Introduction: understanding adaptation in the context of social theory

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INTRODUCTION

The past two decades have witnessed significant evolution of the adaptation research enterprise (Preston et al. 2013; Preston et al. 2015). This is evidenced by the expanded treatment of adaptation in the Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report (IPCC 2014), a development that was enabled by rapid growth in the volume of adaptation literature following the Fourth Assessment Report (IPCC 2009). A similar expansion of adaptation has also been witnessed in adaptation policy and practice. Although once viewed as a taboo topic (Pielke Jr 1998; Pielke et al. 2007), adaptation is now being institutionalized at a range of geopolitical scales. Adaptation, and particularly adaptation finance, is a major subject of debate within international negotiations under the United Nations Framework Convention on Climate Change (UNFCCC), and various funding mechanisms have been developed to support adaptation in developing nations (Grasso 2009; Hulme et al. 2011; Petherick 2012; Schipper and Burton 2009). National governments of developed nations have also initiated strategic thinking regarding adaptation as represented by the United Kingdom's Climate Change Act (UK Stationery Office 2008) the European Union's Adaptation Strategy (EU 2013) and Australia's National Climate Resilience and Adaptation Strategy (Commonwealth of Australia 2015). Such top-down approaches to adaptation are complemented by a broad range of bottom-up efforts represented by local/municipal, and state/district adaptation planning (Lindseth 2005; Measham et al. 2011; Preston and Kay 2010; Saavedra and Budd 2009).

Given these developments, one might assume that substantive progress is being made in adaptation policy and practice and, moreover, that some of that progress can be attributed to the ability of adaptation scholarship to help support adaptation decision-making while also shedding light on the complexities of adaptation processes. Yet, rather than accept these assumptions at face value, this *Research Handbook on Climate Change Adaptation Policy* endeavors to view them through a critical lens. To that

end, the various chapters of this *Research Handbook* document the ways in which climate change adaptation policy has been, and continues to be, studied, with a focus on also discussing a broader range of theory. The goal of this critical investigation is thus not only to characterize the field as it stands today, but also to look forward to ways of mainstreaming adaptation research within policy research and, more specifically, a range of social theory. As such, the volume takes the state of adaptation as reflected in the IPCC's Fifth Assessment Report as one of its entry points, while also anticipating the Sixth Assessment Report and suggesting ways by which it can encompass a broader range of research perspectives on adaptation. The focus here is first and foremost on national state policy, and to a more limited extent policy at international, supra-national and sub-national levels (including planning and related citizen action). The book also focuses on formal adaptation policy, and only in relation to this includes other policy areas such as disaster risk management or broader themes of sustainability and resilience.

Within this focus on adaptation policy research, this book seeks to accomplish three objectives. First, it highlights the value of a range of social theory in investigations of adaptation, yet openly argues that no one theory, theoretical framework or approach is likely sufficient to explain adaptation in its many incarnations. In so doing, the book joins a growing body of scholarship framing adaptation as an inherently social process thus creating a need for greater integration of the social sciences into adaptation research (e.g., Dunlap and Brulle 2015). Second, the book draws attention to, and seeks to account for, the disparity between the volume of research and theoretical framings of adaptation relative to the progress that has been made in the implementation of substantive adaptation policy at the national level and in different sectoral and regional contexts. Third, the book illustrates the methods used in policy research as a means of helping to guide future adaptation research. While connections are made between adaptation policy research and adaptation policy and practice, the focus is not on the delivery of policy advice per se (Preston et al. 2013; Preston et al. 2015; Swart et al. 2014). Nevertheless, it is hoped that the insights contained within the various chapters have implications for policy and practice including future science policy investments relevant to climate change impacts and adaptation.

This book is organized into multiple parts, with each addressing different aspects of adaptation policy research. Part I, which includes this chapter, provides introductory context for the book and continues in Chapter 1 with a history of adaptation policy and discussion of the various framings of adaptation and its linkages with other policy arenas. Part II elaborates on the role of social theory in adaptation research through discussions

of a range of social theories or theoretical or conceptual frameworks that have been analyzed or applied in the context of adaptation. Part III addresses adaptation policy research in different regional or geographic contexts, including both developing and developed nations. Part IV adopts a more sectoral approach to policy research in the arenas such as water resources management, forestry and health. The book concludes in Part V with a reflection and synthesis that discusses where we have seen substantive progress on adaptation policy as well as the underlying factors that enabled implementation. It also addresses future needs for adaptation policy research and therefore science policy. Before proceeding, however, the remainder of this chapter provides a more extensive articulation of the premise of this *Research Handbook* and its role in advancing adaptation research and practice.

COMPETING NARRATIVES OF SOCIETAL ADAPTATION

Any efforts to characterize adaptation in policy and practice must confront a challenge: namely, reconciling the extensive volume of adaptation research, planning and policy development with the quite limited evidence of substantive adaptation implementation. At present, the adaptation discourse is dominated by competing social narratives that vary across space and time. One emphasizes a diversity of adaptation planning, finance, tool development and autonomous responses that suggest adaptation is progressing swiftly. Certainly, adaptation planning has become common practice in both developing and developed nations, at the national as well as local levels. In fact, in some instances, such as the United Kingdom and the European Union, some degree of risk assessment and adaptation planning is required for public sector entities. Various mechanisms such as the Adaptation Fund and the Green Climate Fund have been created in conjunction with multinational development banks to finance adaptation programs and projects in developing nations. In addition, adaptation is now being mainstreamed by various aid agencies into their development assistance (Klein et al. 2005; Ayers and Huq 2009).

At the same time, an alternative narrative describes adaptation policy as persisting in a nascent state, with little evidence of substantive policy implementation that would create binding or mandatory requirements for adaptation. In the IPCC's Fifth Assessment Report, Mimura et al. (2014, p.871) describe adaptation as "transitioning from a phase of awareness to the construction of actual strategies and plans in societies." Meanwhile various systematic reviews of adaptation peer-reviewed and grey literature

have concluded that actors are signaling their intentions to adapt through, for example, the development of adaptation strategies and plans, but they have not necessarily implemented substantive actions (Berrang-Ford et al. 2011; Ford et al. 2011; Preston et al. 2011). Furthermore, questions have been raised regarding the extent to which formal adaptation planning efforts are sufficiently rigorous to act as practical guides for adaptation processes (Preston et al. 2011; Woodruff and Stults 2016). Much has been written in recent years regarding potential social, economic, political, cultural, and environmental barriers to adaptation (Adger et al. 2007; Adger et al. 2009; Klein et al. 2014).

While some have noted that adaptation can emerge autonomously in the absence of mandatory policy requirements, studies have also noted that adaptation, when undertaken as part of a general portfolio of organizational competences with no additional funding, may fall to the bottom of the political agenda (Keskitalo 2010; Keskitalo and Pettersson 2016). In addition, studies, including by the IPCC, have noted that many of the changes that have currently been undertaken in response to climate change may perhaps more accurately be described as coping measures: action that would be undertaken independently of climate change, because of their benefits in managing current climate variability, but that also happen to be beneficial in enhancing resilience in the longer-term context of climate change (Adger et al. 2007; Klein et al. 2014).

Even when actors make demonstrable progress in advancing an adaptation policy agenda, their capacity to sustain that focus is often limited. Under the Obama Administration, various Executive Orders were issued requiring United States (US) federal agencies to prepare for the impacts of climate change to agency missions, facilities and operations (White House 2009, 2013, 2015). These policies were promptly rescinded, however, under the Trump Administration, leaving a vacuum on adaptation at the federal level. This was one element of a larger federal decision to withdraw from the Paris Agreement, leaving actions by states and local governments as the dominant scale of US climate action. This general phenomenon has been observed in other communities. For example, under the Harper Administration, climate policy fell out of favor, and the Adaptation and Impacts Research Division of Environment Canada was subsequently disbanded. This tendency for climate change policy in general, and adaptation policies specifically, to be contingent on *a priori* policy priorities, party platforms, and the values and preferences of constituents and special interests, is just one of a variety of reasons why the efficient implementation of adaptation is by no means a foregone conclusion (Preston et al. 2011).

The competing narratives of adaptation are symptomatic of a lack of social consensus regarding what constitutes adaptation; the opportunities,

constraints, and limits associated with adaptation policy (Klein et al. 2014); and the definition of successful adaptation outcomes (Moser and Boykoff 2013). This lack of consensus reflects the reality that climate change, like other environmental challenges, is a social problem that arises from the nature and dynamics of both the climate system and policy systems. Climate change is far-reaching, potentially costly, and many of its impacts are situated in the future. How can climate adaptation compete with issues such as economic development, employment, health or national security, which are perceived by the public as having direct and immediate implications? Hence, mechanisms for effectively framing climate change and adaptation as policy-relevant issues for the present are needed, and adaptation research is assumed to be a useful vehicle for generating such insights.

While significant descriptive literature has already emerged regarding adaptation in various national, regional, and sectoral contexts, it has often been based on case studies. While that literature has been quite informative for articulating what is, or is not, happening with respect to adaptation in various contexts, it mirrors the aforementioned diversity of understandings of adaptation, and therefore has been less useful for generating coherent explanations for why adaptation policy and practice have evolved along their current path. Therefore, this *Research Handbook* explores the paradoxical social discourse on adaptation from the perspective of research on adaptation policy development and implementation. In so doing, it describes adaptation policy development across different levels of governance, sectors, and social contexts in light of different political and policy sciences theories. In particular, it advances beyond more general descriptions of adaptation barriers and limits, to apply social and, in particular, policy sciences theory and theoretical frameworks as a means of diagnosing key factors explaining the current state of adaptation policy and identifying important orientations for future policy research.

ADAPTATION AND THE LEGACY OF SCIENTIFIC MANAGEMENT

The social and policy challenges associated with adaptation are in part a function of the manner in which the larger climate change challenge has been framed over the past several decades. As climate change emerged as a significant public policy challenge, it was largely framed in a similar manner to prior regulatory approaches to environmental pollution problems. For example, the United Nations Framework Convention on Climate Change specifies that the ultimate objective of international climate policy is

“stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” (UNFCCC 1992). This implies that: (1) greenhouse gases (GHGs) in the atmosphere represent some form of direct or indirect hazard to human and natural systems; (2) excessive exposure to this hazard will create a significant likelihood of adverse consequences; and (3) there is a level of exposure to which GHGs can be limited that will prevent adverse effects (Preston 2009). Subsequently, the challenge for climate policy is the identification of this “safe” level of GHG concentrations, the management of future emissions to conform to this standard, and/or the use of adaptation to address residual risk. The IPCC was established to undertake scientific assessments that inform the definition of dangerous climate change. While the scope of IPCC assessments has broadened since the early 1990s, it still largely reflects a “predict-and-respond” approach to climate risk management (Dessai et al. 2009). At the global level, this manifests as a global mean temperature target and determining which emissions trajectories are consistent with that target; hence the demand for the IPCC’s special report on the impacts of global warming of 1.5°C early in the Sixth Assessment Report cycle. At the regional to local level, this manifests as predictions of regional changes in climate, and implementing policy and planning changes that reduce or avoid the risk associated with those predictions.

Two aspects of this general policy approach are noteworthy. First, this continued reliance upon scientific management to guide policy responses to climate change reflects a linear model of science–policy interactions whereby scientific evidence leads inexorably to policy responses (Godin 2006; Heazle 2010; Pielke 2007; Schön and Rein 1995; Wynne 1991). It frames climate policy as a scientific problem that can be ameliorated through reductionist scientific inquiry. Hence, investments in research regarding climate change have been dominated by Earth observations and Earth system modeling to enhance understanding of global biophysical responses to greenhouse gases. That understanding is then assumed to translate into improved climate predictions, which supports mitigation and adaptation decision-making. In so doing, however, science policy has marginalized research regarding the social impacts of climate change and the mechanisms that mediate social responses. Yet, a significant literature exists that argues that scientific evidence alone is insufficient to drive decision-making regarding policy responses to climate change, much less larger processes of systemic social change (Adger et al. 2009; Kahan et al. 2012; Kellstedt et al. 2008; Lemos et al. 2012; Moser 2010; Tribbia and Moser 2008). Meanwhile, despite climate change being argued to be one of the greatest environmental challenges

of the modern era, the communication of climate change science is seen as a secondary service, and one that is confounded by significant social and political debate.

This contested nature of proposed responses with respect to their efficacy and efficiency suggests that insufficient attention has been allocated to understanding climate change as a social problem. Thus, society has a growing abundance of information on what is causing climate change, and the potential response options, but remains poorly equipped to translate that knowledge into actions. Recent research about adaptation has made progress in diagnosing a range of proximal factors that enable or constrain adaptation responses, but it has yielded very little with respect to understanding the ultimate causal determinants. Nor is there clarity regarding how those determinants vary among different sectoral, national, and regional contexts. Addressing these challenges will require more concerted engagement between adaptation science and the policy sciences to develop generalizable understanding of what dictates the capacity of individuals, organizations, and social institutions to make decisions and implement adaptation responses. In so doing, researchers need to look beyond what seems only directly observable, to understand on a more fundamental and theoretical level how the structure and function of society drives adaptation processes.

THE ROLE OF SOCIAL THEORY IN ADAPTATION RESEARCH

Recognizing the persistent disconnect between the framing of adaptation research and the social processes that drive adaptation responses, recent arguments in the adaptation literature have expressed a need for a more reflexive approach toward the questions that are being asked by adaptation researchers as well as the methods used in pursuit of those questions (Preston et al. 2015; Salmon et al. 2017). If adaptation researchers are to help identify pathways for capitalizing on opportunities and overcoming common constraints associated with adaptation, additional attention needs to be focused on developing more fundamental understanding of what drives the implementation of adaptation in practice. For example, while much of the research on adaptation policy opportunities, constraints, and limits has focused on access to capacities such as knowledge, capital, and resources (Klein et al. 2014), the role and structure of policy systems as a more fundamental source of adaptation constraints has so far been relatively little described in the literature (e.g., Wellstead et al. 2013).

Furthermore, much of the research emphasis on social processes in

adaptation has – perhaps given the history of the disciplines involved – been placed on those that are particularly pronounced in more small-scale systems, such as social learning and development of cooperation mechanisms. This emphasis on social learning reflects the long-implicit assumptions in the physical science-driven climate change research that better knowledge will lead to adaptation, as learning new knowledge through different mechanisms should lead to action. For example, as summarized by Noble et al. (2014, p. 847): “[t]he complexity of climate adaptation means that adaptation options are heavily influenced by forms of learning and knowledge sharing.” However, both adaptive management and social learning literatures largely tend to highlight processes and characteristics that may support learning or adaptive management in the specific, often lower-scale, case rather than provide specific knowledge regarding the juridical-political system within which adaptation in general or this case needs to be integrated, or the complexities of such larger systems as characteristics in themselves. With social learning largely treated as an inherent good, such studies tend to overemphasize the potential for learning as a vehicle for overcoming barriers to adaptation (e.g., IPCC 2007), without critical reflection on the limits to social change highlighted in other theoretical contexts. As a result, a strong argument can be made for a greater focus on lessons from broad ranges of social theory that can explain observed dynamics of adaptation policy development and implementation across different contexts.

To better appreciate the value of social theory to understanding climate change adaptation, it helps to consider more generally the role of theory in social science. In social science, theory is formed and used to understand specific components of society. This is necessary because society is such a complex system; perhaps even more complex than the natural system, which follows certain more general laws (see, e.g., Keskitalo and Pettersson 2016). This means that social theories are often built on, or derived from, multiple cases that can be observed, but also that there is a basis for the simultaneous existence of multiple theories, which may be complementary or antagonistic. This reflects the necessity of the use of theory in the social sciences, and also means that social phenomena can potentially be better understood by comparing assumptions in different theories and how these could be used to gain traction in understanding responses to climate change, rather than focusing on theory-free descriptions of, for example, barriers and opportunities. The twentieth-century American sociologist Talcott Parsons articulated the role of social theory as follows (Parsons 1938, pp. 13–15):

The process of growth of scientific knowledge is not a process of accumulation of discrete discoveries of “fact”. In the first place our study of fact, however

little we may be aware of it, is always guided by the logical structure of a theoretical scheme, even if it is entirely implicit. Secondly, few if any empiricists, being as they are truly imbued with scientific curiosity, are content simply to state bald, discrete facts. They go beyond this to maintain the existence of relationships of interdependence, causal relations . . . [although] such an imputation of causal relationship cannot be proved without reference to generalized theoretical categories.

In this line, adaptation researchers should not be content to describe adaptation using observable metrics such as evidence of climate impacts, the existence of adaptation plans, or self-reported constraints on adaptation by different actors. Such metrics are useful for identifying challenges or tracking adaptation in an operational sense. However, they do not reveal the underlying factors that may explain why an adaptation plan was or was not developed, or why actors have trouble implementing a particular adaptation option. Not only does a more shallow study of adaptation leave understanding of the adaptation process incomplete, but it also affects the ability to design interventions to enable adaptation. For example, providing actors with improved information on climate change risk and the costs and benefits of various adaptation options may have little impact if those actors are not in a position to effect change (e.g., Wellstead et al. 2013).

To some extent, this need to understand actors' contexts and possibilities has been included in climate change research. It has been noted that while the "standard approach' to assessment has been the climate scenario-driven impacts-based approach" (Noble et al. 2014, p. 850), this has now been supplemented by "second generation' vulnerability and adaptation assessments . . . characterized by the intensive involvement of stakeholders and the participation of vulnerable groups in decision-making around adaptation" (Noble et al. 2014, p. 851). Although this is an important development, it still leaves certain perspectives lacking. While such a pursuit of research approaches to adaptation based on direct interaction with stakeholders makes possible an understanding of the actors' separate perspectives, it will not necessarily lead to a complex and nuanced understanding of the overarching system itself, which may include requirements formed on other scale levels, beyond and encompassing these actors (Keskitalo and Pettersson 2016). To that end, an understanding of the social system, informed by social theory, is so far the best response the social sciences can offer to improve the understanding of the various forms of overarching systems and thereby of the complexities of adaptation.

The importance of emphasizing social theory and research in adaptation is also highlighted by the fact that many aspects of adaptation that are advocated in broader climate change literature – such as a focus on

the local, or learning aspects – are contested in broader policy sciences literature, with regard for instance to how far learning can reach, and more systemic and multi-scale perspectives and influences (e.g., Ashenden and Owen 1999). This suggests potential challenges with the scalability and generalizability of some theoretical perspectives. It also emphasizes the importance of integrating multiple disciplinary perspectives. For example, much has been written regarding the value of adaptive co-management and adaptive governance as institutional theories for addressing complex socio-ecological challenges, including those associated with adaptation (Plummer et al. 2013; Plummer 2013). Such approaches commonly emphasize collaborative (as opposed to authoritarian/regulatory or market-based) decision-making, social learning and networks, and capacity-building as key elements of achieving environmental management outcomes (Plummer et al. 2013). In practice, however, such approaches have met with mixed success (Plummer et al. 2013), and it has been suggested that the transferability of these approaches to the specific case of climate adaptation in different contexts needs further evaluation (Plummer 2013).

More recently, the insertion of resilience theory into the adaptation discourse has contributed to the consideration of transformation as a pathway for adaptation (Handmer et al. 2012; Kates et al. 2012; Park et al. 2012; Pelling 2011; Pelling et al. 2015; Stafford Smith et al. 2011). However, as noted by Klein et al. (2014), definitions of what constitutes transformational adaptation remain elusive. Several authors have offered criteria that include a significant increase in the magnitude of a management effort; introduction of new technologies or practices; formation of new structures or systems of governance; or geographic shifts in the location of activities (Kates et al. 2012; Park et al. 2012; Pelling 2011; Pelling et al. 2015; Stafford Smith et al. 2011). However, the concept has also been identified as having normative elements involving changes in desired values, objectives, and perceptions of problems (Kates et al. 2012; O'Brien 2011; Park et al. 2012; Pelling 2011; Pelling et al. 2015; Stafford Smith et al. 2011). Transformational changes may be just as vulnerable to social, economic, and policy constraints as more incremental actions (Klein et al. 2014/forthcoming), and transformational change is unlikely to be perceived as an inherent good (Nalau and Handmer 2015). Therefore, while theories of transformation may expand the framing of adaptation responses and, as a consequence, the nature and scale of options under consideration (Pelling et al. 2015), it is less clear how theories of transformation help to explain progress on adaptation in practice or identify policy strategies. Recognizing the potential for system transformation does not necessarily help in the identification or implementation of actions that can trigger such transformation.

The potential to integrate new policies into old policies, or to mainstream, for instance, climate change adaptation into existing areas (such as sustainable development or disaster risk management), has also been treated in the literature in terms of policy integration. The environmental and even climate change policy integration literature, which has, among other applications, been used to inform work on mainstreaming climate change, has largely shown that in attempts to reframe social problems such that they account for environmental issues, the development of trust and joint understanding among groups, as well as strong political leadership, are important factors (e.g., Nilsson and Eckerberg 2007). However, developed largely within the context of political science, where the complexity of the political system is taken as a given (and is itself influenced by themes that dominate the literature, such as the prevalence of discussions on multi-level governance), this literature does not for instance describe the many and complex stages in decision-making as they are targeted in other approaches, such as agenda-setting literature (e.g. Kingdon 1995). This situation is somewhat analogous to the challenges of building comprehensive understanding of natural ecosystem dynamics, where researchers often investigate individual components or components groups, but these cannot be assumed to cover the system in its entirety or multiple perspectives on it. Thus, applying or using only one theoretical framework is not necessarily sufficient to grasp the complexities of influences on a topic as broad as adaptation.

Given that the existing theoretical frameworks for enabling and evaluating adaptation at the very least require an understanding of the parts of the social system to which they contribute knowledge, a broader range of social theory may be needed if one is to generate causal insights regarding the current state of adaptation in different contexts. Research on adaptation policy would therefore benefit from a more reflexive approach that considers the roles that researchers themselves play in elevating different theories. For instance: What accounts for the popularity of particular theories and frameworks among different research disciplines? Why is there such a wealth of descriptive research on adaptation, yet a paucity of causal research? Such questions are both important and timely, and represent fertile ground for adaptation research in the years ahead.

PROBLEMATIZING THE ASSUMPTIONS IN ADAPTATION RESEARCH: THE VALUE OF BUILDING ON THE BREADTH OF SOCIAL THEORY AND RESEARCH

Many of the considerations above, including the so far limited inclusion of broader social perspectives, may be a result of the fact that climate change research, as much of environmentally oriented research, has had a much lower involvement of social science and the humanities relative to the natural sciences (see Sovacool 2015 for an example relating to energy). For instance, IPCC reports, which naturally draw on established literature on climate change specifically, have thereby not been able to access the wealth of societal research that, while its case studies do not focus on climate change *per se*, are nevertheless relevant to climate change as soon as it is recognized and treated as a societal problem. Some awareness of this omission of a broader social science perspective exists in the climate change research community. For example, Chapter 15 of the AR5 Working Group II report on adaptation planning and implementation notes that: “adaptation literature would benefit by embracing lessons and experiences of mechanisms for enabling institutional change gained in other policy sectors and past policy interventions” (Mimura et al. 2014, p. 888).

To do this, it would be crucial to also understand the variations in underlying assumptions in some of the theoretizations that are often used in adaptation, in relation to other competing theories. In such a broader scope, for instance, the emphasis on social learning in adaptation can be seen as part of the broader “deliberative turn” in policy and planning, which is largely based on assumptions of the philosopher Jürgen Habermas. However, main assumptions here – such as, for instance, that people are able to confront evidence in a deliberative setting and learn from this without being biased by their specific interests – are contradicted by other understandings in social sciences. Most notably, philosopher Michel Foucault argues that any open and unbiased learning is unlikely, as it is always strongly impeded by power relations and interests (see, e.g., Ashenden and Owen 1999 for an outline of the debate).

This specific topic of Habermasian–Foucauldian conflict of understandings has been the topic of much work in the social sciences and can be seen as illustrative for the broader discussion on social theory that we wish to include in this book, because it reflects competing explanations for pathways and conditions necessary for developing adaptation. These competing explanations range all the way down to ontological and epistemological levels. For instance, in a Foucauldian understanding, people

are not able to shrug off their “interests,” but are in fact constituted by where they are and how they have come to be there. This means that they will in fact not be able to be changed and “learn” in any unproblematic sense, even in deliberative settings and when confronted by evidence. While Foucault does not mean that change is impossible, this perspective does mean that much more is required for change to take place than in a Habermasian understanding. A Foucauldian perspective even implies that people are unlikely to understand arguments for change unless those arguments are spoken and manifested by actors who also share the same specific discourse and are able to thus phrase requirements for, and examples of, change in terms that they both understand and perhaps even become forced to respond to, lest their position becomes undermined (see, e.g., Foucault 1980).

Questions of how issues gain political salience have thus been problematized in the political sciences for issues beyond climate change and adaptation, but with strong relevance to these. Other relevant research orientations here include for instance framing, which often highlights these type of considerations: that how an argument is framed will impact its viability (e.g., Schön and Rein 1995). While numerous theoretical viewpoints exist, they generally problematize the process of acceptance, resourcing, and implementation. Theoretical orientations such as agenda-setting (e.g., Kingdon 1995) also highlight that change is difficult as a number of relevant issues – from economy and education to environment – continuously battle for priority on the political agenda. In this assumption, they are only raised from the level of “conditions” to that of “problems” when processes in policy, politics, or events that occur force the issue.

In yet other theoretical schools in social sciences, such situations could instead be seen as path-dependent, and as thereby necessitating a shift from incremental to catalytic change in order to effect change. Such a line of research amongst others, for instance, attempts to provide an answer to why inefficient technical as well as social solutions persist over time (e.g., North 1994). The general notion of path-dependence thus suggests that “history matters”; that choices and decisions made in the past affect the future span of possible, or feasible, choices (Levi 1997). Institutional path-dependence may occur when the choices that underlie a decision to adopt an institution, such as a law, have a constraining effect on future alternatives. A common denominator for all institutions, formal and informal, is thus that they are assumed to be relatively enduring and thereby resistant to change. Whether it is about increasing returns and self-reinforcing mechanisms (e.g., Hathaway 2003; Pierson 2000; Greener 2005), or expectations that are created and met through existing institutions (e.g.,

Mahony and Thelen 2010), it is reasonable to assume that some effort will be required to change old institutional patterns. The same applies to the distribution of authority and responsibility. Positions of power have typically been obtained as a result of the specific institutional arrangements which, in turn, risk creating a certain disinclination towards (radical) changes (Greener 2005; Pettersson 2011).

Gupta et al. (2010, p. 460) describe this inherent conservatism of institutions as a strength as well as a weakness: “Institutions are agreements following long debate, and if these hard-won institutions would not survive until the next day, there would be little point in creating them.” The legal system is a case in point here: it is not meant to be easily changed, and the very purpose of statutory rules is to create legal certainty and institutional stability. The same forces that sustain institutions can, however, also transform them. Laws as well as social structures can be modified, replaced, and repealed. The changes can be sudden, resulting from power shifts or observed inconsistencies in the legal system, and so on, or gradual due to, for example, changing preferences and opinions that, in time, lead to changes (e.g., Mahony and Thelen 2010).

Theories that to some extent deal with institutional stickiness or path-dependent features could thus also take on the role that, for instance, social learning theory has often been emphasized for, and would in particular provide a way to understand the impact of the system in determining the potential for certain responses. Institutional stickiness or even path-dependence make specific options more likely than others, with implications for technical, information, and complexity concerns with regard to institutional change.

In addition to the types of theoretical frameworks sketched above, much governance literature also emphasizes these types of aspects: for instance, some literature in this vein compares a focus on state steering (“Type I Governance”) with a focus on supranational, participatory, and sectorally based systems, such as those institutionalized by the European Union (EU) (“Type II Governance”) (Marks and Hooghe 2004; Piattoni 2010). Such literature thus often recognizes that Type II systems often come to constitute an overlay on previous systems, and thereby make steering in situations such as today even more, not less, complex, as one needs to grasp multiple actors on multiple levels without assuming that they have the same decision-making power. Implementation – even of, for instance EU-wide directives, as decisions that become law in member states – will thus differ between states (Keskitalo and Pettersson 2012; Moss 2008) and significantly impact both resource allocations and substantive outcomes (Mahony and Thelen 2010). For adaptation, which has so far seldom been encased in law, implementation thus needs to include an analysis

that focuses not only on stakeholders or actors, but also on the system of decision-making.

For climate change adaptation (and environmental policy integration in general), taking the social context seriously means that at the very least we will have to progress policy and political analyses beyond the identification of general barriers and limitations in each specific situation, drawing on understandings of the multiple ways in which these can be analyzed within social and, in particular, policy sciences. As knowledge is not enough (IPCC 2007) and learning cannot per se be assumed (see, e.g., Ashenden and Owen 1999), asking “Where can we go wrong?” may lead us towards further understanding regarding the real political limitations and competing priorities that exist in any one situation, and allow for assessment of the consequences of that political prioritization and assess what trade-offs in any particular situation are seen as desirable and for whom.

SUMMARY

Adaptation research, planning, and implementation are inherently social processes, and thus subject to the complexities inherent in social systems. A key contribution of social and policy sciences is to articulate the theoretical basis that can provide explanations and interpretations for adaptation behavior. However, as described here in the discussion above, the constrained set of social theories commonly applied in adaptation limit access to those explanations. The chapters in this book present various geographical and sectoral examples of this issue, comparing and contrasting alternative perspectives. In so doing, they help to document how current approaches to adaptation research, and the inherent assumptions embodied by those approaches, are inherently limited, both for explaining observed adaptation practice and for providing insights to help overcome social barriers impeding adaptation efforts. On the other hand, they also help to identify pathways for making more effective use of social and policy sciences to understand and effect change. Following these pathways in individual studies, and better representing theoretical diversity in scientific assessments, such as future iterations of the IPCC’s assessment report, could support transitions to a more climate-resilient society.

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