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Values, climate change, and implications for adaptation: Evidence from two communities in Labrador, Canada

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ABSTRACT

Local material and symbolic values have to date remained underrepresented in climate change research and policy and this gap is particularly salient in places that have been identified as at significant risk from climate change. In such places, the dominant approach to understanding the effects of climate change has been centred on vulnerability; it has highlighted the social determinants of vulnerability and the differential and uneven distribution of effects. This approach cannot, however, illuminate the diverse and nuanced meanings people attach to specific aspects of their way of life, how the changing climate might affect these, and what this implies for adaptation. To address this gap, this empirical study uses the concept of values, defined as trans-situational conceptions of the desirable that give meaning to behaviour and events, and influence perception and interpretation of situations and events. We develop a set of values from 53 qualitative interviews in two remote communities in subarctic easternmost Canada. It draws on these values to frame how effects of climate change, specifically intangible and subjective effects, are felt, and how responses to them are imagined by those affected. The article argues that values are crucial in shaping perception of climate impacts and adaptation to them. Distinct values, such as tradition, freedom, harmony, safety, and unity shape different interpretations and meaning of impacts, and lead to distinct views on how to adapt to these. Conflicting and competing values can act as barriers to adaptation. The findings imply that adaptation research and policy need to address values explicitly if efforts for planned adaptation are to be perceived as legitimate and effective by those affected by the changing climate.

1. Introduction

Recent research on climate change argues that local material and symbolic values have to date remained underrepresented in climate change science and policy (Adger et al., 2009; Hulme, 2009; O'Brien, 2009; O'Brien and Wolf, 2010; Adger et al., 2011). This gap is particularly salient in, but not limited to, the context of places that have been identified as at significant and immediate risk from the impacts of climate change; for example, the Arctic and small island states (ACIA, 2005; Anisimov et al., 2007; Mimura et al., 2007; Furgal and Prowse, 2008). Already a decade ago, Fox identified that while studies in the Arctic "acknowledge how deeply Inuit are tied to the land in terms of subsistence, knowledge, culture, and spirituality, they often fail to address the latter two themes in discussions related to environmental change" (Fox, 2002, p. 45). In the intervening decade, further research has added detailed insights on subsistence and knowledge of Inuit, and indeed other indigenous groups. But as yet, only little has been accomplished in examining the diverse and nuanced relationships between climate change and the values that shape people's culture and spirituality. This study aims to address this gap and takes an approach that first explores values in a way of life, and then draws on these values to frame how effects of climate change, specifically intangible and subjective effects, are felt, and how responses to them are imagined by those affected. Values here refer to trans-situational conceptions of the desirable that give meaning to behaviour and events, and influence perception and interpretation of situations and events (Kluckhohn, 1951; Rokeach, 1973; Schwartz and Bilsky, 1987). The article draws on empirical results from two communities in subarctic easternmost Canada.

So far, the dominant approach to understanding the effects of the changing climate on human communities in at risk places, such as the Arctic and small island states, has been centred on vulnerability (see e.g. Barnett and Campbell, 2010; Cameron, 2012). Premised on characterising exposure or exposure-sensitivity to an identified risk known to the researcher, the approach frames people in places at risk as vulnerable to effects of the changing climate (Cameron, 2012; Haalboom and Natcher, 2012).

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In the context of (frequently northern) aboriginal communities and developing countries, this approach typically concentrates on examining climate change impacts on livelihoods and subsistence activities. The approach justifies these areas of concentration in part by acknowledging the role they are assumed to play in shaping local culture and identity. For example, Ford et al. (2006, p. 149) refer to existing literature to briefly acknowledge that

> "[t]hese traditions and practices have endured many generations and serve to preserve and transmit cultural traditions, maintain Inuit identity and self-esteem, promote community well-being, strengthen family relationships, reinforce intergenerational links, and facilitate Inuit survival in the harsh Arctic environment (Brody, 1987; Wenzel, 1991; Furgal et al., 2002)."

Typically, such acknowledgements are limited to individual sentences or a paragraph in papers that otherwise concentrate on examining tangible impacts, characterising vulnerability and assessing adaptive capacity. The literature that has emerged from this approach has made important contributions to our understanding of the differential vulnerability across regions, groups and populations, and it has highlighted the importance of social context for vulnerability and adaptation.

The vulnerability approach as currently employed cannot, however, illuminate the meaning people attach to specific aspects of their way of life, and how these might be affected by the changing climate. As a result, it cannot produce insight into the goals people might pursue through adaptation. Research structured in this way therefore cannot tell us much about whether, and if so, how adaptation might enable people to "lead the kind of lives they value in the places where they belong" (Barnett and Adger, 2003, p. 328), nor how this process would proceed. Indeed, such research has done remarkably little to make explicit, let alone begin to address, the "invisible losses" to culture, self-determination, knowledge, health, wellbeing, and identity (Turner et al., 2008) experienced by indigenous peoples that are produced in part by the changing climate.

This article examines the intangible and subjective effects of the changing climate and responses to these in an empirically grounded context of people's values. It explicitly uses a values-based approach to vulnerability and adaptation (O'Brien and Wolf, 2010). This approach to understanding the effects of, and responses to, the changing climate shifts the focus from characterising vulnerability and developing policy-relevant responses to understanding the barriers to adaptation that emerge from diverse and competing values. The focus of this article therefore helps bring to light why adaptation and specifically efforts towards planned adaptation are fraught with difficulty (cf. Adger and Barnett, 2009). Three aspects further distinguish this approach from vulnerability research in places at risk (e.g. Ford et al., 2006). First, the sample is broader, and while it includes hunters, it also includes youth, young families, and both females and males who may not spend much time on the land, although we do not structure our analysis according to gender, occupation or demographic groups. Second, the interview questions first explore what is important to participants in the context of their way of life. Third, the analysis develops a set of key values from qualitative interview data, drawing both on direct quotes that refer to values and on researcher-developed values, and explores how these values influence perception of climate risk and responses to it. We acknowledge that participants' lives take place in a multi-stressor environment and while important, values are not the only factor in motivating responses.

The following questions were used to frame the research: What do participants value most about their way of life, and what are the perceived effects of climate change on them? What does this imply for adaptation? Based on responses to these questions, as well as reflections on the effects of the extremely unusual winter of 2009/2010, the article brings values to the forefront of analyses of vulnerability and adaptation. We argue that values such as tradition, harmony, freedom and others shape subjective, intangible effects of climate change that give meaning to the issue, that values are significant for connecting climate change with local contexts, and that they are a key factor in shaping adaptation.

2. Values in vulnerability and adaptation research to date

There is now a significant volume of evidence that examines adaptation as adjustments to climate change, characterising, for example, their timing, scale, and scope with respect to the impact (Adger et al., 2007). Adaptation responses occur to a multitude of pressures and stresses (Kelly and Adger, 2000; O'Brien et al., 2004; Leichenko and O'Brien, 2008), and what adaptation is feasible is in part determined by processes external to the individual and the community. These include governance processes, access to resources, people's agency, and political, economic and social processes that shape people's perceptions. Adaptation hinges on the notion of making adjustments to 'moderate harm' or 'alleviate impacts'. What constitutes harm or an impact that would be worthy of a response, however, and what would be deemed a suitable response, depends on the perspective with which the impact is viewed and how it is understood, as well as on the broader context within which the impact takes place. What is considered successful and legitimate adaptation therefore is determined in part by what people perceive to be worth preserving and achieving, and these in turn hinge on their underlying values and objectives (Adger et al., 2009; O'Brien and Wolf, 2010).

Research on the human dimensions of climate change in the Arctic makes reference to values. There are two interrelated and overlapping strands to this research (cf. Cameron, 2012) that are relevant to understanding how values have been conceptualised to date. First, vulnerability studies (e.g. Ford and Smit, 2004; Ford et al., 2006; Laidler et al., 2009) that typically characterise exposure, sensitivity and adaptive capacity of a population to the changing climate (cf. Smit and Wandel, 2006) are considered by some as second-generation climate vulnerability assessments because they consider non-climatic factors in shaping exposure and adaptive capacity to current climate variability and change (Füssel and Klein, 2006). This strand of research takes what Cameron calls a "technocratic" approach (Cameron, 2012) ignoring the political histories of colonial and government intervention in these communities and seeks to address climate change impacts by informing new policy interventions, support community based adaptation, or other non-structural interventions. These studies pay limited attention to people's values and as a result, any interventions they inform do not reflect any consideration of such values. Second, studies that examine traditional knowledge (also called traditional ecological knowledge, TEK, or local knowledge), or in Northern Canada specifically, Inuit Qaujimajatuqangit (IQ, broadly encompassing Inuit knowledge, values, beliefs, and practices) contribute to our understanding of the effects of global environmental change as they are understood and felt by indigenous populations (e.g. Riedlinger and Berkes, 2001; Krupnik and Jolly, 2002; Laidler, 2006; Leduc, 2007; Gearheard et al., 2010; Krupnik et al., 2011). This strand of research, which broadly has its roots in part in the work of cultural and historical ecologists including Alfred Kroeber (e.g. 1907), Carl Sauer (e.g. 1952), and Thomas Buckley (e.g. 1988, 2002), is primarily but not exclusively anthropological, and seeks to develop theory to understand how culture interfaces with environmental change.

Within these two strands of literature, there are at least two conceptions of values. First, values are invoked implicitly, and