



Climate change and globalisation as ‘Double Exposure’: Implications for policy development

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ABSTRACT

As a central reference point for policy makers, the Intergovernmental Panel for Climate Change (IPCC) recognises the value of place-based studies. Yet, tenets of generalisation and replicability dominate the organisation, and influence policy development globally. There is a growing concern that these are not conducive to building effective policy interventions that adequately accommodate local needs. This study uses a *living with* approach to explore how change and development was experienced by a small agricultural community in the Indian Himalayas. The findings reveal ‘double exposure’ to an increasingly deficient water supply, and aspects of globalisation. The community responded by changing its work practices along gender lines, and subsequently innovating farming output. Two underpinning mechanisms enabled the changes: The preservation of men’s higher status; and the social devaluation of farming as a local profession. The value of this place-based study lies in the scope of details that capture how climate change and globalisation were manifested in this specific environment, and the characteristics of the response itself. Yet, most importantly, the nuances of the field jar with ideals of generalisation and replicability. As such, the study motivates a greater need for climate change organisations to reflect on how they might better achieve policy objectives.

1. Introduction

This paper joins the conversation on climate change and human adaptation. Specifically, we present findings from an ethnographic study in the Indian Himalayas on localised experiences of climate change. In our particular case, gender and pressures stemming from globalisation influenced how this experience unfurled. Our article highlights the value of place-based studies, where responses to such pressures are diverse (Adger et al., 2007). We illustrate the consequences of this diversity for how society ‘knows’ adaptation; how it develops an understanding on the many ways in which adaptation unfurls in practice.

In the more formal setting of the Intergovernmental Panel on Climate Change (IPCC), the practicalities of enfolding the different ways of ‘knowing’ adaptation into a coherent and consistent voice is problematic. Yet, the challenge must be met, not least because of the extensive impact of the IPCC on policy development (Hulme and Mahony, 2010; Beck et al., 2014). Although it is not the aim of this article to address this challenge directly, we do demonstrate the implications of place-based studies for the IPCC, and other organisations concerned with climate change overall. We highlight the potential contribution of place-based studies to ‘knowing’ adaptation, by

emphasising the importance of local perspectives, experiences and responses. In doing so, we argue for their increased inclusion into the IPCC as an important and influential reference point for climate policymakers. Our work also highlights the implications of qualitative field work for the relationship between science and policy overall.

In theory, both the IPCC’s role, and how it relates to policy, make an effective and transparent contribution to understanding and addressing climate change issues. The organisation is positioned at the front end of a ‘linear model of expertise’, where science informs policy (Beck, 2011). The role of the IPCC therefore is to provide “...a clear scientific view on the current state of knowledge in climate change...” (IPCC, 2017), whilst overtly abstaining from developing policy itself: It seeks to be policy relevant, but not prescriptive (Hulme, 2017). Again in theory, this approach benefits the organisation in two related ways. First, by identifying only as a knowledge repository, it avoids the political tensions associated with policymaking (e.g. Eriksen et al., 2015). Second, this combined with the IPCC’s scientific approach, allows data to be ostensibly ‘value free and neutral’ - as products of science, as ‘truths’ or ‘facts’ (Beck, 2011: 299). Consequently, the IPCC itself becomes synonymous with the assumed objectivity of its scientific role and relationship to policy, driving forward a credible, salient reputation (Guston, 2001).

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In practice, the IPCC's role and approach are more complex. Besides the long aired criticisms of its political influence in reality (e.g. [Boehmer-Christiansen, 1994](#)), other issues pivot on its scientific core. For many decades, disciplines such as earth science and hydrology dominated climate change literature, meaning that the IPCC's epistemological basis was defined very early on, i.e. as one of science. More recently, human dimensions of climate change have edged into the IPCC's scope, and social scientists have become more involved ([Bjurström and Polk, 2011](#)).

The continuing problem is that they still represent a very small minority, and are somewhat marginalised ([Hulme, 2017](#); [Malone and Rayner, 2001](#); [Pelling, 2011](#); [Shackley and Skodvin, 1995](#); [Yearley, 2009](#)). As a result, social sciences are at the bottom of knowledge hierarchies, in which science dominates ([Godal, 2003](#); [Nielsen and Sejersen, 2012](#); [Yearley, 2009](#)). These hierarchies inform the framing of concepts such as vulnerability ([Hulme, 2011](#); [Mahony, 2014](#); [Swyngedouw, 2010](#)). [McCarthy \(2001: 982\)](#), for instance, notes the IPCC's use of 'human systems' - a term that glosses over the importance of individual experience ([Orlove, 2009](#); [Pelling, 2011](#)). Knowledge hierarchies further inform the value given over to social science work in practice. [Bottazzi \(2014\)](#) notes, for example, how local contexts - and the data they generate - remain trivialised in climate change discourse and strategy.

Simply put, the IPCC is not exploiting the benefits that true epistemological pluralism could offer ([Miller et al., 2008](#)). Adaptation illustrates the point. Research has revealed pertinent phenomena that influence but also differentiate climate change experiences from location to location: Gender, poverty, age, globalisation, and so on ([Adger et al., 2007](#); [O'Brien and Leichenko, 2000](#)). In our own case that we describe in this paper, gender relations and norms influenced how a community responded to climate change pressures. We also found that aspects of globalisation influenced how the process of community change unfurled. Yet, both gender and forces of globalisation were deeply embedded in the localised and individual cultural fabric of the specific village we explored. In reflecting on our own field work described in this paper, and to mirror the sentiments of [Orlove \(2005, 2009\)](#) and [Pelling \(2011\)](#), for example, we argue that social science is better positioned to capture the richness of social, cultural, and cognitive elements of localised dynamics, which invite a deeper understanding of adaptation. To an extent, the IPCC has acknowledged this. Ten years ago, it called for more 'place-based studies' ([Adger et al., 2007: 729](#)). More recently it described adaptation as 'place and context specific', and noted the value of 'bottom up studies' ([IPCC, 2014: 25, 2014, 883](#)). However, it also conceded that they have not been 'used consistently in existing adaptation efforts' ([IPCC, 2014: 25; 2014: 883](#)).

One explanation for this lies in the extent to which knowledge hierarchies have been institutionalised within the IPCC, i.e. whilst the organisation overtly commends social science approaches, in reality it pays little more than lip-service. Even the IPCC's working group that is responsible for human adaptation, for example, describe 'modeling' (e.g. [IPCC, 2014: 883; 884](#)). It notes the value of 'scaling up' successful pilot projects ([IPCC, 2014: 879](#)). It reports adaptation strategies as a 'general plan' ([IPCC, 2014: 873](#)). It describes 'frameworks' as 'national' and 'consistent' ([IPCC, 2014: 879](#)), and as a way of objectively 'measuring' adaptation ([IPCC, 2014: 880](#)). And when 'community based adaptation' is described, it claims how 'scientific research methods' have 'strengthened the ability of communities to plan' ([IPCC, 2014: 881](#)).

These, and other examples within IPCC reporting, suggest a bias towards principles and values more closely aligned to the natural sciences - objectivity, generalisation, replication, and so on. Importantly, the marginalisation of at least some social science approaches and methods (e.g. ethnography, grounded theory) represents a significant barrier to understanding climate change issues, especially those concerning adaptation (e.g. [Liverman, 2009](#); [O'Brien et al., 2007](#); [Pielke, 2005](#); [Schipper, 2006](#)). The concept was first observed in non-human environments where scientific approaches were appropriate:

Understanding adaptation pivoted on its accurate measurement ([Orlove, 2005, 2009](#); [Pelling, 2011](#)). Now we recognise adaptation as a powerful process in human contexts, but to extrapolate scientific approaches to their study is not conducive ([Orlove, 2005](#)). Rather, the complexity of the human experience demands alternative methods from the social sciences that focus less on measurement per se, and more on understanding the intricate dynamics between the social, cultural, cognitive, and so on, as above ([Bottazzi \(2014\)](#)).

Our case study responds to our observations, and those of other researchers - some of whom themselves engage with the IPCC. Our case aims to capture the nuances of adaptation as situated in an analysis of one particular community. As social scientists, we see adaptation as we describe above, i.e. as a complex process that is embedded in the social, cultural, and cognitive, rather than as a single decision or measure ([Pelling, 2011](#)). Thus, we aim to understand the socio-environmental processes ([Nightingale, 2015](#)) of adaptation as they occurred in the field. In doing so, we also illustrate some of the shortcomings of scientific approaches in practice, especially those which cannot capture the dynamics of the context in which adaptation unfurls.

To this end, we chose a 'living with' perspective, which has synergy with some of the broad, overarching principles of social ontology. This frame of reference to 'being' generally describes the nature, characteristics, structures, dynamics, and so on, of 'social life', but which also recognises that its reality is constructed cognitively by people's values and notions ([Searle, 1995, 2006](#)). Our approach is consistent with two of social ontology's general principles in particular. First, we avoid paradigmatic divisions like social, economic, psychological, and so on. In reality, social life consists of phenomena that seamlessly transcend synthetic ways of organising. Thus, we want to capture how people 'live with' climate change in their 'lives' - defined as broadly as possible. Second, we try to capture how people 'live with' climate change, with definitions and meanings that are embedded in, and emerge from, the field itself.

Two relatively recent articles illustrate how a living with approach can be used in research. They also showcase its strengths, especially in comparison to more scientific methods. In their ethnographic work, [Brugger and Crimmins \(2013\)](#) described emotions, actions, and attitudes as social responses to climate change in rural Southwest America. These were deeply and richly embedded in, and driven by, localised meanings. They described underlying causes to community, group and individual vulnerability - something which the authors argued that more economic and technology focussed frameworks, such as those favoured by the IPCC, fail to capture. On this point, our own findings illustrate the same. Further, [Brugger and Crimmins](#) designed their study around a qualitative analysis of a community, i.e. their starting point was to explore all aspects of the field, rather than framing their study as an investigation into climate change responses from the outset. This allowed for pertinent dynamics and phenomena to freely emerge, unconstrained by researcher imposed disciplinary boundaries. The authors' bottom-up approach meant they were able to secure an understanding of the key issues, instead of merely measuring climate change impacts. These strengths are also seen in the work of [Horton et al. \(2015\)](#). They adopted a living with approach to reveal 'every day geographies' (903) of how children experience sustainable urban architecture in the UK. The advantages of bottom-up qualitative work that unveil nuanced experience was again evident, i.e. the rich localised narratives that scientific approaches simply cannot capture. In particular, [Horton et al. \(2015\)](#) demonstrate how a living with approach can accommodate unusual or unexpected data - expressed in the participants' own ways that differ with age, culture, and so on.

To summarise, we see the value that place-based studies generate for understanding adaptation. Specifically we argue that they illustrate the localised nature of climate change experiences and responses. Simultaneously we see the implications of this for the IPCC, and for how the relationship between science and climate policy is organised overall. Our case work illustrates these insights. In the next section, we

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