Defining Dangers of Climate Change and Individual Behaviour: Closing the Gap

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Abstract

Defining 'dangerous' climate change is of increasing importance for scientific analyses and climate policy. In this paper we argue that definitions of 'danger' cannot be solely restricted to technical or risk-based criteria. We examine the relationship between conceptualisations of climate change among laypeople and behavioural responses, based upon UK studies and the outcomes of an international conference. Individuals express a high degree of ambivalence about climate change: although there is widespread awareness and concern, climate change is only of secondary importance in people's daily lives; although the dangerous impacts of climate change are recognised, they are perceived to be removed in space and time. Rather, immediate danger resides in insecurity and threats to present lifestyles. In our conclusions we raise the question of the perception–action gap and propose that communication about climate change should be situated in people's locality, as a means of increasing its saliency and enabling greater self-efficacy.

1. Introduction

While it is scientifically recognised that unhindered increases in atmospheric greenhouse gas concentrations will result in dramatic changes in the climate system, almost certainly prejudicing the viability of life on Earth, it has also been acknowledged that the influence of human beings on the climate can be modified, so as to limit the dangers resulting from such changes. By focusing on the notions of 'threshold' "beyond which many believe substantial climate change would occur" [1, 2], the climate community has predominantly defined danger through assessments of risk and vulnerability. These have been translated into greenhouse gas emissions and temperature limits, setting ambitious policy targets.

Thus, as implied in UNFCCC article 2, such scientific definitions are fundamental inputs for decisions on "anthropogenic interference with the climate system". However, it is acknowledged even by the IPCC that these decisions are value judgements dependent upon socio-political processes, influenced by development, equity and sustainability considerations, as well as aspects of uncertainty and risk [3]. It is clear, therefore, that risk assessments cannot determine what is 'dangerous' purely on 'scientific' bases without some judgement about what is acceptable, and what level of risk is tolerable, by way of a policy response to this assessment [4, 5]. Tolerability and acceptability are socially constructed. Especially in cases such as climate change, a complex and pervasive phenomenon, shrouded in uncertainty and where management stakes are high, traditional forms of science and policy making alone cannot find and deploy solutions to such an issue. It requires taking into account the context and therefore the multiple views and values which will drive decisions in the face of uncertainty, calling into question value preferences for characteristics and functions of natural and human systems over short and longer timescales.

Practically achieving the ambitions UK policy targets for climate change will demand some difficult political, social and individual choices. Compounding this, failure to take public values and views into consideration when taking decisions on climate risk management issues will inevitably prove problematic. A number of reasons can be advanced for this. At a very basic level climate policies will require a degree of 'buy-in' or acceptance from those who will be affected by them if they are to be successfully implemented. Equally, where public policy and citizen frames of reference differ (e.g. regarding the balance between long-term and short-term considerations) the practice of risk communication becomes much more difficult, while policy implementation may be misunderstood, neglected or even opposed by the electorate. The aim of this paper is to further the understanding of what constitutes 'dangerous' climate change among laypeople from risk research perspectives with reference to recent work undertaken as part of a Tyndall Centre funded project

including an international conference held in June 2004 on "Scientific and Behavioural Perspectives of Dangerous Climate Change".

2. Public interpretation of climate change risks

Over the past twenty-five years, several common broad themes have emerged from research in risk perception and psychology of human behaviour. The following sections describe these themes, drawing upon findings from various datasets and studies, in relation to climate change and behaviour.

2.1 Perception and knowledge

On a general level, public opinion polls do highlight a sense of importance, urgency and negativity associated with climate change as an environmental, but not necessarily as a 'domestic', issue. The majority of the UK public express high awareness and concern about climate change, although these fluctuate in relation to social context [6, 7, 8]. The importance of climate change is, however, often superseded by other more pressing issues in people's lives such as health, family, safety and finances [9, 7, 10]. Opinion polls also show that generally a good proportion of the population can identify correctly the causes of climate change [9] although gaps and misunderstandings are evident, such as persistent associations with ozone depletion among some individuals.

2.2. Ambivalence on dangers and responsibility

However, opinion polls tend to mask the diversity inherent within populations. Thus, it is becoming clear that there is no single unique 'public' view on climate change as individuals within society express a spectrum of opinions on one issue. Thus it is more appropriate to consider multiple 'publics' within a society, manifesting differences among the most commonly held views [11, 12]. Thus, more detailed studies on national samples serve to highlight more complex public attitudes towards climate change.

Both quantitative [10] and qualitative [12, 13] research with UK citizens has highlighted the high degree of ambivalence among UK publics on climate change. Although individuals generally understand the principles of climate change, the consequences are perceived as distant (affecting other more vulnerable communities or future generations), diffuse and sometimes contradictory. Within focus group discussions on environmental issues and energy generation and use, participants recognised of the societal necessity of energy [13]. While the secondary effects (pollution, climate change) were viewed by most individuals as inconveniences allowing enjoyment of modern living standards. Thus individuals tended to frame their discourses around the benefits (and necessities) of energy supplies rather than the negative impacts of climate change. Even in localities that could be considered proximal and potentially vulnerable to the effects of climate change, individuals had difficulties relating the impacts of climate change (which many were aware of) to their local area or day-to-day life. This evidence suggests that, presently, climate change is salient, in perceived or experienced terms, for only a minority of individuals. Similar findings emerge from a survey of a representative sample of the British population, where respondents were ambivalent about the potential for damage and catastrophe arising from climate change (i.e. the 'dread' factor in the classic psychometric approach) [14] and about the unfair distribution of risks on particular groups in British society; however, respondents strongly characterised climate change as a moral issue with risks for future generations [10].

In other words, the large body of literature derived from the study of the cognitive and psychological processes that people use in making sense of risks, supported by the studies referred to above, indicate that:

Firstly, individuals tend to identify danger with particular impacts or consequences, not with probabilities. In effect, individuals find it difficult to associate a strong negative outcome with events that have high degrees of uncertainty. Related to this, many individuals do not perceive climate change as an immediate threat, it is potentially dangerous for others at other locations (in both space and time).

The ambivalent attitude towards climate change detected among laypeople in the UK relates not only to the difficult balance between risks (of a technology and its consequences) and benefits at different levels (individual, societal), but is complicated by the temporal element of the distinction (present vs. future). Climate change is not a question viewed in isolation – individuals consider the difficult decisions to be made in addressing the problem, yet this is and has to be contextualised to the reality of their lives [13]. Thus, for many individuals danger is identified both with more immediate but potential loss of lifestyle as a result of mitigation

measures, and with disruption to ways of life in the longer-term, resulting from the unmitigated impacts of climate change.

Secondly, differences in risk perceptions on a personal compared to societal level have been observed in relation to a range of hazards [15]. An individual's downplaying of a certain risk to him/herself, while recognising its relevance to society overall, could be interpreted as a manifestation of a personal denial about direct effect and, more importantly, dissociation from any personal involvement in any solution. At the same time, individuals may accept that on a societal scale such a threat poses a problem and therefore that a solution should be found collectively, without impinging on, or requiring, personal direct involvement. This attitude can lead to a diffusion of responsibility whereby others are seen as responsible for addressing the issue [16, 12, 13].

3. Conference outcomes

The participants to the international conference on Perspectives of Dangerous Climate Change held in June 2004 also recognised that conceptualisations of danger are context specific. It was generally agreed that UNFCCC article 2 encapsulates a rich tension between what humanity as a whole should avoid and what is perceived as 'dangerous'. The ambiguous use of the term danger allows policy flexibility to emerge.

Some participants felt there was a need to focus upon implementing action on climate change, thus shifting attention, from debate on multiple definitions of 'danger', to climate policies and their outcomes, with a focus on barriers to action and effective alternative approaches. Three options were discussed: (a) piggy-backing the climate change issue onto other policy areas; (b) related to this, the need to focus on the 'local' in order to mobilise people (this discussion was based on understanding that people relate most effectively to things that are important to them in their everyday lives; as the causes of climate change are also actually the causes of other problems often much closer to home, climate change needs to be situated in people's everyday experiences to make it real to them); (c) addressing climate change as part of a deeper understanding enveloped within the notions of sustainable development [17].

4. Conclusions

UK citizens have difficulties in relating climate change to their everyday lives and behaviour. It persists as an 'un-situated' risk: individuals tend to psychologically distance themselves from the issue, relinquishing it to other spaces and future times. A few people accept that at a societal level it is a moral and ethical concern. These perspectives raise many questions in terms of how climate change should be addressed and whose responsibility this should be. The perceptions–action gap is still wide. The British Prime Minister's September speech [18] emphasised the need to look to the long-term, beyond the situation of relative safety people generally perceive to exist currently, to avoid a dangerous future state. This will involve compromising between perceived present wants and future needs.

Providing information is the first step, although this alone will not suffice to change behaviour [19]. Top-down communication on climate change, identified as an important element in the UK G8 presidency, that does not suitably tailor messages to reach the diversity of interpretations of danger into account is not likely to succeed. The conference participants also made clear that communication should be enacted in combination with enabling features that will allow individuals to make a behavioural transition, focusing on embedding climate change in local realities, such as images of actions that individuals can easily adopt and notice a tangible benefit [20]. We must be careful, however, in considering this as the panacea for increasing engagement with the issue, as there is evidence that many laypeople tend not to relate their quality of life to their individual behaviour.

In so far as tangible benefits loom larger than losses, people are unlikely to undergo significant change to their daily routine unless pushed by external forces. Few will take action based on a moral imperative. Although in general, climate change is perceived to be of concern to society as whole, individual action is contingent upon the degree of personal costs incurred, in part mediated through those institutions and actors perceived to have some responsibility in delivering a solution to the problem, and trusted to do so.

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