Operationalising Climate Adaptation through Institutional Change: Conceptual and Empirical Insights

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ABSTRACT: Adaptation is increasingly understood as a necessary response in respect of climate change impacts on urban settlements. Australia is heavily urbanised and climate change is likely to impact severely on its urban environments. Accordingly, climate adaptation must become a key component of urban management. This paper is part of a wider project and reports early insights into the problem of how adaptation may be institutionally operationalised within a planning regime. In this instance, the operationalisation of adaptation refers to adaptation becoming incorporated, codified and implemented as a central principle of planning governance. This paper has three key purposes: first, to set out a conceptual approach to climate adaptation as an institutional challenge; second, to identify the intersection of this problem with planning; third, to report on an on-going empirical investigation in Southeast Queensland (SEQ). Informed by key social scientific theories of institutionalism, this paper develops a conceptual framework that understands the metro-regional planning system of SEQ as an institutional regime capable of undergoing a process of change to respond to the adaptation imperative. It is posited that the success or failure of the SEQ regime’s response to the adaptation imperative is contingent on its ability to undergo institutional change. A capacity for change in this regard is understood to be subject to the influence of various internal and external barriers and pathways that promote or hinder processes of institutional change. Specific attention is paid to the role of ‘storylines’ in facilitating or blocking institutional change.

Keywords: Adaptation; Institutions; Institutional Change; Storylines

Introduction

Climate change is an immediate threat, with early manifestations becoming evident in climate shifts occurring on a variety of scales across the planet (Garnaut, 2008; IPCC 2007; Steffen, 2009; Stern, 2006). Despite recent controversies, the weight of scientific evidence suggests that ongoing changes in climates across global, regional, local and micro scales are primarily caused by human actions and that the effects of this phenomenon will be widespread and devastating (IPCC, 2007; Stern, 2006). A growing body of climate science suggests that whilst efforts towards mitigation may limit the intensity and frequency of climate change effects, the potential for an increased incidence of impacts remains (Garnaut, 2008; Stern, 2006). This is because efforts towards mitigation undertaken now and into the future cannot diminish the climate impacts that will result from anthropogenic gases emitted over the last 150 years. Adaptation is therefore an imperative and a vital element of a comprehensive climate management effort.

Adaptation to climate change involves taking direct action to minimize and manage the
predicted or expected negative consequences of climate change (Adger, Arnell and Tompkins, 2005; IPCC, 2007). Specifically, adaptation is understood as ‘adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities’ (Parry et al, 2007, p. 869). The process involves ‘adjustments to reduce the vulnerability of communities, regions or activities to climate change and variability’ (Schipper, 2007, p. 5). In this regard, adaptation is a key response mechanism for human settlements threatened by climate change impacts. Various strategies may be employed depending on the nature and scale of a threat, the spatial form and function of affected settlements, the projected frequency of events and so forth. Successful adaptation processes will result in a reduction of vulnerability to climate change impacts, irrespective of the arena within which adaptation occurs (Schipper, 2007). Applying that perspective to this paper, a principle goal of adaptation must be to reduce vulnerability in the built environment and human settlements. The strategic implementation of adaptation strategies within spatial planning is therefore vital. Institutions, as social entities charged with directing and regulating social activity, have a crucial role in meeting this challenge (Dovers and Hezri, 2010).

This paper reports on an empirical investigation in Southeast Queensland (SEQ) which focuses on enhancing understanding of how climate adaptation may be better operationalised within the region’s metro-regional planning regime through institutional processes. Operationalisation in this instance refers to climate adaptation becoming incorporated, codified and implemented as a central principle of planning governance. This paper sets out a conceptual approach to climate adaptation as an institutional challenge for planning regimes. In doing so, it examines the character and nature of institutions as social scientific objects and considers the institutional character of spatial planning regimes. It is posited that the success or failure of any planning regime’s efforts to operationalise climate adaptation will be heavily conditioned by its capacity to undergo a process of institutional change whereby adaptation is more fully implemented as a central issue of planning governance. The scope and capacity for institutional change is understood to be subject to the influence of internal and external pathways towards and barriers against change which can facilitate or hinder institutional responses.

The impact of ‘storylines’ in shaping institutional responses is also examined. Storylines are conceptualised as narratives on social reality which influence the nature of social and
institutional action by providing actors with shared symbolic references which cluster specific knowledge and understanding. The nature of path dependence as a barrier to institutional change is examined in this paper, as is the institutional frame of planning ‘in’ climate change, which is characterized as a potential pathway to change. Path dependency and planning ‘in’ climate change are applied to the storylines concept and specifically linked to the issue of operationalising climate adaptation as a key issue for planning governance. This paper concludes by reporting early findings from ongoing empirical work which examines and tests the nature of and capacity for institutional responses to the adaptation imperative within the SEQ metro-regional planning regime as conditioned by particular pathways and barriers to institutional change.

**Institutions as Social Scientific Objects**

An understanding of how institutions identify, recognise and respond to major stressors is essential to better understand adaptive responses to climate change. The presence and character of institutions as social scientific objects is subject to much scholarly debate. There is much contention in defining the concept of institutions and the task continues to generate opinion and critique (Hodgson 2006; Kingston and Caballero, 2009; March and Olsen, 1989). Many scholars agree that particular definitional understandings of institutions will directly influence interpretations and understandings of institutional processes (Alexander, 2005; Connor and Dovers, 2004; Peters, 2005). Though many definitions of institutions have been advanced in scholarship, the definition advanced by North (1990) is amongst the most commonly cited in recent social scientific literature (Kingston and Caballero, 2009). North offers a definition of institutions as social scientific objects, stating that they are “the humanely devised constraints that shape human interaction” (1990, p. 3). Institutions are therefore characterized as social entities which reduce uncertainty by providing structure to everyday life and social engagement. Building on this position, institutions may be understood as “the fundamental building blocks of social systems, providing the generalized regulatory framework for socially acceptable behavior” (Connor and Dovers, 2002, p. 7).

Institutions are social constructions made up of formal constraints such as laws, rules and constitutions, as well as informal constraints such as norms of behavior and social conventions (North, 1990). Institutions embody enforcement characteristics that exist to ensure adherence to both types of constraint. This view can be interpreted as referring to an
institution as a single rule of governance i.e., a requirement that all traffic must drive on the left hand side of the road, as well as referring to an institution as a hierarchy of rules, i.e., all traffic must drive on the left hand side of the road but those wishing to drive must first possess a licence, etc (Connor and Dovers, 2002). Divisions may also exist within this rule structure, as rules are separated into formal and informal categories. Formal rules are characterized as explicit, written down and enforced by various social actors, whist informal rules are characterized as implicit and best understood by members of particular social groups.

To more fully understand the nature and character of institutions as social objects, it is important to separate and differentiate them from organizations. Whilst institutions are the “humanely devised constraints that shape human interaction”, organizations are “groups of individuals bound by some common purpose to achieve objectives” (North, 1990, pp. 3-5). A single individual with a specific set of objectives may also be considered to be an organization in this regard. Therefore, a key characteristic of institutions is to direct the manner in which social interaction should occur, whilst the purpose of organizations is to act within those rules to produce an outcome that meets their collective agenda in some way (Connor and Dovers, 2002, 2004; North 1990). In line with this rationale, organizations and their strategies are in part responsible for generating institutionally defined social rule sets. This is because organizations operating within institutional frameworks may interpret social constraints in a variety of ways in order to meet their own objectives and the desire to produce a satisfactory outcome may compel organizations to test or stretch the limits of institutional regulations (Powell and DiMaggio, 1991). Institutional regulations may then change as a consequence of this tension.

Institutions are not static and are capable of reacting positively or negatively to specific stimuli through institutional change (Cortell and Peterson, 1999). A process of institutional change occurs when a specific institution alters some or all of the social constraints it is responsible for in order to institute new constraints that are perceived to be capable of delivering improved collective outcomes (Alexander, 2005; Kingston and Caballero, 2009). In such cases, an institution will likely be faced with pathways and barriers to change and its response to these will heavily influence the success or failure of the process of institutional change. Institutional change may be especially problematic when an institution is confronted with a compelling reason to change that forces it to confront ‘different problems’ that have
not previously required significant attention (Low and Astle, 2009, p. 48). Climate change adaptation is one such issue. Additionally, demands placed upon institutions to confront different problems may initially be resisted due to ‘institutional inertia’ (Dovers and Hezri, 2010) or ‘institutional arthritis’ (Young, 2010). In this context, ‘institutional sclerosis’ may also be regarded as a useful description. Institutional treatment of the mounting challenge of climate change through adaptation will be heavily conditioned by certain pathways and barriers that either ease or hinder institutional change. Accordingly, the institutional treatment of climate adaptation by a spatial planning regime will also be conditioned by the institutional character of the regime and the influence of particular pathways towards and barriers against change.

**Institutional Characteristics of Planning Regimes**

Planning is characterized as “a set of governance practices for developing and implementing strategies, plans, policies and projects, and for regulating the location, timing and form of development” (Healy et al, 1999, p. 31). As the practice of planning involves the coordination of development activity within a set of rules and expectations, planning regimes operating at any scale can be viewed as institutions. Alexander (2005) characterises planning regimes as living institutions that establish and enforce specific social constraints which must be obeyed by social actors in specific situations. The social outcomes sought relate to the institutional governance and regulation of spatial and land-use development. Therefore, a key function of planning regimes is the task of balancing the needs of specific individuals and organizations within the broader needs of society in terms of environmental protection, the preservation of amenity, the provision of adequate social services, delivery of infrastructure, aesthetics, livability, etc (Faludi, 2000). In order to carry out this role, planning regimes must be able to utilize existing institutional regulations, whilst also being able to accommodate new institutional arrangements to address changing circumstances (Forester, 1989). However, new or emerging challenges are very often at odds with the existing institutional arrangements (Alden, Albrechts and da Rosa Pires, 2001). In such cases, institutional change is often necessary in order to reconcile existing institutional arrangements with the need to respond to new planning challenges (Alden, Albrechts and da Rosa Pires, 2001; Alexander, 2005). Put simply, a viable social response to some challenges may only be achieved if there is fundamental change to the relevant institutional framework.
Climate adaptation is a new and vital planning challenge that demands concerted action from planning regimes. Many scholars also argue that the goal of planning-led action must be to comprehensively integrate adaptation into planning governance (see, for example, Gleeson, 2008; Newman, Beatley and Boyer, 2009; Smith et al, 2010 and Wilson and Piper, 2010). Therefore, if adaptation is to be understood as a vital planning challenge and planning regimes are characterized as institutions, the task of addressing climate adaptation becomes an institutional challenge. Planning regimes can respond to this challenge by directing adaptive responses in several ways. One of these is the preparation of adaptation plans, which detail specific policies and strategies for adaptation that are backed up with implementation strategies (Wilson and Piper, 2010). These plans can then direct development and re-development in a manner that ensures spatial and infrastructural interventions include adaptive capacity. Alternatively, adaptive responses can be built into local development frameworks by integrating adaptation strategies directly into development plans, along with specified implementation and monitoring strategies (Matthews, 2011; Wilson and Piper, 2010). Adaptation through design can also be facilitated through plan-making, where adaptive design standards are codified and prioritized (Matthews, 2011). However, for a planning regime to fully implement adaptive strategies, a process of institutional change must first occur whereby new institutional arrangements are effected to operationalise adaptation. The extent, scale and degree of institutional change will depend on the character of anticipated climate change impacts. Once this change occurs, planning regimes may begin to strategically implement locally directed adaptation strategies to direct better direct the development and re-development of human settlements. However, institutional change is a complex process and is heavily conditioned by a wide array of internal and external factors which can act as pathways or barriers to institutional change processes.

Pathways and Barriers to Institutional Change

Institutional change occurs when an institution alters some or all of the social constraints it is responsible for (Kingston and Caballero, 2009; North, 1990; Young, 2010). In doing so, the institution in question undergoes the process of institutional change in order to institute new social constraints that are perceived to be superior to those previously in place (Kingston and Caballero, 2009). Operationalising adaptation as a key concern of planning governance can be understood in terms of an improved collective outcome if the result of that process is a
reduction in climate vulnerabilities faced by human settlements. Institutional change can
occur for numerous reasons. For example, institutional change may be a product of a
collective interaction between institutions on one side and organizations on the other (Connor
and Dovers, 2004). Institutions create and impose social constraints and the reaction to these
forces can determine that new or altered social constraints can produce improved collective outcomes.
Other forces that can lead to institutional change include belief systems, technological change
and resource depletion (Ostrom, 2005), collective bargaining (Alston, 1996), lobbying
(Liebcap, 1989), political objectives (Kantor, 1998) and crucial to this paper, emerging
environmental imperatives (Connor and Dovers, 2002, 2004; Young, 2010).

A useful and widely regarded conceptual model for understanding pathways and barriers
to institutional change is presented in the work of Hajer (1993, 1995). Hajer’s approach
focuses on the ways in which ‘storylines’ inform social narratives through institutional
discourse. Storylines are ‘narratives on social reality through which elements from many
different domains are combined and that provide actors with a set of symbolic references that
suggest a common understanding’ (1995, p. 62). They fulfil an essential role in clustering
knowledge, positioning social actors forming coalitions made up of actors who collectively
subscribe to a particular storyline. These coalitions are referred to as ‘discourse coalitions’
and are characterized as a collection of storylines, along with the actors who subscribe to
them and the practices in which the discursive activity is based (1995, p. 65). Hajer (1993,
1995) uses the concept of storylines and discourse coalitions and their influence on
institutional change processes to analyse ecological modernization as an emergent
environmental language used to address the issue of acid rain in the UK and Netherlands.
These analyses demonstrate that storylines and discourse coalitions can block or facilitate
institutional change by discursively framing certain issues and making them into compelling
institutional narratives. In this regard, new institutional imperatives, such as the need to
implement climate adaptation as a central planning issue, can advanced or hindered by
particular storylines and discourse coalitions which influence institutional decision making.
Accordingly, storylines can act as either pathways or barriers to institutional change and can
heavily condition the success or failure of institutional efforts to operationalise adaptation as
a key issue of planning governance.
A significant barrier to institutional change is path dependence. This occurs when institutions resist a process of institutional change because of an embedded focus on a particular set of issues (Cortell and Peterson, 1999; David, 1985; Low and Astle, 2009). In other words, institutions become used to dealing with particular perspectives, which in turn undermines capability for alternative thinking and decision making in respect of new or emerging challenges. When confronted with a new imperative that demands an institutional response through change, the institution in question may resist the demand for change or may possess a weak capacity for change. Path dependency therefore leads to situations where ‘institutions that have grown up around one sort of problem may be unable to respond adequately when confronted by a quite different sort of problem’ (Low and Astle, 2009, p. 48). Applying this to Hajer’s (1993; 1995) model of storylines, path dependency can be understood to inhibit the institutionalization of new storylines because embedded institutional discourse coalitions create path dependency and act to resist the institutionalization of new storylines. In such cases, institutional change does not easily occur. Low and Astle (2009) use the concept of path dependency to explore the evolution of institutional governance within Melbourne’s transport systems. Drawing on a detailed textual analysis of public documents, public reports, parliamentary records, budget papers, transport trade union archives and scholarship, the authors suggest that path dependence ensures a preference for road building within Melbourne’s transport institutions. Consequently, storylines focusing on the need to develop better public transport options are not seen as compelling enough to warrant institutional change. Low and Astle conclude that this situation is likely to endure in the absence of bold political leadership.

A potential pathway towards institutional change in respect of emerging environmental imperatives is offered by an institutional framework developed by Steele and Gleeson (2010). This frame, referred to as planning ‘in’ climate change, is proposed as a new model of institutional thinking for planning regimes, where the immediacy of climate change is institutionally understood and the necessity for quickly developing adequate response mechanisms compels institutional change. Planning ‘in’ climate change emphasizes ‘the immediate threat of climate change as inherently linked to the entire range of planning practice’ (Steele and Gleeson, 2010, p. 112). It is argued that institutional understandings of climate change are predominantly located outside of the planning ‘in’ climate change and are instead situated in one of two other frames – planning ‘about’ climate change and planning ‘for’ climate change. Planning ‘about’ climate change is characterized as an institutional
frame that understands climate change as real but sees the phenomenon as a distant problem that might eventually warrant action. The authors argue that this is inadequate and ignores the immediacy of climate threats, which in turn hinders the capacity of planning regimes to respond to these threats collectively, coherently and strategically. The second institutional frame, referred to as planning ‘for’ climate change, focuses on climate change as one of several difficult planning issues that require interventions in the short term but may need more strategic action in the future. Within this institutional frame, planning regimes view climate change as one of many challenging problems. Applying this model to emerging environmental imperatives, planning ‘in’ climate change can be understood as a storyline with the potential to gain institutional traction and thus compel institutional change. This could allow planning regimes to switch from storylines orientated towards planning ‘about’ climate change to storylines leading to planning ‘in’ climate change, thus leading to potentially better institutional responses.

Figure 1: Storylines and Discourse Coalitions as Pathways and Barriers to Institutional Change in Three Cases

<table>
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<tr>
<th>Author</th>
<th>Issue</th>
<th>Pathways</th>
<th>Barriers</th>
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| Hajer (1995)            | Emergence of Ecological Modernization as a new environmental language | Denial of environmental damage is no longer a credible stance for politics or industry  
View that evidence of environmental damage provides a reason to innovate  
Political acceptance of ‘new scientific evidence’ | Political assertions that the science of acid rain lacks a strong empirical basis  
Perspectives that regulating industrial emissions would harm industry and job creation and compound economic difficulties |
Belief that sustainable transport promotes economic development by enhancing urban conditions  
Sustainable transport reduces sprawl and increases amenity | Imbalance of political and bureaucratic power  
High levels of funding for road building  
View that public transport restricts freedom of travel for individuals which has economic cost |
Steele and Gleeson (2010) Planning ‘in’ Climate Change -vs- Planning ‘about’ Climate Change/Planning ‘for’ Climate Change

Acceptance that climate change is real and immediate
Understanding that climate change requires short and long-term strategic action across levels of governance
Belief that climate change is a future and peripheral planning problem
View that climate change is one of many ‘everyday’ planning challenges and requires only minimal intervention

Early Findings from Southeast Queensland (SEQ)

This remainder of this paper tests the institutional theory of storylines, path dependency and institutional change via an empirical investigation the Southeast Queensland (SEQ) metropolitan regional planning regime as a case study. SEQ contains two of Australia’s major cities, Brisbane and Gold Coast City, which are respectively third and sixth largest nationally. The region has a current population of over 2.7 million people, a number expected to increase to around 4.4 million by 2031 (DIP, 2009a, p. 8). SEQ is the fastest growing metropolitan region in Australia. Whilst there are many development pressures currently affecting SEQ, they are likely to be greatly exacerbated by predicted climate change impacts (DIP, 2009b). SEQ is extremely vulnerable to predicted climate change. The Intergovernmental Panel on Climate Change (IPCC) highlights SEQ as one of six vulnerability hot spots in Australia (Hennessy et al, 2007, p. 525). The climate change impacts predicted for SEQ during the current century include an increase in the number of days with temperatures of 35°C or more; increased inundation; inland storm surges; sea level rise of up to 0.79m and reductions in water availability. Irrespective of climate change effects, SEQ is already subject to severe weather and natural hazards such as inland flooding, bushfires and coastal storm surges. The current frequency of such weather events, coupled with future climate change, indicate that vulnerability will increase in the SEQ region over the next number of decades (DIP, 2009a; DIP, 2009b). Human settlements in SEQ, already challenged by population increases, increasing urbanization and rising energy demand, will be face significant stresses. Climate adaptation is therefore crucial to reduce vulnerabilities faced by human settlements across the region.

Southeast Queensland’s planning regime is unusual as regulatory provisions to guide planning activity operate on a regional scale. Regulatory provisions directing planning
activity in the region are expressed through the *Southeast Queensland Regional Plan (SEQRP) 2009-2031*. The SEQRP has statutory force, which requires that planning activities, strategies and interventions implemented by the region’s 11 local councils must ensure compatibility with its spatial objectives (DIP, 2009a; Searle and Bunker, 2010). This gives that the SEQRP significant institutional status and ensures its primacy over all other planning instruments in the region. The SEQRP focuses on metropolitan scale strategic planning and provides an institutional and governance framework for managing growth, development and spatial development within SEQ (England, 2010; Smith et al, 2010). Its stated purpose is to “manage regional growth and change in the most sustainable way to protect and enhance quality of life in the region” (DIP, 2009a, p. 4). Infrastructure planning in SEQ is addressed through the *SEQ Infrastructure Plan and Program 2010-2031*, a discrete strategy designed to function in tandem with the SEQRP by delivering key infrastructure in the region (DIP, 2010). The SEQRP also has a supplementary climate change plan, the *Draft Southeast Queensland Climate Change Management Plan 2009-2031*. The plan addresses both mitigation and adaptation. It states that urban and regional planning has “a key role” in building resilience to climate change in human settlements throughout SEQ (DIP, 2009b, p. 4). The plan has existed in draft form since 2009 and is still awaiting statutory enactment at the time of writing (2011). Taken together, the three plans express the institutional preferences of the SEQ planning regime towards many planning issues, including climate change adaptation.

Whilst adaptation features in the SEQ regional plans, its institutional elaboration as a central issue for planning governance in SEQ is currently weak. For example, the SEQRP treats adaptation to future climate change largely in the abstract. The plan states that planning-led climate change adaptation measures for human settlements are to include “avoiding vulnerable development in hazardous areas” and the implementation of “design measures that are suited to more varied climatic conditions” (DIP, 2009a, 44). Whilst the recognition of adaption as a planning concern is laudable, the lack of specific operational guidance for the region’s planning authorities suggests a lack of institutional attention towards more fully implementing climate adaptation. The Draft Climate Change Plan also addresses the necessity of adaptation for human settlements in SEQ, but also fails to provide specific operational guidance. The primacy of the SEQRP over other planning instruments in the region potentially provides a strong basis for operationalising adaptation as planning principles and strategies for adaptation could be established in the plan and would then have
to be delivered through the activities of the region’s 11 local planning authorities. The fact that adaptation receives little more than abstract attention in both the SEQRP and Draft Climate Change Plan suggests that the planning regime in SEQ has not yet undergone an institutional change process whereby new social constraints are established in order to affect an improved collective outcome, in this case by establishing adaptation as central to planning governance.

The lack of an evident institutional change process appears to indicate elements of path dependency within the SEQ metro-regional regime. In this regard, current institutional storylines appear focused on planning ‘for’ climate change and are slow to change due to path dependencies focused on that institutional position. It seems that climate adaptation is not yet viewed as a demanding institutional issue. There appears an institutional willingness to identify adaptation as an issue for planning governance but little enthusiasm for operationalising it by empowering the region’s planning authorities to begin developing locally-appropriate planning strategies. Put simply, climate adaptation has yet to attain an institutional status whereby it is understood as an imperative demanding institutional response. This also indicates disconnect between the clarity of climate science and planning response. The influence of path dependence in framing institutional perspectives may well be a significant factor in explaining this situation. Path dependence in the case of SEQ may be characterised as an institutional perspective that sees planning as best employed to manage urban and population growth, along with the delivery of large infrastructure projects (Dodson, 2009; Minnery, 2010). Whilst institutional change may yet occur within the SEQ metro-regional planning regime, leading to a fuller and more comprehensive operationalisation of climate adaptation, the fact that it has not yet is surprising given the specific vulnerabilities of the SEQ region to climate change impacts. In this regard, it appears that reducing climate vulnerabilities in the SEQ’s human settlements through planning-led adaptation initiatives is currently not a dominant institutional agenda within the SEQ metro-regional planning regime.

In spite of the current lack of institutional elaboration for adaptation, there remains both potential and scope for an improved institutional response in SEQ. The apparent barrier created by path dependence and a focus on planning ‘for’ climate change may yet give way to new pathways to institutional change, where planning ‘in’ climate change becomes the dominant institutional frame. In such a case, the operationalisation of adaptation would
likely receive much more meaningful institutional attention. Recent environmental events may act as catalysts in this respect. Transformative events can lead to significant institutional stress which can in turn compel institutional change (Young, 2010). In this regard, the drought which severely affected SEQ for several decades, along with the subsequent floods of 2011, may yet act as triggers for institutional change. Three factors are required to compel institutional change. These are trigger events, change-orientated preferences and institutional capacity (Cortell and Peterson, 1999). Applying this model to recent SEQ experience, both the drought and subsequent flooding may be anticipated as triggers for institutional change. Moreover, the widespread and serious effects wrought by these events may create a level of institutional stress that cannot easily be ignored. In this sense, these trigger events and the stresses associated with them may act as pathways to institutional change. However, trigger events alone are unlikely to be enough. Institutional change-orientated preferences must also be present. The nature of institutional change preferences is often conditioned by the capacity of politicians and government officials to compel change. Whether politics and officialdom in SEQ possesses this capacity remains an open question, though current indications are positive for two reasons. The first is the existing focus on climate adaptation in the regional plans. The SEQ plans are the product of a Labour state government along with senior government officials in Queensland. Whilst there will be a state election no later than 2012, it appears unlikely that the climate adaptation focus in the SEQ regional plans would be significantly downgraded in the event of a shift to a state government led by the Liberal National Party (LNP). Current LNP policy on climate change indicates preference towards climate adaptation along with support for research focusing on adaptation strategies, including support for the Commonwealth Scientific, Industrial and Research (CSIRO) Adaptation Flagship (LNP, 2010). In short, support for climate adaptation looks unlikely to suffer irrespective of future changes in the balance of political power in Queensland, particularly since a change of state government will not automatically lead to the appointment of new senior officials.

The second positive indication of institutional preference change in SEQ is illustrated by the establishment and on-going support for the work of the Southeast Queensland Climate Adaptation Research Initiative (SEQ-CARI). The project is part of the CSIRO Adaptation Flagship and is collaboratively run by CSIRO and three SEQ universities. It is designed to examine climate vulnerabilities in SEQ and develop cost-effective adaptation strategies for different sectors (DIP, 2009b). It is due to issue its major synthesis report in late 2012. A
specific project stream aims to assess adaptation options relating to urban planning. However, the SEQ-CARI project is not an initiative of the SEQ metro-regional planning regime. As such, any findings or recommendations it generates are subject to the nature and extent of institutional preferences for change within the SEQ planning regime. Finally, the level of institutional capacity for change must be sufficient to allow change to occur. Whether this capacity exists in SEQ is debatable. If it exists, the stresses created by recent environmental events may prove compelling enough to enable institutional change to occur. If change occurs and planning ‘in’ climate change becomes the guiding institutional perspective in SEQ, a more complete operationalisation of climate adaptation as a key issue of planning governance could quickly follow.

Conclusion

Climate change is likely to become an increasing stress for societies worldwide over the coming decades. Human settlements, including major cities, will be subject to considerable vulnerability. Adaptation to climate change and its effects on human settlements will become an increasing pressure. This article has explored the central role of institutions in facilitating the operationalisation of adaptation as a key principle of planning governance. There is no doubt that climate change presents a new institutional challenge. Institutional treatment of this challenge will be conditioned in large part by the capacity for change within various institutions responsible for the co-ordination and management of human settlements. Adaptation will be operationalised and implemented most easily by institutions that are open and responsive to change dynamics. Those subject to institutional inertia will struggle to respond adequately to the adaptation imperative. Irrespective, all institutions are likely to face both internal and external pathways and barriers to change. Institutions which best navigate their particular pathways and barriers to change will be best placed to operationalise adaptation through planning. In this regard, the manner in which storylines frame institutional narratives will exert a strong influence on any institution’s capacity for change.

Adaptation is highlighted as an institutional issue in Southeast Queensland (SEQ) by virtue of its presence in the Southeast Queensland Regional Plan (SEQRP) 2009-2031 and Draft Southeast Queensland Climate Change Management Plan 2009-2031. This paper has demonstrated that in spite of an emergent institutional capacity to nominate adaptation as an important issue, there appears little willingness to view it as an immediate institutional
imperative that compels policy or planning change. This in turn prevents a rapid operationalisation of adaptation and prevents the region’s planning authorities from developing locally-appropriate adaptation strategies. The type of institutional change needed to operationalise adaptation more fully as an issue of planning governance in the region looks to be currently blocked by elements of path dependency within the SEQ metro-regional planning regime. Specifically, institutional storylines appear focused on planning ‘for’ climate change and are proving slow to change. This is a major barrier to institutional change. However, both the recent severe flooding in the region and the preceding drought may yet act as triggers for institutional change leading to storylines focusing more closely on aspects of the planning ‘in’ climate change frame gaining institutional traction. The nature of this change, assuming it occurs, will be better understood over the coming years and will offer important guidance for both planning scholarship and practice in addressing the mounting challenge of adaptation.
References


