements, because profit shares from local mines are used for these purposes. Inuit are also incorporating new technologies into their decision-making toolkit. For example, through the SIKU app and website ([www.siku.org](http://www.siku.org)), the SmartIce project ([www.smartice.org](http://www.smartice.org)) allows hunters in many regions of Inuit Nunangat to check up-to-date ice conditions online.

Consequently, part of the reason climate change did not register in our interviews may be that Inuit already have the cultural capacity to address the environmental changes that they are currently experiencing. The problems that are more difficult to solve are economic, social, and ultimately political, stemming from over a century of colonialism and continuing marginalization.

## 5 | CONCLUSIONS

We want to be clear that we are not arguing that climate change is not an important problem for Inuit. Kangiqsujuarmit responses to our question about what they like the most about their community help make this abundantly clear. Interacting with the local environment is central to the “best part of life” for Inuit (Condon, Collings, & Wenzel, 1995). Furthermore, engaging with the environment provides critical support for Inuit mental health and well-being (Kirmayer et al., 2009; Kral, Salusky, Inuksuk, Angutimarik, & Tulugardjuk, 2014). Climate change is also a potentially powerful narrative for motivating the structural changes needed to address

social, economic, and political inequalities faced by Inuit communities (Hocine, 2018; Young, 2020).

However, the interviews we present here make it clear that climate change narratives and research have limited resonance for many Inuit, partly because poverty, access to food, housing, education, and health care are more urgent problems (cf. Jodoin, Snow, & Corobow, 2020). The responses of Kangiqsuaarmiut suggest that the main challenge they face is coping with the constellation of stressors related to colonialism, poverty, health, and well-being referenced through the theme of “drugs and alcohol.” The impact of a rapidly changing climate on humans is a problem deeply embedded within this much broader context. Our results lead us to highlight what Veland et al. (2013, p. 315) identify as a “procedural vulnerability,” which occurs “where the methods of inquiry prevent participation or mask important issues.” As we highlighted above, AV conceptual frameworks stipulate climate change as a significant threat to peoples who lack the capacity to either cope or adapt. The results here suggest that the supposed victims of this threat—who are experiencing climate change in very direct ways—do not view the problem in the same way at all, a phenomenon that has been suggested elsewhere (Huntington et al., 2019; Young, 2020).

This leads to a procedural vulnerability because research that begins with questions about climate change prevents other concerns from emerging in the context of interviews. AV research design thus yields data that can only support the theoretical model that generates the research questions. The inductive approach we take here indicates that research attending to the broader constellation of social, political, and economic changes of the past century, while less glamorous and conceptually more challenging, may be more effective both in better understanding the human dimensions of climate change and improving the lives of Arctic residents.

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## AUTHOR CONTRIBUTIONS

**Elsbeth Ready:** Conceptualization; data curation; formal analysis; funding acquisition; investigation; methodology; writing-original draft; writing-review and editing. **Peter Collings:** Conceptualization; formal analysis; funding acquisition; methodology; writing-original draft; writing-review and editing.

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