



Co-producing UK climate change adaptation policy: An analysis of the 2012 and 2017 UK Climate Change Risk Assessments

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ABSTRACT

This paper explores the use and perceived usefulness of the 2012 and 2017 United Kingdom Climate Change Risk Assessment (CCRA) reports to identify potential areas of improvement for UK adaptation policy. We conducted interviews with key stakeholders and analysed each CCRA in the context of objective, audience, budget, frame, key findings, dissemination, and how they informed policy. We found that stakeholders used the CCRA in three main ways: (i) to make a business case for their work; (ii) to shape direction of policy or work; and (iii) practical applications. Our findings suggest that the way in which both CCRA have been operationalized are symptomatic of the UK state reinforcing scientific reductionism in adaptation assessments for policymaking. Recommendations from interviews for future CCRA included (i) adopting more innovative methodological approaches, (ii) developing more effective mechanisms for operationalisation of the CCRA, and (iii) improving communication of the CCRA, their risks and recommendations. This would enable better alignment with user needs and more robust inclusive decision-making processes in the assessment of future UK climate risks and impacts. We discuss how a new framework is needed in which evidence assessments such as the CCRA can be further developed utilising methods of co-production.

1. Introduction

As the human and physical effects of climate change continually increase, so has policy attention to climate adaptation (Massey and Huiteima, 2016; Vogel and Henstra, 2015). This has significant spatial planning challenges and scientific uncertainties attributed to it (Bell et al. (2018); Vij et al., 2017) and the UK has arguably been a significant forerunner in implementing robust adaptation policy in comparison to other countries, given the implementation of the 2008 Climate Change Act (Benzie, 2014; Biesbroek et al., 2010; Brown et al., 2018; Lorenz et al., 2017; Massey and Huiteima, 2013). However, when the UK Department for Environment, Food and Rural Affairs (DEFRA) launched its second UK Climate Change Risk Assessment (CCRA) in 2017, though this was the most comprehensive assessment of climate risks in the UK to date, the launch was given relatively little publicity by the UK Government, unlike the inaugural CCRA in 2012. This suggests that climate change adaptation has not been given the necessary policy attention as previously reported in the academic literature (Massey

et al., 2014; Massey and Huiteima, 2013) or at least it has been hindered by wider political forces going on in the UK most recently, like Brexit (Rayner and Jordan, 2017).

Given the 10 year anniversary of the UK Climate Change Act, it is timely that we take stock of progress with respect to climate adaptation policy. Using a critical discourse analysis of the 2012 and 2017 CCRA, evidence on the process for compiling the CCRA and interviews with relevant stakeholders involved in each CCRA, we explore how CCRA have been undertaken. The process in which CCRA have been compiled and the way climate information/knowledge has been utilised is particularly significant given the emergence of a literature grounded across the social sciences and cognate disciplines that questions the types of knowledge used in formulating climate policy, the most significant being the prevalent use of more globally reductive forms of scientific knowledge to determine future climate projections (Demeritt, 2001; Hulme, 2011, 2010). It has been argued such epistemic knowledge use has prevented more reflexive, communicative local knowledge that is co-produced through relevant governance systems being used

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more to determine the types of climate policies needed to mitigate climate impacts and reduce human vulnerabilities across different spatial jurisdictions as dangerous climate change ensues (Beck, 2011; Hinkel, 2011; Howarth and Painter, 2016; Jasanoff, 2010; Kythreotis, 2018; Kythreotis et al., 2013). Hence, our comparative analysis of the 2012 and 2017 CCRA specifically examines the forms of knowledge, process and types of users used in each assessment to critically demarcate the significant role of co-production in producing more effective evidence-based adaptation policy in the UK. This is important given the ambiguous role of the UK central government's relationship with forms of polycentric governance within recent UK adaptation policy formulation (Gillard et al., 2017).

Section two briefly summarises the background to adaptation policy in the UK since the 2008 Climate Change Act came into force. Section three compares the 2012 and 2017 CCRA in terms of objective, audience, budget, frame, key findings, dissemination, and how they have informed (adaptation) policy. Section four examines the use, usefulness and potential for improvements in the CCRA going forward. In assessing the CCRA, this paper adds new policy insights into how future adaptation frameworks like the CCRA can be improved further in terms of co-production and greater user inclusivity. This in turn will catalyse more effective, evidence-based adaptation policy and practice in the UK.

2. Brief background to UK adaptation policy

The following section briefly discusses how UK adaptation policy has evolved since 2008. For a more comprehensive background for adaptation as a policy field, see Massey and Huitema (2013); Massey et al. (2014) or Lorenz et al. (2017). Driven by the Stern Review on the Economics of Climate Change (2006), the UK was one of the first countries to introduce “a risk-based approach into climate change legislation” to address unavoidable climate change impacts (Brisley et al., 2012: 5). Over the last decade, UK climate policy has principally evolved out of the legally binding Climate Change Act of 2008, which set specific strategies on climate mitigation and adaptation. The Act set out a procedure to conduct a Climate Change Risk Assessment (CCRA) every five years, which would highlight associated risks and opportunities from future climate change (Committee on Climate Change, 2008). The first CCRA was published in 2012. Other related initiatives emerging out of the Act included a new independent advisory body, the UK Committee on Climate Change (UKCCC) who would, inter alia, review CCRA processes and procedures. The Act also gave the UK Government an Adaptation Reporting Power (ARP) to direct other organisations, ‘Reporting Authorities’ to prepare reports on the current and future risks and opportunities from climate impacts on that organisation; and their proposals for adapting to a changing climate (DEFRA, 2012). The evidence-base of climate risks and opportunities reported from the first CCRA in 2012 led to the statutory implementation of the UK National Adaptation Programme (NAP) in 2013. NAPs also enabled Local Authorities (LAs) to start to build local capacity with non-state stakeholders in planning for climate change. However, this was done on a voluntary basis, confirming previous critiques of NAPs for their lack of co-ordination, stakeholder involvement and having unclear divisions of responsibilities (Biesbroek et al., 2010).

Nevertheless, in 2010 DEFRA also established the Local Adaptation Advisory Panel (LAAP) to enhance capacity on local adaptation by providing a policy link between central and local governments (DEFRA, 2011). With the Environment Agency, in 2011, DEFRA also part-funded Climate UK, a network of state and non-state organisations supporting climate action across the UK, suggesting that central government was relinquishing a degree of control over local adaptation planning and practice, whilst maintaining financial control over the UK local adaptation policy agenda. Yet a transition from more centrally orchestrated adaptation governing to local co-production (non-state and state) governance was short-lived, due to the abolition of some major adaptation

programmes that supported local adaptation planning and practice (e.g. Climate Ready and Climate UK ended in March 2016 due to central government financial constraints, Committee on Climate Change, 2017a p.18; Salvidge, 2016). The LAAP functions also changed from supporting local adaptation action to informing policy to feed into the NAP (Committee on Climate Change, 2017b). These represent significant changes in the relationship between national adaptation policy agenda setting and the practice of local adaptation planning and governance. With local adaptation planning and governance suffering from such budget cuts, evidence of best practice, risks and opportunities remained communicated mainly through the national CCRA in the UK. As such, we feel it pertinent to undertake a comparative assessment of the UK 2012 and the 2017 CCRA with respect to objective, audience, methodology, budget, frame, key findings, dissemination, and how they informed policy, as a means to highlight the ever-changing landscape of adaptation policy and practice in the UK today.

3. Comparing the 2012 and 2017 Climate Change Risk Assessments

The UK CCRA sets out the main priorities for climate change adaptation in the UK and the NAP with a vision of “A society which makes timely, far sighted and well-informed decisions to address the risks and opportunities posed by a changing climate” (DEFRA, 2013: 11), and outlines thematic policies and actions to meet these ends. The 2017 CCRA acknowledged key limitations in the 2012 CCRA which subsequently informed the methodology and development of the former, notably that it ‘assessed the potential impacts of climate change without taking account of current adaptation plans and activity’, that magnitude and confidence scores were used to summarise results and that UK impacts of domestic and international risks of climate change were not included (Humphrey and Murphy, 2016: 8). The 2017 CCRA Synthesis Report summarises some of the differences compared to the previous CCRA as do each of the chapters in the 2017 CCRA Evidence Report. The approach adopted, content and structure of the 2012 and 2017 Climate Change Risk Assessments is outlined in their components that feature in the body of their reports, methods adopted, the review process and outputs produced (Table 1).

Due to methodological changes, the 2012 and the 2017 UK CCRA are not comparable as such. As explained by the Adaptation Sub Committee's (ASC) 2014 *Method Document* for the UK CCRA Evidence Report 2016, this has primarily been caused by a significant budget cut from the £3 million allocated for the first CCRA to under £1 million for the second (ASC, 2014). As a result, the UK CCRA 2016 Evidence Review is “underpinned by a large body of peer-reviewed scientific literature and grey literature” and acknowledges the associated difficulties, namely evidence gaps associated with uncertainties. With the financial support of the UK Natural Environment Research Council (NERC), the ASC commissioned four research projects to contribute to an assessment of the evidence and “help in translating existing research into a usable format” (ASC, 2014: 3) to inform the second UK CCRA. These projects focused on projections of flood risk in the UK (Sayers et al., 2015), water availability in the UK (HR Wallingford et al., 2015), impact of climate change on UK's natural assets (AECOM, 2015), and developing climate change scenarios (Wade et al., 2015). As a result, the evidence-base commissioned by the ASC, and which underpinned the 2017 CCRA, relied on different, un-standardised assumptions about baseline data, the degree of climate change and impacts, socio-economic responses and adaptation processes. To address this issue, the ASC developed a new methodological (primarily qualitative) approach focusing on a literature review, in addition to results from the four research projects and expert judgement mainly used “to assign confidence and urgency scores [to the evidence as well as the risks], and also to characterise future adaptation efforts in many cases” (ASC, 2014: 5).

The methodological change adopted would also address data, policy

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