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The Power and Peril of "Vulnerability": Approaching Community Labels with Caution in Climate Change Research

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ABSTRACT. Indigenous communities in the Arctic have become increasingly characterized as "vulnerable" in the context of climate change research. We question the use and application of this term in light of the potential consequences it may bring for indigenous peoples. First, the label "vulnerable" is often generated by those who are more or less unfamiliar with the complexities of local culture, economies, and capabilities. Second, we are concerned that such labels can generate misguided actions and policy responses built on how peoples and places come to be seen and understood by others. Third, the label "vulnerable" has the potential to shape how northern indigenous peoples come to see themselves as they construct their own identities—and identifying themselves as vulnerable may ultimately hinder their efforts to gain greater autonomy over their own affairs. As researchers become more engaged in the social dimensions of climate-change research, we encourage more careful and critical attention to the power and potential peril of community labels.

Key words: vulnerability, climate change, Arctic, indigenous peoples, labels, policy

RÉSUMÉ. Les communautés indigènes de l'Arctique sont de plus en plus souvent caractérisées de « vulnérables » dans le contexte de la recherche sur le changement climatique. Nous mettons en doute l'utilisation et l'application de ce terme à la lumière des conséquences éventuelles qu'il risque d'apporter aux peuples indigènes. Premièrement, l'étiquette « vulnérable » est souvent apposée par des personnes qui sont plus ou moins au courant des complexités de la culture, des économies et des capacités locales. Deuxièmement, nous nous inquiétons du fait que ces étiquettes peuvent se traduire par des mesures malavisées de même que par des politiques qui tiennent compte de la manière dont les peuples et les lieux sont perçus et compris par les autres. Troisièmement, l'étiquette « vulnérable » a la possibilité de déterminer la façon dont les peuples indigènes du Nord se voient quand vient le temps de définir leur propre identité, sans compter que le fait de s'identifier comme vulnérables pourrait finir par nuire à leurs efforts d'obtention d'une plus grande autonomie à l'égard de leurs propres affaires. Au fur et à mesure que les chercheurs se penchent davantage sur les dimensions sociales de la recherche sur le changement climatique, nous incitons les gens à faire sérieusement plus attention au pouvoir et aux dangers susceptibles de découler de l'apposition d'étiquettes sur les communautés.

Mots clés : vulnérabilité, changement climatique, Arctique, peuples indigènes, étiquettes, politique

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INTRODUCTION

Over the past 50 years, the Arctic climate has undergone dramatic change, which has resulted in a myriad of interrelated effects within the Arctic's socio-ecological system. For example, between 1954 and 2003, increases in winter surface air temperatures in Alaska and northwestern Canada were up to 3˚C to 4˚C greater than increases in the annual mean temperature (IASC, 2010). The result has been a combination of impacts, including the thinning of sea ice (Belchansky et al., 2004), more rapid retreat of glaciers (Oerlemans, 2005), and the thawing of permafrost (Couture et al., 2003). Together these changes are occurring at a rate faster than even the most pessimistic scenarios of climate change had projected (Warren et al., 2010).

More than simply isolated or ephemeral occurrences, the changes affecting the Arctic's physical environment are also affecting the marine and terrestrial systems in many new and unforeseen ways (Overland et al., 2004). For example, the reduction of Arctic sea ice is proving to have a considerable impact on the migration and residency patterns of ice-dependent marine mammals (SEARCH, 2005), while the decline in caribou (*Rangifer tarandus granti*) populations across the Canadian North has been attributed to changing weather patterns and increased snow accumulation (Griffith et al., 2002).

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Given their level of exposure to these environmental changes in the Arctic, northern communities are seen as being particularly vulnerable to the effects of climate change. The Intergovernmental Panel on Climate Change (IPCC, 2007:883) defines vulnerability as follows:

> the degree to which a [community] is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a community is exposed and its capacity to effectively adapt to change.

Vulnerability has also been defined as the degree to which a community is likely to experience harm from exposure to severe climatic conditions (Chapin et al., 2009). Some have identified northern indigenous communities as being at particular risk because their adaptive capacity is being eroded by social, cultural, political, and economic change, narrow economic bases, and a general diminution of local human resources (Duerden and Beasley, 2006; Lemmen et al., 2008; Warren et al., 2010). Remote northern communities that continue to pursue subsistence-based ways of life are considered most vulnerable (Prowse and Furgal, 2009:291).

While we acknowledge that northern communities are likely being challenged at a rate and scale never yet encountered (Abele et al., 2009), we are concerned about the very real, though perhaps unintended, consequences of characterizing northern indigenous communities as vulnerable. Specifically, we are concerned that the "vulnerable" label can create powerful ways of viewing indigenous peoples (and the regions they inhabit) that do not necessarily reflect emic realities. Our concerns, and our calls for caution with the use of the term "vulnerable," are not abstract remonstrations. Rather, we illustrate the potential consequences of applying labels to particular peoples and regions, however unintentionally, by reviewing development critiques in the context of the Global South. We also examine the use and possible consequences of the label "vulnerable" in the context of community relocation policies, wildlife management, and the formation of indigenous identities.

It is important to note that our purpose here is not to dissect the concept of vulnerability through an "expert" lens—we acknowledge the complexity of the term and the many areas in which it has been applied. Nor is our objective to offer an extensive review of how vulnerability has been defined and debated in the academic literature; this has been done quite effectively by others (see, for example, Watts and Bohle, 1993; Kelly and Adger, 2000; Eakin and Luers, 2006; Manyena, 2006). Rather, we take a step back and consider vulnerability as a power-laden concept, the application of which could hold very real consequences for the populations labeled as vulnerable. This paper serves as a cautionary tale, a consideration of what could transpire, and yes, a type of informed speculation.

THE CONCEPT OF VULNERABILITY

A common definition for vulnerability remains elusive, and the ambiguity of the term is due in large part to the number of academic disciplines in which it has been applied. With over two dozen different definitions (Manyena, 2006), the concept of vulnerability has been criticized for its lack of a unified theory or widely accepted indicators or measurements (Watts and Bohle, 1993). While there may not be complete agreement on how vulnerability should be defined, some commonality can be found in its conceptual application. First, vulnerability has been understood as exposure to a physical hazard. The biophysical aspect of vulnerability focuses on the nature of the physical hazard to which humans are exposed. People are deemed more or less vulnerable according to their proximity to a hazardous location or activity (Dow, 1992). Second, vulnerability can refer to human sensitivity to that hazard, which is determined by pre-existing social, economic, and political conditions (Kelly and Adger, 2000; Reid and Vogel, 2006). The degree to which people are sensitized to a physical hazard, including social, political, and economic conditions that make exposure unsafe or threatening, is an important consideration. Specific examples include levels of inequality, poverty, power dynamics, social networks, institutions, and food security (Adger and Kelly, 1999; Kelly and Adger, 2000; Ford and Smit, 2004). Third, vulnerability can refer to a community's inability to address, plan for, and adapt to risks (Blaikie et al., 1994; Smit and Pilifosova, 2003; Ford et al., 2006) and to the adaptive capacity "of actors, both individuals and groups, to respond to, create, and shape variability and change in the state of the system" (Chapin et al., 2009:23). Historically, those who are economically marginalized and lack political power have been considered most vulnerable because of deficiencies in their adaptive capacity (Turner, 2010:572).

Increasingly, and particularly in the context of climate change research, all three of the above dimensions have been applied in combination to assess the vulnerability of northern indigenous communities. For example, changes in the Arctic's biophysical systems have had a direct impact on the health, range, and population distribution of many marine and terrestrial species (e.g., seals, caribou, polar bears, and narwhal) that northern indigenous peoples rely on (Ford et al., 2006, 2008; Pearce et al., 2010). Shifts in species distribution can also introduce new animal-transmitted diseases and redistribute existing diseases among animal populations, further affecting the health and well-being of northern communities (Prowse and Furgal, 2009:290). In addition, changing biophysical conditions may reduce access to traditional food sources such as walrus, seal, and caribou (Ford et al., 2006, 2009; Pearce et al., 2010) and increase travel risks for indigenous hunters (Furgal and Seguin, 2006; Pearce et al., 2010). If these conditions persist, as is currently projected (Furgal, 2008), it may become a challenge for northern communities to meet basic dietary needs through the harvest of wild foods. According

to Prowse and Furgal (2009:290), the most affected will be those "environmentally exposed" communities that are high consumers of a limited number of traditional food species and have limited access to market foods. Within those communities, those most at risk will be the elders, individuals in poor health, and those who regularly consume country foods (including raw or fermented foods) prepared in the traditional way. Youth in indigenous communities have also been identified as "at risk" because they lack traditional ecological knowledge and have limited ability to adapt to changing environmental conditions (Ford et al., 2006). Another dimension of vulnerability not linked to harvesting practices is damage to existing infrastructure, such as heated buildings and transportation facilities, through the thawing of permafrost (Hayley, 2004; Instanes et al., 2005). In this context, vulnerability arises from inhabiting areas placed at risk by climate change and associated natural disasters (Alexander, 1993).

While acknowledging the limits of generalizing climate vulnerability across all northern communities, a federal government report (Lemmen et al., 2008) notes that larger municipalities will be less vulnerable than smaller, more remote communities because economic diversification, enhanced technology, infrastructure, and more accessible healthcare services increase their adaptive capacity. It has been suggested that smaller, remote communities diversify their local economies and create more wage earning opportunities to enhance their own adaptive capacity. Although greater involvement in full-time jobs may hasten the "current trends of social and cultural erosion" (presumably through a transition away from traditional harvesting activities), enhanced economic opportunities may provide significant benefits to communities that reduce their net impact on human vulnerability (Prowse and Furgal, 2009:292). It has been suggested that smaller communities, even while continuing to sustain traditional lifestyles, should seek funding from government and other emerging institutional support systems to help them cope with changing environmental conditions (Ford et al., 2008). The relocation of those communities identified as being most vulnerable, though an expensive option, has also been put forth as a potential solution (U.S. Arctic Research Commission Permafrost Task Force, 2003). In summary, to reverse the vulnerable status bestowed upon indigenous communities, calls have been made for greater community integration into the larger market economy, as well as outside support and externally generated solutions.

Despite the good intentions of these recommendations, such responses seem reminiscent of well-criticized development policies applied to the Global South and implemented, at least partially, as a reaction to the "underdeveloped" label. They also hark back to colonial policies implemented in the Canadian North—a scenario perhaps being reinvented, albeit unintentionally, through labeling indigenous peoples in the North as vulnerable in the context of climate change.

UNDERSTANDING VULNERABILITY THROUGH THE LENS OF UNDERDEVELOPMENT

On the basis of critiques demonstrating the power and consequences of the label "underdeveloped," we underscore the importance of lending a critical and cautious eye to applying the label "vulnerable" to northern indigenous peoples in the context of climate change. The parallels between these two labels are not only directly relevant, but also exceedingly apparent, in light of the unique socio-political and historical positioning of indigenous peoples within Canada's Arctic.

The concept of underdevelopment became prominent in the English language lexicon after the Second World War and has been implicated in the production of vulnerable subjects and regions (Bankoff, 2001). Its deployment was rooted in Western concerns about the "abnormal" lifestyles and socio-economic conditions in the Global South—regions such as Asia, Africa, and Latin America (Watts and Bohle, 1993). Populations with lifestyles not mimicking those of Western nations were uniformly labeled as "underdeveloped." This label became internalized at the level of societies and nations, leading people of developed nations to imagine others as "underdeveloped, a state viewed as synonymous with poverty and backwardness, and one determined by assuming Western standards of attainment as the benchmark against which to measure this condition" (Bankoff, 2001:23).

While there were material conditions that justified attention to these regions, the underdeveloped label also lent credence, legitimacy, and a sense of urgency to the production of misguided solutions generated by powerful Western nations and international institutions. These solutions were aimed at generating economic growth by assimilating the Global South into larger market economies. The introduction of advanced technologies, monetary and fiscal policies, industrialization, agricultural developments, and increased trade, as well as education and Western European values, was geared towards advancing the interests and lifestyles of so-called vulnerable and destitute peoples in these regions.

The agents of label production, which included governments, industry, academic researchers, financial institutions such as the World Bank and International Monetary Fund, and the United Nations, were situated well outside of the everyday experiences of people residing in these underdeveloped regions. As Escobar (1999:385) states, "the third world witnessed a massive landing of experts, each in charge of investigating, measuring, and theorizing about… this or that little aspect of third world societies." At the same time, the concept of development became professionalized and depoliticized in order to facilitate its deployment through the more neutral and esteemed platform of scientific research (Escobar, 1999:385).

The result of interventions arising from the concept of underdevelopment was the subjection of third world populations to market fluctuations, which often reduced their capacity for providing basic needs (Weissling, 1989). These

conditions gave rise to increased dependency on Western institutions and resources and the loss of local control over their own resources, as well as the revenue produced from these resources (Pretes, 1988). In other words, "Poor peoples' ability to define and take care of their own lives was eroded in a deeper manner than perhaps ever before" (Escobar, 1999:382).

The overlapping history of development and indigenous peoples in the Canadian Arctic is apt reason for considering the parallels between this history, and current-day legacies, and those of development discourses and the Global South. With the decline of the fur trade, indigenous peoples, and specifically the Inuit, were induced by the Canadian Government to relocate into permanent regional settlements during the 1950s and 1960s. This "inducement" closely resembled coercion, and its acceptance reflected indigenous peoples' feelings of intimidation, fear, and subservience towards government administrators (RCAP, 1994). The government, not the Inuit, chose the locations of these new settlements and rationalized them by the belief that Inuit had outstripped the local availability of wildlife resources and could not afford commercially purchased foods without sustained income from wage-earning opportunities. Thus the Inuit were viewed as both dependent on the government and "vulnerable" to the changing social and ecological conditions of the North (RCAP, 1994:135). The Canadian government's efforts to support its claims to sovereignty in the High Arctic have also been cited as a justification for relocation initiatives (Dickason and MacNab, 2009).

Relocation plans originated in the political centres of Canada's South, from agents and institutions most removed from the lived realities of indigenous communities, but with the "expertise," power, and authority to define the problem(s) and enact solutions affecting the lives of northern indigenous peoples. This displacement resulted in the production of what has been termed a "Fourth World" (Paine, 1971). Rather than benefiting through relocation initiatives, many northern indigenous communities experienced extreme hardship, including famine, disease, inadequate housing, and social disorder (Dickason and MacNab, 2009). They also continue to struggle with the consequences of externally controlled administrations that often undermine indigenous autonomy and decision-making authority.

As the underdeveloped label justified misplaced policy interventions in the Global South, misguided policies based on externally defined problems led to actions in the North that actually produced less favorable outcomes for indigenous peoples, in addition to ongoing relationships of dependency with commanding and remote institutions. In fact, the Inuit became "one of the most heavily assisted, administered, and studied groups on earth" (Zaslow, 1988:301). As in the context of underdevelopment, it is those who hold positions of power, yet remain unfamiliar with and unmindful of local and regional contexts, who intervene, sometimes with injurious consequences.

Despite this adverse historical legacy, dependence on outsiders to help indigenous communities cope with the present-day climate change burden is often presented as seemingly inevitable: one essential element of an overall climate policy, according to Füssel and Klein (2006:304), is "the transfer of resources to vulnerable societies (in terms of financial means, technologies, or expertise) in order to help them to prepare for and cope with unavoidable impacts of climate change." While it is true that the "practices and products of Arctic science are helping to catalyze and lend support to indigenous peoples to publicize their important status in climate change processes" (Martello, 2008:372), these practices and products may also result in poor planning and unintended consequences for indigenous peoples. Given this, we question whether labeling these communities as vulnerable may actually produce more problems than it seeks to solve. We explore these issues in more detail with respect to a contemporary community relocation policy, wildlife management, and formation of indigenous identities.

COMMUNITY RELOCATION PLANNING IN ALASKA

On the Alaskan coast, relocating indigenous communities in response to climate change has been an ongoing, enduring process for many years. The enhanced vulnerability of coastal communities has been attributed to increased temperatures of 2˚ to 3.5˚C over the last 35 years, a reduction in sea ice, a rise in sea level, concomitant storm surges and flooding, and the erosion of coastlines on which communities are located (IPCC, 2007). Increased awareness and knowledge of climate change processes have resulted in intensified scientific and policy attention to these communities because climate change is thought to be accelerating their vulnerable status. In response a number of government-supported relocation and infrastructure enhancement projects have been proposed. For example, Marino (2009) has examined the case of Shishmaref, Alaska, where, after years of shoreline stabilization efforts, the community came to support the idea of relocation. State and federal governments have approved tentative plans, though funding remains elusive. While a number of government departments were involved in the planning process, including housing, transportation, education, and health, Shishmaref residents have, to their frustration, been relegated to the periphery of the planning process, though they have made efforts to counter this. The frustration of community members has been further compounded by plans that would have them relocated to urban centers, plans which community members were concerned could result in social, linguistic, and cultural disintegration. Despite this, the relocation option continues to be championed by some policy makers. As Marino (2009:46) states, "real local power within the state's planning is relatively absent, despite the good intentions by all to include local voices."

We highlight this case in particular because it illustrates a problematic policy response that generates even greater

dependency on government and further marginalizes indigenous peoples from the decisions that affect them most. First, this case illustrates a reinvention of dependency (on top of those dependencies that may already exist) through the need for funding and government administrative activities to move Shishmaref residents to relative safety (but to places that remain objectionable to local residents). Second, there is limited indigenous agency and voice in decision making because outsiders maintain control of the planning process, though Shishmaref residents are trying to change this. While perhaps unintentionally, this case reflects and reinforces the idea of indigenous peoples as vulnerable subjects of climate change policy efforts. We raise the possibility that such treatments may be, at least partially, reactions to broader and pervasive characterizations of indigenous peoples as "vulnerable" populations that have been victimized by climate change and need external assistance and expertise to determine their futures and aid in their rescue. Such characterizations may not only result in planning responses that alienate and subjugate indigenous peoples in the planning process, but also produce ill-fated outcomes that can further harm rather than help indigenous communities.

WILDLIFE MANAGEMENT

Wildlife management decisions that determine resource rights, access, and control are another area that poses potential problems in the context of climate change and application of the vulnerability label. Just as indigenous peoples are being characterized as "vulnerable," so too are the region and animals upon which they depend for their livelihoods. This all-encompassing and systemic application of the "vulnerable" label to the Arctic can hold implications for the rights of indigenous peoples to maintain access to lands and resources. While the "vulnerable" label directs global attention towards indigenous peoples in the Arctic, it also draws attention to their lands and resources in ways that may counter indigenous interests.

The polar bear is one of the most pertinent examples of wildlife that has taken on this vulnerable status because of current and projected effects of climate change (Learmonth et al., 2006; Stirling and Parkinson, 2006; Regehr et al., 2007; Stirling and Derocher, 2007; Amstrup et al., 2010; Derocher, 2010). National and international conservation organizations such as Nature Canada, the David Suzuki Foundation, Polar Bears International, and the World Wildlife Federation have waged major campaigns aimed at preventing the demise of the polar bear through education, science, and conservation efforts. In some instances, however, these efforts have come into conflict with Inuit hunting practices. In Baffin Bay and western Hudson Bay in Nunavut, Canada, Inuit continue to hunt polar bears for their social, cultural, and economic value (Freeman et al., 2005; Freeman and Wenzel, 2006). While scientific assessments indicate negative impacts of climate change on the Western Hudson Bay population (Stirling and Parkinson, 2006; Regehr et al., 2007), Inuit hunters have challenged these findings. Their own observations, supported by traditional knowledge or Inuit *Qaujimajatuqangit* (IQ), reveal an increase in polar bear numbers. On this basis, Inuit have advocated for an increase in hunting quotas (Dowsley and Wenzel, 2008), while certain scientists and conservation groups, taking a precautionary approach, have recommended lower hunting quotas (Clark et al., 2008). While this is a complex management issue that speaks to broader issues of culture, politics, and knowledge integration, our point here is not to critique or challenge the existing science, but rather to highlight that the overall concept of vulnerability and identification of what is "at risk" are very powerful significations that can focus attention on regions, species, and environments and ignite action from actors situated well outside the local context (see Forsyth, 2003). These external actors, and their concomitant agendas, can have important implications for wildlife management policies that directly affect indigenous peoples.

IDENTITY AND AGENCY

The ardent uptake and application of the "vulnerable" label holds implications beyond policy. The label has been used not only by scientists and policy makers, but also by some indigenous peoples themselves. At one level, this strategy has aided indigenous peoples in their efforts to generate support for their valued way of life, their traditional knowledge, and the environments in which they live. As Martello (2008) observes, there are strong links between global change science and indigenous identity and activism. These links include struggles for rights, empowerment, and preservation of traditional lifestyles and culture.

Our concern, however, is that being labeled as vulnerable may actually hamper rather than help such efforts. The label and its implications can be internalized by those targeted to receive them. The Oxford Thesaurus (2000) list of synonyms for the term "vulnerable" includes "damaged," "helpless," "powerless," and "weak." Taking on the label "vulnerable" may therefore mean adopting an identity of victimization, disempowerment, and dependency—an identity linked to legacies and experiences that Canada's indigenous peoples are actively seeking to counter and rectify. As shown in the development literature, it was not long after being labeled "underdeveloped" that those in the newly created "third world" began to view themselves as "inferior, underdeveloped, and ignorant" (Escobar, 1999:386).

In the case of the Canadian Arctic, the introduction of the "vulnerable" label and its uptake by indigenous peoples could serve to reinvent historically adverse experiences linked both socially and psychologically (through label internalization) to colonial rule. It could also limit or hinder effective coping mechanisms by assuming and predetermining the ability (or inability) of indigenous peoples to deal with environmental change. This possibility should

be of concern to indigenous peoples given that "ideas about how people are likely to cope in an emergency or a disaster are shaped by prior experience but also by a cultural narrative that creates a set of expectations and sensitizes people to some problems more than others; it provides a frame through which people understand and make sense of their experience" (Furedi, 2007:485).

DISCUSSION

Alexander (1993) and others (Watts and Bohles, 1993; Blaikie et al., 1994) have raised the important question of whether residents of regions prone to physical hazards consider themselves vulnerable or are even familiar with the concept (as one that has been introduced by outsiders). Research has shown that individuals may experience sudden or continuing hazardous conditions as part of their everyday existence to which they have grown accustomed, and this does not necessarily mean that they consider themselves "vulnerable" (or damaged, helpless, powerless, or weak). For example, Lahiri-Dutt and Samanta (2007:327) documented the attitudes and responses of community members living in the lower reaches of the Damodar River in India, an area prone to frequent floods, shifting river channels, and river bank erosion. The local residents' experiences and understandings of their own situation were considerably different from those of development agents and government representatives, who characterized community members as vulnerable to seasonal flooding and in need of relocation. As Bankoff (2001:29) states, the limited observation by external agents demonstrates that the "discourse of vulnerability… belongs to a knowledge system formed from within a dominant Western liberal consciousness and so inevitably reflects the values and principles of that culture."

While we recognize that studies of vulnerability and climate change have also sought to demonstrate the adaptive capacity of indigenous peoples to changing environmental conditions (e.g., Newton, 1995; Berkes and Jolly, 2001; Ford et al., 2008; Ford and Furgal, 2009), the "vulnerable" label nonetheless endures. The persistence of the label "vulnerable" and its connotations detract from the positive and existing capacities of indigenous peoples to cope with environmental change, as well as from longer histories that demonstrate this ability. One can argue that periods of change have motivated the adaptation of northern indigenous people for centuries. Challenge-and-response theory has been used to show how times of environmental change can lead to adaptive human responses. Such times of change include the Medieval Warming Period (AD 1000 to 1300), when climate change and subsequent shifts in species distribution served as stimuli for more intensive Inuit adaptations in the eastern Arctic (Fagan, 2008). Studies in other global regions have similarly documented innovative responses to environmental change by indigenous peoples. Solway (1994), examining the effects of the 1979 and 1987 drought in Botswana, found that rather than resulting in crisis and conflict, climate-induced drought brought about innovation with respect to local production techniques—a form of "revelatory crisis" (Sahlins, 1972) that helps explain how climate change can lead to innovative human responses. Similarly, Juul (2005:112) has argued that climatic shocks, often seen as detrimental to the survival of northern Senegal pastoralists, have actually triggered important social and political changes. Rather than finding pastoralists vulnerable to change, Juul noted that climate change facilitated social, technological, and strategic innovations that have most often gone unnoticed by intermittent observers.

The persistence of the "vulnerable" label is at least partly based on a "concern that future changes in conditions may exceed conventional coping capacities" (Ford and Smit, 2004:296). We argue, however, that history shows these coping abilities to be anything but conventional. Rather, adaptive mechanisms should be interpreted as dynamic, versatile, and well tailored to environmental change. Wenzel (2009) documents both remote and more recent historical evidence of Inuit coping in response to climate change, for example, changing the animals that they hunt in response to certain species becoming less abundant and others more so. "With respect to climate change and the accompanying ecological changes that may affect Inuit subsistence, it is worth remembering that they [Inuit] have an experiential baseline that spans a millennium of adaptation" (Wenzel, 2009:97). Newton (1995:119) similarly speaks to the competence of indigenous communities that have survived in changing environments for millennia.

CONCLUSION

We have discussed concerns about imposing the label "vulnerable" on Arctic indigenous communities. First, we argue that this label and the accompanying set of assumptions are most often generated by outsiders who may be unfamiliar with the complexities of local culture, economy, and capabilities. Second, we are concerned that such labels can generate actions and responses based on how people and places come to be seen because of the label. Such responses might include ill-informed and misguided policy interventions that do not reflect the priorities of the communities themselves. They may also create more dependency on external support and interventions—a trend that indigenous peoples have long sought to reverse. Finally, we suggest that the label "vulnerable" can shape how northern indigenous peoples come to see themselves as they construct their own identities, and that identifying themselves as "vulnerable" may ultimately hinder their efforts to gain greater autonomy over their own affairs.

Admittedly, indigenous communities in the Arctic are being challenged in profound ways, whether by climate-induced changes in the biophysical environment or by other globalizing processes. However, we caution against

the uncritical use of the term "vulnerable" to characterize indigenous communities that are now confronting these challenges. We urge those involved in social dimensions of climate change research to (re)consider and ask how such a label might reinforce historically uneven relationships of power and dependency. It is important to note that we are not calling for a complete abandonment of the term. However, we do encourage greater consideration of the subjective and individualized understandings of what "vulnerability" may or may not entail (Lahiri-Dutt and Samanta, 2007). This includes considering whether the populations so labeled consider themselves to be "vulnerable" and whether such a term even exists in their cultural repertoire. We need to gain a fuller understanding of local perceptions concerning risk and environmental change rather than assuming a priori that such changes are necessarily problematic (Forsyth, 2003:174). We believe that the attainment of this level of understanding demands research that is committed to prolonged engagement, as well as persistent observation that results in "thick description" of local contexts (Schwandt, 2007). Such research requires continuous solicitation of local reaction in order to construct more meaningful and equitable "emic-etic elaboration" (Lincoln and Guba, 1986:83). This approach is in staunch contrast to rapid appraisal methods that at best achieve shallow interpretations of local peoples and the conditions they deal with each day.

It must be emphasized that the concept of vulnerability did not emerge from the experience of communities, nor is it an ontological "given" (Furedi, 2007). Instead, vulnerability is being employed as a diagnostic tool for gauging the inherent limitations and dependencies of communities experiencing change. Far from being value-neutral, such practices are bound by social constructions and infused with political and ethical power. As Forsyth (2003:182) explains, "the very definition of who is allowed to be "expert" in framing, measuring, and addressing risks is crucial in determining which knowledge or alternative conceptualizations of problems are accessed." Therefore, we believe that the practice of labeling communities as vulnerable may undermine indigenous agency and efforts to achieve greater autonomy.

Overall, we encourage more careful and critical attention to the power and potential peril of labels, as they may work against the interests and aims of those communities we hope to assist through our research. As researchers become more engaged in the human dimensions of climate change research, we must be prepared to question and continually re-examine the conceptual underpinning of our research. Such a commitment will no doubt require a willingness to step outside of our own cultural and scientific frame of reference and consider both the power and the potential peril of such engagement. This is particularly important given that it will likely be indigenous communities who stand to reap the unintended consequences of our research.

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